Homework 3:

Problem 1

Problem 1

To represent the operation as a fully connected layer, we can pad W with 0s making it a circulant matrix:

2 3

4 5 6

7 8

$$W = egin{bmatrix} 1 & 3 & 0 & -1 & 2 & 0 & 0 & 0 \ 0 & 1 & 3 & 0 & -1 & 2 & 0 & 0 \ 0 & 0 & 0 & 1 & 3 & 0 & -1 & 2 & 0 \ 0 & 0 & 0 & 0 & 1 & 3 & 0 & -1 & 2 \end{bmatrix}$$

To prove that this is a valid circulant matrix, let vec[x] =

$$h=Wx=egin{bmatrix}1\,3\,0\,-1\,2\,0\,0\,0\,0\0\,1\,3\,0\,-1\,2\,0\,0\,0\0\,0\,0\,1\,3\,0\,-1\,2\,0\0\,0\,0\,0\,1\,3\,0\,-1\,2\end{bmatrix}begin{bmatrix}1\,3\4\5\6\7\8\9\end{bmatrix}=begin{bmatrix}13\18\28\33\end{bmatrix}$$
 Unvectorized, this becomes $egin{bmatrix}13\,18\28\,33\end{bmatrix}$

Applying the filter to the unvectorized x, we get

$$x=egin{bmatrix}1&2&3\4&5&6\7&8&9\end{bmatrix}$$
 , filter = $egin{bmatrix}1&3\-1&2\end{bmatrix}$

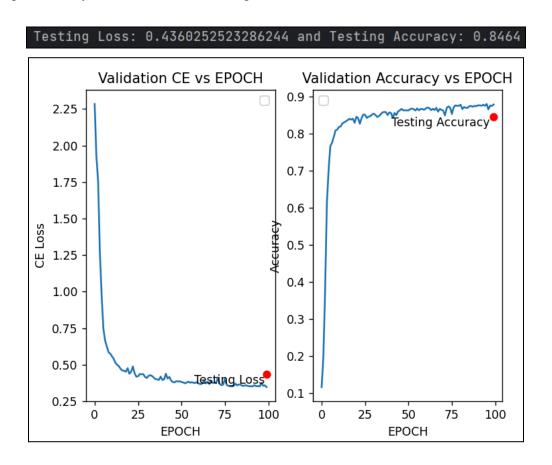
Feature map =

Feature map =
$$\begin{bmatrix} (1*1+2*3+4*-1+5*2) & (2*1+3*3+5*-1+6*2) \\ (4*1+5*3+7*-1+8*2) & (5*1+6*3+8*-1+9*2) \end{bmatrix}$$
 =
$$\begin{bmatrix} 13 & 18 \\ 28 & 33 \end{bmatrix}$$

Problem 2

2A)

The generated model defined in the code, with EPOCHS=100, Learning Rate=0.01, L2_STRENGTH=0.01 and BATCH_SIZE=64 produced a final testing loss of 0.43 and a testing accuracy of 85%. Please Review the attached logs outputs for Question 2 and the provided Python File for all code implementations.



2B)

The model could train and reached a HIGH testing accuracy, which was on par with an identical Tensorflow Model, but did not produce a check_grad score < 1e-1.

The check_grad value is: 0.4310760314538392

Problem 3

3A)

Please Review the attached logs outputs for Question 3 and the provided Python File for all code implementations.

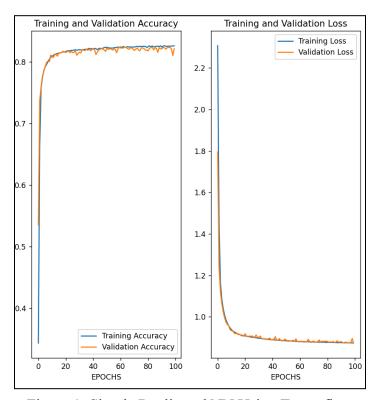


Figure 1: Simple Replicated NN Using Tensorflow

3B)

The best set of hyperparameters was {EPOCH: 220, LAYER_AMT: 5, NEURONS: 50, LR: 0.001, BATCH: 64, L2: 0.001. Which produced a validation result of {'validation_results': {'loss': 0.6098987460136414, 'accuracy': 0.8796666860580444}}. Please Review the attached logs outputs for Question 3 and the provided Python File.

3C)

The best model from the previous part (mentioned above) produced a Testing Accuracy of 86.75% and a Testing Loss of 0.64. Please Review the attached log outputs for Question 3 and the provided Python File for all code implementations. Figures 2 and 3 below shows the model Accuracy and Loss over each Training Epoch for the entire 220 Epoch span and the final 20 epochs. In Figure 3, the final 20 Epochs, the accuracy, and Loss are harder to view, since they are hidden behind the chart legend, but are visible in the bottom left and top right respectively. All results are available in the Q3 Logs.

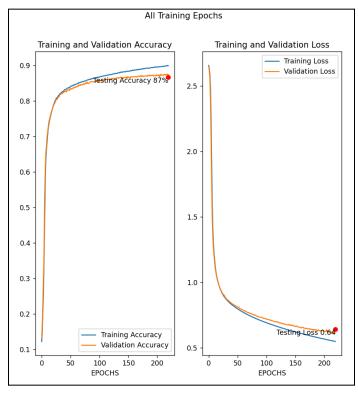


Figure 2: Best NN Training Epoch Results

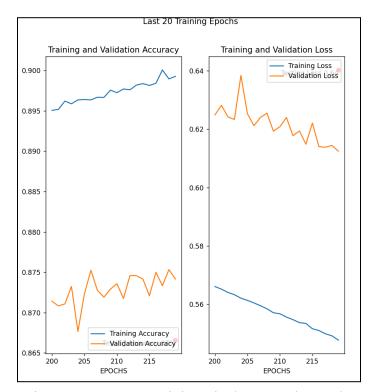


Figure 3: Best NN Training Final 20 Epoch Results

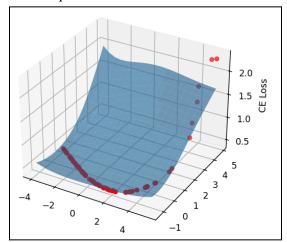
Problem 4

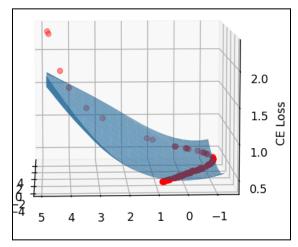
4A)

Please Review the screenshots provided below and the attached Python File for all code implementations.

4B)

Please Review the screenshots provided below and the attached Python File for all code implementations.





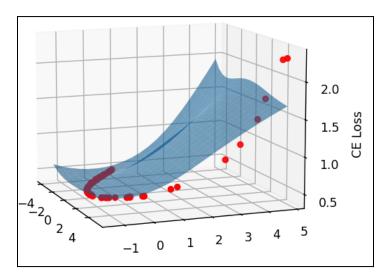


Figure 4, 5 & 6: SGD Space Plot and Weight Line

```
Running problem_2:
Importing MNIST Dataset...
(60000, 784) train samples
(10000, 784) test samples
(60000, 10) train labels
(10000, 10) test labels
The check_grad value is:
0.004310760314538392
Importing MNIST Dataset...
(48000, 784) train samples
(12000, 784) validation samples
(10000, 784) test samples
(48000, 10) train labels
(12000, 10) validation labels
(10000, 10) test labels
Training Model with EPOCHS=100, BATCH SIZE=64, LEARNING RATE=0.01 and
L2 REGULARIZE=0.001
Running EPOCH 1/100...
Running EPOCH 2/100...
Running EPOCH 3/100...
Running EPOCH 4/100...
Running EPOCH 5/100...
Running EPOCH 6/100...
Running EPOCH 7/100...
Running EPOCH 8/100...
Running EPOCH 9/100...
Running EPOCH 10/100...
Running EPOCH 11/100...
Running EPOCH 12/100...
Running EPOCH 13/100...
Running EPOCH 14/100...
Running EPOCH 15/100...
Running EPOCH 16/100...
Running EPOCH 17/100...
Running EPOCH 18/100...
Running EPOCH 19/100...
Running EPOCH 20/100...
Running EPOCH 21/100...
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```
Running EPOCH 22/100...
Running EPOCH 23/100...
Running EPOCH 24/100...
Running EPOCH 25/100...
Running EPOCH 26/100...
Running EPOCH 27/100...
Running EPOCH 28/100...
Running EPOCH 29/100...
Running EPOCH 30/100...
Running EPOCH 31/100...
Running EPOCH 32/100...
Running EPOCH 33/100...
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Running EPOCH 64/100...
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Running EPOCH 66/100...
Running EPOCH 67/100...
Running EPOCH 68/100...
Running EPOCH 69/100...
Running EPOCH 70/100...
Running EPOCH 71/100...
```

```
Running EPOCH 72/100...
Running EPOCH 73/100...
Running EPOCH 74/100...
Running EPOCH 75/100...
Running EPOCH 76/100...
Running EPOCH 77/100...
Running EPOCH 78/100...
Running EPOCH 79/100...
Running EPOCH 80/100...
Running EPOCH 81/100...
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Running EPOCH 89/100...
Running EPOCH 90/100...
Running EPOCH 91/100...
Running EPOCH 92/100...
Running EPOCH 93/100...
Running EPOCH 94/100...
Running EPOCH 95/100...
Running EPOCH 96/100...
Running EPOCH 97/100...
Running EPOCH 98/100...
Running EPOCH 99/100...
Running EPOCH 100/100...
```

Testing Loss: 0.4360252523286244 and Testing Accuracy: 0.8464

Testing problem 3a:

Importing MNIST Dataset... (48000, 784) train samples (12000, 784) validation samples (10000, 784) test samples

(48000, 10) train labels

(12000, 10) validation labels

(10000, 10) test labels

Model: "sequential"

Output Shape	Param #
(None, 10)	7850
(None, 10)	110
(None, 10)	110
(None, 10)	110
	(None, 10) (None, 10) (None, 10)

Total params: 8,180 Trainable params: 8,180 Non-trainable params: 0

Epoch 1/100

```
0.1406
55/750 [=>.....] - ETA: 0s - loss: 2.7695 - accuracy: 0.1136
134/750 [====>.....] - ETA: 0s - loss: 2.7073 - accuracy:
0.1391
229/750 [======>.....] - ETA: 0s - loss: 2.6501 - accuracy:
0.1668
332/750 [========>.....] - ETA: 0s - loss: 2.5891 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 2.5244 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 2.4661 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 2.4019 - accuracy:
```

```
0.3361
750/750 [=============== ] - 1s 853us/step - loss: 2.3067 - accuracy:
0.3437 - val_loss: 1.7952 - val_accuracy: 0.5351
Epoch 2/100
1/750 [.....] - ETA: 0s - loss: 1.8611 - accuracy:
99/750 [==>.....] - ETA: 0s - loss: 1.7476 - accuracy:
205/750 [=====>.....] - ETA: 0s - loss: 1.6826 - accuracy:
310/750 [=======>..... - ETA: 0s - loss: 1.6271 - accuracy:
404/750 [========>.....] - ETA: 0s - loss: 1.5767 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 1.5282 - accuracy:
0.6348
626/750 [============>....] - ETA: 0s - loss: 1.4896 - accuracy:
750/750 [================ ] - 0s 606us/step - loss: 1.4509 - accuracy:
0.6640 - val loss: 1.2375 - val accuracy: 0.7368
Epoch 3/100
1/750 [.....] - ETA: 0s - loss: 1.1273 - accuracy:
104/750 [===>...... - accuracy:
0.7483
170/750 [=====>.....] - ETA: 0s - loss: 1.2101 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 1.2038 - accuracy:
0.7519
275/750 [=======>.....] - ETA: 0s - loss: 1.1982 - accuracy:
0.7519
320/750 [=======>..... - ETA: 0s - loss: 1.1933 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 1.1868 - accuracy:
471/750 [=========>.....] - ETA: 0s - loss: 1.1815 - accuracy:
0.7544
579/750 [============>.....] - ETA: 0s - loss: 1.1759 - accuracy:
0.7577 - val_loss: 1.1224 - val_accuracy: 0.7598
Epoch 4/100
1/750 [.....] - ETA: 0s - loss: 1.0882 - accuracy:
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```
0.7812
99/750 [==>.....] - ETA: 0s - loss: 1.1323 - accuracy:
192/750 [=====>.....] - ETA: 0s - loss: 1.1142 - accuracy:
281/750 [=======>..... - ETA: 0s - loss: 1.1077 - accuracy:
0.7695
391/750 [=======>.....] - ETA: 0s - loss: 1.0974 - accuracy:
486/750 [=========>.....] - ETA: 0s - loss: 1.0933 - accuracy:
572/750 [==========>.....] - ETA: 0s - loss: 1.0917 - accuracy:
0.7741
750/750 [============== ] - 0s 640us/step - loss: 1.0865 - accuracy:
0.7746 - val loss: 1.0639 - val accuracy: 0.7763
Epoch 5/100
1/750 [.....] - ETA: 0s - loss: 1.2075 - accuracy:
0.7778
216/750 [======>...... - ETA: 0s - loss: 1.0516 - accuracy:
0.7809
323/750 [=======>.....] - ETA: 0s - loss: 1.0541 - accuracy:
0.7899
431/750 [=========>..... - ETA: 0s - loss: 1.0519 - accuracy:
0.7815
535/750 [=========>.....] - ETA: 0s - loss: 1.0464 - accuracy:
0.7860
750/750 [=============== ] - 0s 579us/step - loss: 1.0405 - accuracy:
0.7862 - val loss: 1.0247 - val accuracy: 0.7854
Epoch 6/100
1/750 [...... - ETA: 0s - loss: 1.0317 - accuracy:
0.8438
108/750 [===>.....] - ETA: 0s - loss: 1.0135 - accuracy:
209/750 [======>.....] - ETA: 0s - loss: 1.0181 - accuracy:
315/750 [=======>.....] - ETA: 0s - loss: 1.0165 - accuracy:
0.7908
411/750 [========>..... - ETA: 0s - loss: 1.0137 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 1.0124 - accuracy:
```

```
0.7917
0.7921
750/750 [=============== ] - 0s 629us/step - loss: 1.0098 - accuracy:
0.7921 - val loss: 0.9965 - val accuracy: 0.7924
Epoch 7/100
1/750 [.....] - ETA: 0s - loss: 0.9432 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.9930 - accuracy:
0.7921
171/750 [=====>.....] - ETA: 0s - loss: 0.9920 - accuracy:
0.7925
256/750 [=======>.....] - ETA: 0s - loss: 0.9937 - accuracy:
0.7947
355/750 [=======>.....] - ETA: 0s - loss: 0.9920 - accuracy:
0.7951
453/750 [==========>.....] - ETA: 0s - loss: 0.9891 - accuracy:
550/750 [==========>.....] - ETA: 0s - loss: 0.9898 - accuracy:
653/750 [============>....] - ETA: 0s - loss: 0.9861 - accuracy:
0.7969
750/750 [============= ] - 0s 661us/step - loss: 0.9865 - accuracy:
0.7961 - val_loss: 0.9755 - val_accuracy: 0.7993
Epoch 8/100
1/750 [.....] - ETA: 0s - loss: 0.9486 - accuracy:
0.8281
88/750 [==>.....] - ETA: 0s - loss: 0.9563 - accuracy:
0.8072
182/750 [=====>.....] - ETA: 0s - loss: 0.9568 - accuracy:
0.8071
274/750 [=======>.....] - ETA: 0s - loss: 0.9619 - accuracy:
0.8057
365/750 [=======>.....] - ETA: 0s - loss: 0.9680 - accuracy:
467/750 [==========>.....] - ETA: 0s - loss: 0.9674 - accuracy:
0.8029
573/750 [==========>.....] - ETA: 0s - loss: 0.9712 - accuracy:
670/750 [==============>....] - ETA: 0s - loss: 0.9718 - accuracy:
0.8006
0.8005 - val loss: 0.9635 - val accuracy: 0.8016
Epoch 9/100
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```
1/750 [.....] - ETA: 0s - loss: 0.9848 - accuracy:
0.7969
100/750 [===>.....] - ETA: 0s - loss: 0.9752 - accuracy:
206/750 [=====>.....] - ETA: 0s - loss: 0.9572 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.9584 - accuracy:
417/750 [========>.....] - ETA: 0s - loss: 0.9586 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.9583 - accuracy:
0.8044 - val loss: 0.9584 - val accuracy: 0.8004
Epoch 10/100
1/750 [.....] - ETA: 0s - loss: 1.0680 - accuracy:
0.7031
116/750 [===>...... - ETA: 0s - loss: 0.9611 - accuracy:
0.8023
221/750 [======>.....] - ETA: 0s - loss: 0.9540 - accuracy:
0.8047
325/750 [=======>.....] - ETA: 0s - loss: 0.9505 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.9485 - accuracy:
0.8071
532/750 [==========>.....] - ETA: 0s - loss: 0.9475 - accuracy:
0.8074
0.8073
0.8078
0.8078 - val_loss: 0.9383 - val_accuracy: 0.8112
Epoch 11/100
1/750 [.....] - ETA: 0s - loss: 1.1214 - accuracy:
108/750 [===>......] - ETA: 0s - loss: 0.9504 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.9417 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.9402 - accuracy:
409/750 [========>.....] - ETA: 0s - loss: 0.9414 - accuracy:
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0.8085
511/750 [===========>.....] - ETA: 0s - loss: 0.9416 - accuracy:
0.8078
623/750 [============>.....] - ETA: 0s - loss: 0.9395 - accuracy:
0.8088
0.8084 - val loss: 0.9336 - val accuracy: 0.8097
Epoch 12/100
1/750 [.....] - ETA: 0s - loss: 0.7750 - accuracy:
113/750 [===>.....] - ETA: 0s - loss: 0.9340 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.9332 - accuracy:
0.8107
327/750 [=======>.....] - ETA: 0s - loss: 0.9259 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.9262 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.9280 - accuracy:
0.8124
0.8118
750/750 [============= ] - 0s 578us/step - loss: 0.9321 - accuracy:
0.8113 - val loss: 0.9320 - val_accuracy: 0.8073
Epoch 13/100
1/750 [...... 0.8955 - accuracy:
107/750 [===>.....] - ETA: 0s - loss: 0.9247 - accuracy:
0.8145
211/750 [======>.....] - ETA: 0s - loss: 0.9330 - accuracy:
0.8963
323/750 [=======>.....] - ETA: 0s - loss: 0.9354 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.9381 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.9339 - accuracy:
0.8989
0.8101
0.8111
0.8115 - val_loss: 0.9221 - val_accuracy: 0.8130
Epoch 14/100
1/750 [.....] - ETA: 0s - loss: 0.9283 - accuracy:
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```
0.8125
107/750 [===>.....] - ETA: 0s - loss: 0.9166 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.9267 - accuracy:
318/750 [=======>.....] - ETA: 0s - loss: 0.9263 - accuracy:
429/750 [========>.....] - ETA: 0s - loss: 0.9264 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.9250 - accuracy:
641/750 [============>....] - ETA: 0s - loss: 0.9222 - accuracy:
750/750 [============= ] - 0s 581us/step - loss: 0.9236 - accuracy:
0.8132 - val_loss: 0.9188 - val_accuracy: 0.8119
Epoch 15/100
 1/750 [...... - ETA: 0s - loss: 0.9252 - accuracy:
0.8125
111/750 [===>...... - ETA: 0s - loss: 0.9177 - accuracy:
0.8188
222/750 [=====>>...... - ETA: 0s - loss: 0.9211 - accuracy:
328/750 [=======>.....] - ETA: 0s - loss: 0.9191 - accuracy:
0.8160
434/750 [=========>.....] - ETA: 0s - loss: 0.9197 - accuracy:
0.8151
545/750 [=========>.....] - ETA: 0s - loss: 0.9202 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.9193 - accuracy:
0.8138 - val_loss: 0.9220 - val_accuracy: 0.8094
Epoch 16/100
 1/750 [.....] - ETA: 0s - loss: 0.8598 - accuracy:
0.8594
109/750 [===>...... - ETA: 0s - loss: 0.9195 - accuracy:
0.8141
221/750 [======>.....] - ETA: 0s - loss: 0.9171 - accuracy:
0.8147
326/750 [========>.....] - ETA: 0s - loss: 0.9161 - accuracy:
0.8166
436/750 [========>..... - ETA: 0s - loss: 0.9156 - accuracy:
547/750 [=========>.....] - ETA: 0s - loss: 0.9149 - accuracy:
0.8158
655/750 [============>....] - ETA: 0s - loss: 0.9161 - accuracy:
750/750 [============= ] - 0s 574us/step - loss: 0.9174 - accuracy:
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```
0.8147 - val_loss: 0.9138 - val_accuracy: 0.8150
Epoch 17/100
1/750 [.....] - ETA: 0s - loss: 1.0901 - accuracy:
108/750 [===>...... - ETA: 0s - loss: 0.9201 - accuracy:
0.8116
215/750 [======>.....] - ETA: 0s - loss: 0.9239 - accuracy:
323/750 [=======>..... - ETA: 0s - loss: 0.9197 - accuracy:
432/750 [=========>..... - ETA: 0s - loss: 0.9193 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.9178 - accuracy:
0.8133
0.8133
0.8144
0.8144 - val_loss: 0.9163 - val_accuracy: 0.8145
Epoch 18/100
1/750 [...... - ETA: 0s - loss: 0.7231 - accuracy:
0.8996
107/750 [===>.....] - ETA: 0s - loss: 0.8900 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.9048 - accuracy:
320/750 [========>.....] - ETA: 0s - loss: 0.9065 - accuracy:
0.8199
427/750 [=========>.....] - ETA: 0s - loss: 0.9143 - accuracy:
0.8157
534/750 [==========>.....] - ETA: 0s - loss: 0.9137 - accuracy:
0.8161
0.8159
0.8160 - val_loss: 0.9101 - val_accuracy: 0.8158
Epoch 19/100
1/750 [.....] - ETA: 0s - loss: 0.7823 - accuracy:
110/750 [===>....... - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.9066 - accuracy:
0.8167
```

331/750 [=======>.....] - ETA: 0s - loss: 0.9108 - accuracy:

441/750 [=========>.....] - ETA: 0s - loss: 0.9131 - accuracy:

0.8163

```
0.8163
549/750 [==========>.....] - ETA: 0s - loss: 0.9151 - accuracy:
660/750 [=============>....] - ETA: 0s - loss: 0.9111 - accuracy:
0.8164
750/750 [================ ] - 0s 573us/step - loss: 0.9110 - accuracy:
0.8163 - val loss: 0.9083 - val accuracy: 0.8174
Epoch 20/100
 1/750 [.....] - ETA: 0s - loss: 1.1011 - accuracy:
109/750 [===>...... - ETA: 0s - loss: 0.9063 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.9142 - accuracy:
328/750 [=========>.....] - ETA: 0s - loss: 0.9127 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.9140 - accuracy:
544/750 [===========>.....] - ETA: 0s - loss: 0.9128 - accuracy:
0.8157
750/750 [============== ] - 0s 575us/step - loss: 0.9089 - accuracy:
0.8163 - val loss: 0.9075 - val accuracy: 0.8162
Epoch 21/100
 1/750 [.....] - ETA: 0s - loss: 0.9277 - accuracy:
108/750 [===>...... - ETA: 0s - loss: 0.9111 - accuracy:
0.8184
221/750 [======>.....] - ETA: 0s - loss: 0.9024 - accuracy:
0.8208
329/750 [========>.....] - ETA: 0s - loss: 0.9063 - accuracy:
0.8196
439/750 [=========>..... - ETA: 0s - loss: 0.9074 - accuracy:
550/750 [============>.....] - ETA: 0s - loss: 0.9094 - accuracy:
0.8161
656/750 [=============>....] - ETA: 0s - loss: 0.9078 - accuracy:
0.8167 - val loss: 0.9187 - val accuracy: 0.8154
Epoch 22/100
 1/750 [.....] - ETA: 0s - loss: 0.9709 - accuracy:
107/750 [===>.....] - ETA: 0s - loss: 0.9116 - accuracy:
0.8179
215/750 [======>.....] - ETA: 0s - loss: 0.9085 - accuracy:
```

```
0.8178
320/750 [========>.....] - ETA: 0s - loss: 0.9105 - accuracy:
0.8177
428/750 [=========>.....] - ETA: 0s - loss: 0.9098 - accuracy:
0.8173
537/750 [==========>.....] - ETA: 0s - loss: 0.9064 - accuracy:
638/750 [============>....] - ETA: 0s - loss: 0.9072 - accuracy:
0.8187
750/750 [============== ] - 0s 591us/step - loss: 0.9072 - accuracy:
0.8181 - val loss: 0.9067 - val accuracy: 0.8168
Epoch 23/100
 1/750 [.....] - ETA: 0s - loss: 0.8435 - accuracy:
0.8594
110/750 [===>...... - ETA: 0s - loss: 0.8997 - accuracy:
0.8296
214/750 [=====>.....] - ETA: 0s - loss: 0.9023 - accuracy:
0.8193
324/750 [=======>.....] - ETA: 0s - loss: 0.9027 - accuracy:
0.8194
435/750 [=========>...... - ETA: 0s - loss: 0.9026 - accuracy:
0.8189
543/750 [==========>.....] - ETA: 0s - loss: 0.9022 - accuracy:
0.8190
750/750 [============= ] - 0s 574us/step - loss: 0.9054 - accuracy:
0.8184 - val_loss: 0.9039 - val_accuracy: 0.8180
Epoch 24/100
 1/750 [...... 0.8616 - accuracy:
0.8281
112/750 [===>.....] - ETA: 0s - loss: 0.9000 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.8988 - accuracy:
328/750 [========>.....] - ETA: 0s - loss: 0.9015 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.9025 - accuracy:
544/750 [===========>.....] - ETA: 0s - loss: 0.9027 - accuracy:
651/750 [=============>....] - ETA: 0s - loss: 0.9041 - accuracy:
0.8183
750/750 [============== ] - 0s 577us/step - loss: 0.9045 - accuracy:
0.8184 - val loss: 0.9080 - val accuracy: 0.8150
Epoch 25/100
```

```
1/750 [.....] - ETA: 0s - loss: 1.1353 - accuracy:
101/750 [===>.....] - ETA: 0s - loss: 0.9076 - accuracy:
201/750 [======>.....] - ETA: 0s - loss: 0.8976 - accuracy:
0.8241
307/750 [=======>.....] - ETA: 0s - loss: 0.8987 - accuracy:
409/750 [========>.....] - ETA: 0s - loss: 0.9020 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.9039 - accuracy:
0.8299
750/750 [============== ] - 0s 589us/step - loss: 0.9029 - accuracy:
0.8189 - val loss: 0.9060 - val accuracy: 0.8172
Epoch 26/100
1/750 [.....] - ETA: 0s - loss: 0.9367 - accuracy:
109/750 [===>...... - ETA: 0s - loss: 0.8951 - accuracy:
0.8182
218/750 [======>.....] - ETA: 0s - loss: 0.8981 - accuracy:
325/750 [=======>.....] - ETA: 0s - loss: 0.9005 - accuracy:
0.8197
435/750 [=========>.....] - ETA: 0s - loss: 0.9014 - accuracy:
0.8196
543/750 [==========>.....] - ETA: 0s - loss: 0.9009 - accuracy:
0.8198
0.8191
0.8188 - val loss: 0.9082 - val accuracy: 0.8152
Epoch 27/100
1/750 [.....] - ETA: 0s - loss: 0.9960 - accuracy:
0.8125
111/750 [===>.....] - ETA: 0s - loss: 0.9019 - accuracy:
207/750 [======>.....] - ETA: 0s - loss: 0.8950 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.9034 - accuracy:
0.8173
407/750 [========>..... - ETA: 0s - loss: 0.9050 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.9025 - accuracy:
```

```
0.8179
0.8193
750/750 [=============== ] - 0s 591us/step - loss: 0.9014 - accuracy:
0.8194 - val loss: 0.9038 - val accuracy: 0.8155
Epoch 28/100
1/750 [.....] - ETA: 0s - loss: 0.8648 - accuracy:
113/750 [===>...... - ETA: 0s - loss: 0.8946 - accuracy:
0.8211
220/750 [======>.....] - ETA: 0s - loss: 0.8986 - accuracy:
0.8192
330/750 [=========>.....] - ETA: 0s - loss: 0.9017 - accuracy:
0.8190
441/750 [========>...... - ETA: 0s - loss: 0.8979 - accuracy:
0.8211
549/750 [==========>.....] - ETA: 0s - loss: 0.8994 - accuracy:
659/750 [============>....] - ETA: 0s - loss: 0.9005 - accuracy:
0.8201
750/750 [============== ] - 0s 582us/step - loss: 0.9002 - accuracy:
0.8198 - val loss: 0.9014 - val accuracy: 0.8183
Epoch 29/100
1/750 [.....] - ETA: 0s - loss: 0.9896 - accuracy:
0.8281
105/750 [===>.....] - ETA: 0s - loss: 0.9070 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.8998 - accuracy:
0.8173
322/750 [=======>.....] - ETA: 0s - loss: 0.9009 - accuracy:
0.8178
428/750 [=========>..... - ETA: 0s - loss: 0.8979 - accuracy:
0.8187
533/750 [==========>.....] - ETA: 0s - loss: 0.8992 - accuracy:
0.8187
639/750 [============>....] - ETA: 0s - loss: 0.8995 - accuracy:
0.8190
0.8191 - val_loss: 0.9126 - val_accuracy: 0.8109
Epoch 30/100
1/750 [.....] - ETA: 0s - loss: 0.8034 - accuracy:
103/750 [===>.....] - ETA: 0s - loss: 0.8858 - accuracy:
```

```
215/750 [======>.....] - ETA: 0s - loss: 0.8899 - accuracy:
322/750 [=======>.....] - ETA: 0s - loss: 0.8928 - accuracy:
432/750 [========>...... - ETA: 0s - loss: 0.8991 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.8994 - accuracy:
750/750 [============= ] - 0s 585us/step - loss: 0.8984 - accuracy:
0.8195 - val loss: 0.9026 - val accuracy: 0.8141
Epoch 31/100
1/750 [.....] - ETA: 0s - loss: 0.8297 - accuracy:
108/750 [===>...... - ETA: 0s - loss: 0.8827 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.8894 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.8900 - accuracy:
405/750 [========>..... - ETA: 0s - loss: 0.8913 - accuracy:
0.8226
502/750 [===========>.....] - ETA: 0s - loss: 0.8931 - accuracy:
0.8217
715/750 [==============>..] - ETA: 0s - loss: 0.8968 - accuracy:
750/750 [================ ] - 0s 611us/step - loss: 0.8970 - accuracy:
0.8200 - val loss: 0.9004 - val accuracy: 0.8159
Epoch 32/100
1/750 [.....] - ETA: 0s - loss: 1.2636 - accuracy:
111/750 [===>...... - ETA: 0s - loss: 0.8945 - accuracy:
0.8247
213/750 [======>.....] - ETA: 0s - loss: 0.8983 - accuracy:
322/750 [=======>.....] - ETA: 0s - loss: 0.8960 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.8943 - accuracy:
0.8217
540/750 [=========>.....] - ETA: 0s - loss: 0.8958 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 0.8939 - accuracy:
0.8214
750/750 [============= ] - 0s 574us/step - loss: 0.8966 - accuracy:
```

```
0.8197 - val loss: 0.9072 - val accuracy: 0.8147
Epoch 33/100
1/750 [.....] - ETA: 0s - loss: 0.9266 - accuracy:
0.7969
108/750 [===>...... - ETA: 0s - loss: 0.9021 - accuracy:
214/750 [=====>.....] - ETA: 0s - loss: 0.9009 - accuracy:
0.8169
322/750 [=======>.....] - ETA: 0s - loss: 0.9015 - accuracy:
0.8171
423/750 [========>..... - ETA: 0s - loss: 0.8997 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.8949 - accuracy:
0.8299
0.8194 - val loss: 0.8960 - val accuracy: 0.8200
Epoch 34/100
1/750 [.....] - ETA: 0s - loss: 0.8177 - accuracy:
106/750 [===>...... - ETA: 0s - loss: 0.8874 - accuracy:
0.8253
211/750 [======>.....] - ETA: 0s - loss: 0.8886 - accuracy:
315/750 [=======>.....] - ETA: 0s - loss: 0.8907 - accuracy:
419/750 [========>.....] - ETA: 0s - loss: 0.8923 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.8922 - accuracy:
0.8201
0.8201 - val_loss: 0.8936 - val_accuracy: 0.8191
Epoch 35/100
1/750 [.....] - ETA: 0s - loss: 0.8639 - accuracy:
0.8281
110/750 [===>......] - ETA: 0s - loss: 0.8806 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.8874 - accuracy:
0.8234
327/750 [=======>.....] - ETA: 0s - loss: 0.8897 - accuracy:
```

438/750 [=========>.....] - ETA: 0s - loss: 0.8908 - accuracy:

```
0.8225
547/750 [==========>.....] - ETA: 0s - loss: 0.8916 - accuracy:
750/750 [================ ] - 0s 581us/step - loss: 0.8940 - accuracy:
0.8206 - val loss: 0.8946 - val accuracy: 0.8184
Epoch 36/100
1/750 [.....] - ETA: 0s - loss: 1.0635 - accuracy:
111/750 [===>...... - ETA: 0s - loss: 0.8937 - accuracy:
0.8183
216/750 [======>.....] - ETA: 0s - loss: 0.8922 - accuracy:
0.8195
321/750 [========>.....] - ETA: 0s - loss: 0.8933 - accuracy:
433/750 [=========>...... - ETA: 0s - loss: 0.8917 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.8931 - accuracy:
643/750 [============>....] - ETA: 0s - loss: 0.8930 - accuracy:
0.8206
750/750 [============= ] - 0s 589us/step - loss: 0.8928 - accuracy:
0.8208 - val_loss: 0.8909 - val_accuracy: 0.8210
Epoch 37/100
1/750 [.....] - ETA: 0s - loss: 1.0066 - accuracy:
110/750 [===>.....] - ETA: 0s - loss: 0.8811 - accuracy:
0.8325
216/750 [======>.....] - ETA: 0s - loss: 0.8871 - accuracy:
0.8265
329/750 [=======>.....] - ETA: 0s - loss: 0.8900 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.8894 - accuracy:
547/750 [=========>.....] - ETA: 0s - loss: 0.8912 - accuracy:
656/750 [==============>....] - ETA: 0s - loss: 0.8903 - accuracy:
0.8208 - val_loss: 0.8933 - val_accuracy: 0.8188
Epoch 38/100
1/750 [.....] - ETA: 0s - loss: 0.8168 - accuracy:
99/750 [==>.....] - ETA: 0s - loss: 0.8682 - accuracy:
```

```
0.8362
212/750 [======>.....] - ETA: 0s - loss: 0.8848 - accuracy:
0.8267
323/750 [========>.....] - ETA: 0s - loss: 0.8862 - accuracy:
0.8269
427/750 [========>.....] - ETA: 0s - loss: 0.8895 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.8870 - accuracy:
750/750 [============= ] - 0s 583us/step - loss: 0.8913 - accuracy:
0.8221 - val loss: 0.8939 - val accuracy: 0.8207
Epoch 39/100
1/750 [.....] - ETA: 0s - loss: 1.1011 - accuracy:
0.7812
106/750 [===>...... - ETA: 0s - loss: 0.8917 - accuracy:
0.8221
219/750 [======>.....] - ETA: 0s - loss: 0.8841 - accuracy:
0.8257
324/750 [=======>.....] - ETA: 0s - loss: 0.8878 - accuracy:
0.8246
436/750 [==========>.....] - ETA: 0s - loss: 0.8878 - accuracy:
550/750 [===============>.....] - ETA: 0s - loss: 0.8912 - accuracy:
0.8227
750/750 [============= ] - 0s 569us/step - loss: 0.8914 - accuracy:
0.8214 - val loss: 0.8977 - val accuracy: 0.8183
Epoch 40/100
 1/750 [...... 0.8788 - accuracy:
0.8438
110/750 [===>.....] - ETA: 0s - loss: 0.8919 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.8940 - accuracy:
0.8221
322/750 [=======>.....] - ETA: 0s - loss: 0.8892 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.8871 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.8898 - accuracy:
636/750 [============>....] - ETA: 0s - loss: 0.8913 - accuracy:
0.8214
745/750 [==============>.] - ETA: 0s - loss: 0.8896 - accuracy:
0.8217
750/750 [============= ] - 0s 597us/step - loss: 0.8895 - accuracy:
```

```
0.8217 - val loss: 0.8891 - val accuracy: 0.8200
Epoch 41/100
1/750 [.....] - ETA: 0s - loss: 0.9499 - accuracy:
97/750 [==>.....] - ETA: 0s - loss: 0.8788 - accuracy:
192/750 [=====>.....] - ETA: 0s - loss: 0.8807 - accuracy:
293/750 [=======>..... - ETA: 0s - loss: 0.8835 - accuracy:
403/750 [========>..... - ETA: 0s - loss: 0.8845 - accuracy:
0.8241
511/750 [===========>.....] - ETA: 0s - loss: 0.8864 - accuracy:
0.8226
613/750 [============>.....] - ETA: 0s - loss: 0.8862 - accuracy:
0.8226
750/750 [================ ] - 0s 613us/step - loss: 0.8901 - accuracy:
0.8214 - val_loss: 0.8890 - val_accuracy: 0.8215
Epoch 42/100
1/750 [...... - ETA: 0s - loss: 0.8864 - accuracy:
0.7969
111/750 [===>.....] - ETA: 0s - loss: 0.8968 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.8944 - accuracy:
0.8192
331/750 [=========>.....] - ETA: 0s - loss: 0.8918 - accuracy:
0.8201
439/750 [=========>.....] - ETA: 0s - loss: 0.8915 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.8912 - accuracy:
0.8221 - val_loss: 0.8933 - val_accuracy: 0.8197
Epoch 43/100
102/750 [===>.....] - ETA: 0s - loss: 0.8933 - accuracy:
```

196/750 [=====>.....] - ETA: 0s - loss: 0.8901 - accuracy:

300/750 [========>.....] - ETA: 0s - loss: 0.8922 - accuracy:

0.8187

```
0.8183
405/750 [========>.....] - ETA: 0s - loss: 0.8910 - accuracy:
0.8209
517/750 [==========>.....] - ETA: 0s - loss: 0.8890 - accuracy:
0.8211
0.8211
0.8214 - val loss: 0.9044 - val accuracy: 0.8119
Epoch 44/100
1/750 [.....] - ETA: 0s - loss: 0.8683 - accuracy:
96/750 [==>...... - ETA: 0s - loss: 0.8811 - accuracy:
0.8156
203/750 [======>.....] - ETA: 0s - loss: 0.8926 - accuracy:
0.8154
310/750 [=======>..... - ETA: 0s - loss: 0.8871 - accuracy:
414/750 [========>..... - ETA: 0s - loss: 0.8902 - accuracy:
0.8183
522/750 [============>.....] - ETA: 0s - loss: 0.8887 - accuracy:
0.8194
750/750 [============= ] - 0s 593us/step - loss: 0.8883 - accuracy:
0.8200 - val loss: 0.8886 - val accuracy: 0.8164
Epoch 45/100
1/750 [.....] - ETA: 0s - loss: 0.7782 - accuracy:
111/750 [===>.....] - ETA: 0s - loss: 0.8836 - accuracy:
0.8214
214/750 [======>.....] - ETA: 0s - loss: 0.8883 - accuracy:
321/750 [=======>.....] - ETA: 0s - loss: 0.8861 - accuracy:
0.8221
433/750 [=========>.....] - ETA: 0s - loss: 0.8862 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.8860 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.8867 - accuracy:
0.8220 - val loss: 0.8868 - val accuracy: 0.8192
Epoch 46/100
```

```
1/750 [....... - 6.9609 - accuracy:
108/750 [===>.....] - ETA: 0s - loss: 0.8923 - accuracy:
0.8183
216/750 [======>.....] - ETA: 0s - loss: 0.8898 - accuracy:
0.8199
327/750 [=======>.....] - ETA: 0s - loss: 0.8896 - accuracy:
0.8217
435/750 [=========>.....] - ETA: 0s - loss: 0.8874 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.8848 - accuracy:
651/750 [=============>....] - ETA: 0s - loss: 0.8868 - accuracy:
0.8221
0.8222 - val_loss: 0.8957 - val_accuracy: 0.8202
Epoch 47/100
1/750 [...... 0.9304 - accuracy:
97/750 [==>.....] - ETA: 0s - loss: 0.8914 - accuracy:
207/750 [=====>...... - ETA: 0s - loss: 0.8883 - accuracy:
314/750 [=======>.....] - ETA: 0s - loss: 0.8814 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.8826 - accuracy:
0.8229
531/750 [==========>.....] - ETA: 0s - loss: 0.8831 - accuracy:
0.8219
0.8217
0.8216 - val loss: 0.8857 - val accuracy: 0.8224
Epoch 48/100
1/750 [.....] - ETA: 0s - loss: 0.7621 - accuracy:
101/750 [===>.....] - ETA: 0s - loss: 0.8885 - accuracy:
207/750 [======>.....] - ETA: 0s - loss: 0.8896 - accuracy:
316/750 [========>.....] - ETA: 0s - loss: 0.8868 - accuracy:
0.8241
425/750 [=========>.....] - ETA: 0s - loss: 0.8873 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.8881 - accuracy:
```

```
0.8221
750/750 [=============== ] - 0s 579us/step - loss: 0.8862 - accuracy:
0.8220 - val loss: 0.8846 - val accuracy: 0.8207
Epoch 49/100
1/750 [.....] - ETA: 0s - loss: 0.8962 - accuracy:
0.7969
108/750 [===>.....] - ETA: 0s - loss: 0.8978 - accuracy:
214/750 [======>...... - ETA: 0s - loss: 0.8923 - accuracy:
314/750 [========>.....] - ETA: 0s - loss: 0.8901 - accuracy:
412/750 [========>.....] - ETA: 0s - loss: 0.8877 - accuracy:
0.8229
527/750 [==========>.....] - ETA: 0s - loss: 0.8897 - accuracy:
0.8231
0.8236
750/750 [============= ] - 0s 601us/step - loss: 0.8859 - accuracy:
0.8237 - val loss: 0.8856 - val accuracy: 0.8196
Epoch 50/100
1/750 [.....] - ETA: 0s - loss: 0.9041 - accuracy:
99/750 [==>.....] - ETA: 0s - loss: 0.8690 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.8882 - accuracy:
0.8242
280/750 [=======>.....] - ETA: 0s - loss: 0.8821 - accuracy:
0.8263
392/750 [=======>>.....] - ETA: 0s - loss: 0.8888 - accuracy:
486/750 [==========>.....] - ETA: 0s - loss: 0.8872 - accuracy:
589/750 [===========>.....] - ETA: 0s - loss: 0.8856 - accuracy:
0.8241
0.8237 - val loss: 0.8931 - val accuracy: 0.8171
Epoch 51/100
1/750 [.....] - ETA: 0s - loss: 0.8762 - accuracy:
99/750 [==>.....] - ETA: 0s - loss: 0.8858 - accuracy:
```

```
0.8284
204/750 [======>.....] - ETA: 0s - loss: 0.8824 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.8826 - accuracy:
411/750 [========>.....] - ETA: 0s - loss: 0.8822 - accuracy:
508/750 [========>>.....] - ETA: 0s - loss: 0.8831 - accuracy:
750/750 [============= ] - 0s 597us/step - loss: 0.8847 - accuracy:
0.8240 - val_loss: 0.8870 - val_accuracy: 0.8230
Epoch 52/100
1/750 [.....] - ETA: 0s - loss: 0.8051 - accuracy:
98/750 [==>.....] - ETA: 0s - loss: 0.8929 - accuracy:
204/750 [======>.....] - ETA: 0s - loss: 0.8937 - accuracy:
0.8190
311/750 [=======>.....] - ETA: 0s - loss: 0.8892 - accuracy:
0.8211
404/750 [========>.....] - ETA: 0s - loss: 0.8866 - accuracy:
490/750 [==========>.....] - ETA: 0s - loss: 0.8819 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.8812 - accuracy:
0.8237
750/750 [============= ] - 0s 630us/step - loss: 0.8840 - accuracy:
0.8231 - val loss: 0.8862 - val accuracy: 0.8202
Epoch 53/100
1/750 [.....] - ETA: 0s - loss: 0.9550 - accuracy:
110/750 [===>.....] - ETA: 0s - loss: 0.8814 - accuracy:
0.8294
217/750 [======>.....] - ETA: 0s - loss: 0.8849 - accuracy:
325/750 [=========>.....] - ETA: 0s - loss: 0.8848 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.8832 - accuracy:
0.8226
539/750 [=========>.....] - ETA: 0s - loss: 0.8829 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.8835 - accuracy:
```

```
0.8224
0.8227 - val_loss: 0.8852 - val_accuracy: 0.8213
Epoch 54/100
1/750 [.....] - ETA: 0s - loss: 0.8337 - accuracy:
0.8281
104/750 [===>.....] - ETA: 0s - loss: 0.8769 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.8783 - accuracy:
278/750 [=======>..... - ETA: 0s - loss: 0.8755 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.8791 - accuracy:
0.8237
470/750 [==========>.....] - ETA: 0s - loss: 0.8838 - accuracy:
0.8224
567/750 [==========>.....] - ETA: 0s - loss: 0.8849 - accuracy:
0.8225 - val loss: 0.8842 - val accuracy: 0.8217
Epoch 55/100
1/750 [.....] - ETA: 0s - loss: 0.7363 - accuracy:
110/750 [===>...... - ETA: 0s - loss: 0.8922 - accuracy:
220/750 [=====>>.....] - ETA: 0s - loss: 0.8887 - accuracy:
0.8207
330/750 [========>.....] - ETA: 0s - loss: 0.8808 - accuracy:
0.8246
434/750 [=========>.....] - ETA: 0s - loss: 0.8844 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.8827 - accuracy:
0.8226 - val loss: 0.8846 - val accuracy: 0.8192
Epoch 56/100
1/750 [.....] - ETA: 0s - loss: 1.0128 - accuracy:
0.8281
111/750 [===>.....] - ETA: 0s - loss: 0.8822 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.8840 - accuracy:
```

```
0.8296
307/750 [========>.....] - ETA: 0s - loss: 0.8828 - accuracy:
410/750 [========>.....] - ETA: 0s - loss: 0.8836 - accuracy:
0.8204
517/750 [===========>.....] - ETA: 0s - loss: 0.8820 - accuracy:
628/750 [============>....] - ETA: 0s - loss: 0.8830 - accuracy:
750/750 [============= ] - 0s 614us/step - loss: 0.8831 - accuracy:
0.8229 - val loss: 0.8874 - val accuracy: 0.8209
Epoch 57/100
1/750 [.....] - ETA: 0s - loss: 0.9048 - accuracy:
0.8125
98/750 [==>.....] - ETA: 0s - loss: 0.8888 - accuracy:
197/750 [=====>.....] - ETA: 0s - loss: 0.8831 - accuracy:
0.8226
301/750 [=======>.....] - ETA: 0s - loss: 0.8833 - accuracy:
404/750 [=========>.....] - ETA: 0s - loss: 0.8822 - accuracy:
0.8231
505/750 [===========>.....] - ETA: 0s - loss: 0.8825 - accuracy:
0.8231
0.8237
0.8235 - val_loss: 0.8834 - val_accuracy: 0.8207
Epoch 58/100
1/750 [.....] - ETA: 0s - loss: 0.9532 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.8859 - accuracy:
192/750 [=====>.....] - ETA: 0s - loss: 0.8817 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.8813 - accuracy:
396/750 [========>>.....] - ETA: 0s - loss: 0.8829 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.8801 - accuracy:
0.8243
616/750 [===========>.....] - ETA: 0s - loss: 0.8807 - accuracy:
```

```
0.8234
0.8235 - val_loss: 0.8940 - val_accuracy: 0.8150
Epoch 59/100
1/750 [.....] - ETA: 0s - loss: 0.7773 - accuracy:
0.8906
105/750 [===>...... - ETA: 0s - loss: 0.8869 - accuracy:
0.8277
217/750 [======>.....] - ETA: 0s - loss: 0.8880 - accuracy:
0.8267
319/750 [=======>.....] - ETA: 0s - loss: 0.8856 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.8878 - accuracy:
0.8228
540/750 [==========>.....] - ETA: 0s - loss: 0.8849 - accuracy:
0.8233
641/750 [============>....] - ETA: 0s - loss: 0.8830 - accuracy:
0.8244 - val loss: 0.8823 - val accuracy: 0.8213
Epoch 60/100
1/750 [.....] - ETA: 0s - loss: 0.9933 - accuracy:
108/750 [===>...... - ETA: 0s - loss: 0.8843 - accuracy:
0.8239
218/750 [======>.....] - ETA: 0s - loss: 0.8914 - accuracy:
314/750 [========>.....] - ETA: 0s - loss: 0.8877 - accuracy:
0.8229
427/750 [=========>.....] - ETA: 0s - loss: 0.8821 - accuracy:
0.8241
533/750 [==========>.....] - ETA: 0s - loss: 0.8802 - accuracy:
0.8231
745/750 [==============>.] - ETA: 0s - loss: 0.8822 - accuracy:
0.8233 - val loss: 0.8802 - val accuracy: 0.8243
Epoch 61/100
1/750 [.....] - ETA: 0s - loss: 0.7692 - accuracy:
0.8750
108/750 [===>.....] - ETA: 0s - loss: 0.8842 - accuracy:
0.8219
214/750 [=====>.....] - ETA: 0s - loss: 0.8755 - accuracy:
```

```
0.8249
324/750 [========>.....] - ETA: 0s - loss: 0.8775 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.8783 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.8804 - accuracy:
750/750 [================ ] - 0s 579us/step - loss: 0.8810 - accuracy:
0.8243 - val_loss: 0.8800 - val_accuracy: 0.8227
Epoch 62/100
1/750 [.....] - ETA: 0s - loss: 0.7913 - accuracy:
111/750 [===>.....] - ETA: 0s - loss: 0.8708 - accuracy:
0.8249
217/750 [=====>..... - ETA: 0s - loss: 0.8777 - accuracy:
0.8217
324/750 [=======>.....] - ETA: 0s - loss: 0.8726 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.8770 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.8815 - accuracy:
0.8234
0.8241
750/750 [============= ] - 0s 598us/step - loss: 0.8810 - accuracy:
0.8238 - val_loss: 0.8838 - val_accuracy: 0.8228
Epoch 63/100
1/750 [.....] - ETA: 0s - loss: 0.9509 - accuracy:
0.7656
71/750 [=>.....] - ETA: 0s - loss: 0.8733 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.8837 - accuracy:
0.8209
275/750 [=======>.....] - ETA: 0s - loss: 0.8830 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.8824 - accuracy:
480/750 [=========>.....] - ETA: 0s - loss: 0.8808 - accuracy:
582/750 [===========>.....] - ETA: 0s - loss: 0.8801 - accuracy:
0.8254
676/750 [============>...] - ETA: 0s - loss: 0.8814 - accuracy:
750/750 [============= ] - 1s 698us/step - loss: 0.8809 - accuracy:
```

```
0.8251 - val loss: 0.8797 - val accuracy: 0.8226
Epoch 64/100
1/750 [.....] - ETA: 0s - loss: 0.7732 - accuracy:
0.9219
58/750 [=>.....] - ETA: 0s - loss: 0.8636 - accuracy:
0.8346
141/750 [====>.....] - ETA: 0s - loss: 0.8764 - accuracy:
245/750 [======>.....] - ETA: 0s - loss: 0.8789 - accuracy:
0.8267
353/750 [========>.....] - ETA: 0s - loss: 0.8797 - accuracy:
0.8241
460/750 [==========>.....] - ETA: 0s - loss: 0.8781 - accuracy:
0.8248
568/750 [===========>.....] - ETA: 0s - loss: 0.8793 - accuracy:
678/750 [=============>...] - ETA: 0s - loss: 0.8790 - accuracy:
0.8242 - val_loss: 0.8784 - val_accuracy: 0.8244
Epoch 65/100
1/750 [.....] - ETA: 0s - loss: 0.7695 - accuracy:
103/750 [===>.....] - ETA: 0s - loss: 0.8914 - accuracy:
0.8201
211/750 [======>.....] - ETA: 0s - loss: 0.8843 - accuracy:
321/750 [========>.....] - ETA: 0s - loss: 0.8787 - accuracy:
0.8239
424/750 [========>.....] - ETA: 0s - loss: 0.8794 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.8821 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 0.8813 - accuracy:
0.8234
0.8240 - val_loss: 0.8799 - val_accuracy: 0.8236
Epoch 66/100
1/750 [...... 0.7699 - accuracy:
104/750 [===>.....] - ETA: 0s - loss: 0.8759 - accuracy:
214/750 [=====>.....] - ETA: 0s - loss: 0.8745 - accuracy:
322/750 [=======>.....] - ETA: 0s - loss: 0.8779 - accuracy:
```

```
0.8254
431/750 [=========>.....] - ETA: 0s - loss: 0.8803 - accuracy:
0.8249
541/750 [==========>.....] - ETA: 0s - loss: 0.8796 - accuracy:
0.8254
750/750 [================ ] - 0s 581us/step - loss: 0.8807 - accuracy:
0.8249 - val loss: 0.8788 - val accuracy: 0.8217
Epoch 67/100
1/750 [.....] - ETA: 0s - loss: 0.9031 - accuracy:
104/750 [===>...... - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.8834 - accuracy:
0.8228
318/750 [=======>...... - ETA: 0s - loss: 0.8808 - accuracy:
426/750 [==========>.....] - ETA: 0s - loss: 0.8784 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.8771 - accuracy:
0.8265
639/750 [============>....] - ETA: 0s - loss: 0.8775 - accuracy:
0.8256
750/750 [============= ] - 0s 597us/step - loss: 0.8799 - accuracy:
0.8242 - val_loss: 0.8922 - val_accuracy: 0.8206
Epoch 68/100
1/750 [.....] - ETA: 0s - loss: 0.7430 - accuracy:
0.8906
104/750 [===>.....] - ETA: 0s - loss: 0.8615 - accuracy:
0.8334
206/750 [=====>>.....] - ETA: 0s - loss: 0.8757 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.8735 - accuracy:
0.8280
418/750 [========>..... - ETA: 0s - loss: 0.8770 - accuracy:
0.8261
527/750 [==========>.....] - ETA: 0s - loss: 0.8779 - accuracy:
639/750 [===========>....] - ETA: 0s - loss: 0.8795 - accuracy:
0.8246 - val loss: 0.8817 - val accuracy: 0.8225
Epoch 69/100
```

```
1/750 [....... - 6.8169 - accuracy:
108/750 [===>.....] - ETA: 0s - loss: 0.8783 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.8795 - accuracy:
0.8221
320/750 [=======>.....] - ETA: 0s - loss: 0.8809 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.8830 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.8814 - accuracy:
0.8242
0.8239 - val_loss: 0.8765 - val_accuracy: 0.8233
Epoch 70/100
1/750 [...... os - loss: 0.8347 - accuracy:
106/750 [===>...... - ETA: 0s - loss: 0.8687 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.8703 - accuracy:
0.8320
327/750 [========>.....] - ETA: 0s - loss: 0.8738 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.8767 - accuracy:
548/750 [==========>.....] - ETA: 0s - loss: 0.8751 - accuracy:
0.8273
0.8251
750/750 [============= ] - 0s 574us/step - loss: 0.8792 - accuracy:
0.8245 - val loss: 0.8808 - val accuracy: 0.8210
Epoch 71/100
1/750 [.....] - ETA: 0s - loss: 0.8038 - accuracy:
0.7969
112/750 [===>.....] - ETA: 0s - loss: 0.8668 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.8704 - accuracy:
0.8239
323/750 [=======>.....] - ETA: 0s - loss: 0.8779 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.8807 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.8782 - accuracy:
0.8241
639/750 [===============>.....] - ETA: 0s - loss: 0.8793 - accuracy:
```

```
0.8237
750/750 [=============== ] - 0s 582us/step - loss: 0.8791 - accuracy:
0.8242 - val loss: 0.8838 - val accuracy: 0.8186
Epoch 72/100
 1/750 [.....] - ETA: 0s - loss: 0.7710 - accuracy:
107/750 [===>.....] - ETA: 0s - loss: 0.8859 - accuracy:
0.8197
216/750 [======>...... - ETA: 0s - loss: 0.8833 - accuracy:
0.8224
316/750 [========>.....] - ETA: 0s - loss: 0.8774 - accuracy:
419/750 [========>.....] - ETA: 0s - loss: 0.8772 - accuracy:
0.8259
511/750 [=========>.....] - ETA: 0s - loss: 0.8788 - accuracy:
0.8251
0.8251
721/750 [===============>..] - ETA: 0s - loss: 0.8770 - accuracy:
750/750 [============== ] - 0s 601us/step - loss: 0.8783 - accuracy:
0.8248 - val loss: 0.8770 - val accuracy: 0.8208
Epoch 73/100
1/750 [.....] - ETA: 0s - loss: 0.7892 - accuracy:
0.8281
112/750 [===>...... - ETA: 0s - loss: 0.8833 - accuracy:
0.8244
216/750 [======>.....] - ETA: 0s - loss: 0.8867 - accuracy:
325/750 [========>.....] - ETA: 0s - loss: 0.8822 - accuracy:
0.8237
434/750 [=========>..... - ETA: 0s - loss: 0.8815 - accuracy:
0.8236
541/750 [==========>.....] - ETA: 0s - loss: 0.8799 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.8804 - accuracy:
0.8244
750/750 [============= ] - 0s 582us/step - loss: 0.8789 - accuracy:
0.8255 - val_loss: 0.8786 - val_accuracy: 0.8226
Epoch 74/100
1/750 [.....] - ETA: 0s - loss: 0.8790 - accuracy:
0.7969
110/750 [===>.....] - ETA: 0s - loss: 0.8806 - accuracy:
```

```
0.8266
217/750 [======>.....] - ETA: 0s - loss: 0.8782 - accuracy:
326/750 [========>.....] - ETA: 0s - loss: 0.8822 - accuracy:
432/750 [========>...... - ETA: 0s - loss: 0.8825 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.8785 - accuracy:
750/750 [============== ] - 0s 581us/step - loss: 0.8780 - accuracy:
0.8246 - val loss: 0.8818 - val accuracy: 0.8194
Epoch 75/100
1/750 [.....] - ETA: 0s - loss: 0.7549 - accuracy:
0.8906
106/750 [===>...... - ETA: 0s - loss: 0.8733 - accuracy:
0.8317
214/750 [=====>...... - ETA: 0s - loss: 0.8786 - accuracy:
324/750 [=======>.....] - ETA: 0s - loss: 0.8849 - accuracy:
432/750 [==========>.....] - ETA: 0s - loss: 0.8836 - accuracy:
0.8228
542/750 [==========>.....] - ETA: 0s - loss: 0.8818 - accuracy:
750/750 [============= ] - 0s 574us/step - loss: 0.8780 - accuracy:
0.8255 - val_loss: 0.8889 - val_accuracy: 0.8182
Epoch 76/100
1/750 [.....] - ETA: 0s - loss: 0.8747 - accuracy:
0.8125
102/750 [===>.....] - ETA: 0s - loss: 0.8768 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.8760 - accuracy:
313/750 [========>.....] - ETA: 0s - loss: 0.8705 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.8713 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.8770 - accuracy:
634/750 [============>....] - ETA: 0s - loss: 0.8773 - accuracy:
750/750 [============= ] - 0s 594us/step - loss: 0.8776 - accuracy:
```

```
0.8249 - val loss: 0.8772 - val_accuracy: 0.8228
Epoch 77/100
1/750 [.....] - ETA: 0s - loss: 0.8943 - accuracy:
0.8281
111/750 [===>...... - ETA: 0s - loss: 0.8848 - accuracy:
0.8236
220/750 [=====>.....] - ETA: 0s - loss: 0.8771 - accuracy:
0.8247
329/750 [========>.....] - ETA: 0s - loss: 0.8801 - accuracy:
435/750 [=========>...... - ETA: 0s - loss: 0.8779 - accuracy:
0.8256
543/750 [==========>.....] - ETA: 0s - loss: 0.8766 - accuracy:
0.8257
653/750 [=============>....] - ETA: 0s - loss: 0.8789 - accuracy:
0.8255 - val loss: 0.8836 - val accuracy: 0.8228
Epoch 78/100
1/750 [.....] - ETA: 0s - loss: 0.9980 - accuracy:
0.7656
110/750 [===>...... - ETA: 0s - loss: 0.8826 - accuracy:
0.8243
218/750 [======>.....] - ETA: 0s - loss: 0.8814 - accuracy:
323/750 [=======>.....] - ETA: 0s - loss: 0.8795 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.8755 - accuracy:
0.8263
541/750 [==========>.....] - ETA: 0s - loss: 0.8762 - accuracy:
0.8267
0.8252 - val loss: 0.8803 - val accuracy: 0.8217
Epoch 79/100
1/750 [.....] - ETA: 0s - loss: 0.9896 - accuracy:
0.7969
111/750 [===>.....] - ETA: 0s - loss: 0.8596 - accuracy:
0.8339
214/750 [======>.....] - ETA: 0s - loss: 0.8619 - accuracy:
322/750 [========>.....] - ETA: 0s - loss: 0.8668 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.8715 - accuracy:
0.8283
532/750 [=========>.....] - ETA: 0s - loss: 0.8730 - accuracy:
```

```
0.8274
0.8253 - val loss: 0.8834 - val accuracy: 0.8194
Epoch 80/100
1/750 [.....] - ETA: 0s - loss: 0.8477 - accuracy:
109/750 [===>...... - ETA: 0s - loss: 0.8716 - accuracy:
0.8277
217/750 [======>.....] - ETA: 0s - loss: 0.8840 - accuracy:
0.8224
328/750 [=========>.....] - ETA: 0s - loss: 0.8815 - accuracy:
0.8228
436/750 [=========>...... - ETA: 0s - loss: 0.8812 - accuracy:
0.8229
547/750 [==========>.....] - ETA: 0s - loss: 0.8796 - accuracy:
656/750 [=============>....] - ETA: 0s - loss: 0.8800 - accuracy:
750/750 [================ ] - 0s 574us/step - loss: 0.8773 - accuracy:
0.8234 - val loss: 0.8821 - val accuracy: 0.8192
Epoch 81/100
1/750 [.................] - ETA: 0s - loss: 0.9852 - accuracy:
108/750 [===>...... - ETA: 0s - loss: 0.8710 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.8705 - accuracy:
0.8281
327/750 [========>.....] - ETA: 0s - loss: 0.8718 - accuracy:
0.8293
434/750 [=========>...... - ETA: 0s - loss: 0.8732 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.8762 - accuracy:
0.8246
0.8249 - val loss: 0.8823 - val accuracy: 0.8182
Epoch 82/100
1/750 [.....] - ETA: 0s - loss: 1.0048 - accuracy:
104/750 [===>.....] - ETA: 0s - loss: 0.8814 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.8808 - accuracy:
```

```
0.8254
323/750 [========>.....] - ETA: 0s - loss: 0.8743 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.8748 - accuracy:
0.8266
544/750 [===========>.....] - ETA: 0s - loss: 0.8768 - accuracy:
0.8262 - val_loss: 0.8770 - val_accuracy: 0.8223
Epoch 83/100
1/750 [.....] - ETA: 0s - loss: 0.8322 - accuracy:
0.8281
109/750 [===>.....] - ETA: 0s - loss: 0.8825 - accuracy:
218/750 [======>...... - ETA: 0s - loss: 0.8774 - accuracy:
319/750 [=======>.....] - ETA: 0s - loss: 0.8823 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.8788 - accuracy:
0.8247
539/750 [=========>.....] - ETA: 0s - loss: 0.8771 - accuracy:
644/750 [============>....] - ETA: 0s - loss: 0.8770 - accuracy:
750/750 [============= ] - 0s 582us/step - loss: 0.8768 - accuracy:
0.8248 - val_loss: 0.8804 - val_accuracy: 0.8232
Epoch 84/100
1/750 [.....] - ETA: 0s - loss: 0.7655 - accuracy:
0.8906
112/750 [===>.....] - ETA: 0s - loss: 0.8698 - accuracy:
0.8284
221/750 [======>...... - ETA: 0s - loss: 0.8743 - accuracy:
0.8273
325/750 [========>.....] - ETA: 0s - loss: 0.8804 - accuracy:
0.8239
436/750 [=========>.....] - ETA: 0s - loss: 0.8803 - accuracy:
545/750 [==========>.....] - ETA: 0s - loss: 0.8758 - accuracy:
0.8251
653/750 [===============>....] - ETA: 0s - loss: 0.8779 - accuracy:
0.8259 - val_loss: 0.8765 - val_accuracy: 0.8238
Epoch 85/100
1/750 [.....] - ETA: 0s - loss: 0.8818 - accuracy:
```

```
0.8281
111/750 [===>...... - ETA: 0s - loss: 0.8861 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.8773 - accuracy:
0.8251
325/750 [=======>.....] - ETA: 0s - loss: 0.8804 - accuracy:
0.8239
437/750 [========>.....] - ETA: 0s - loss: 0.8764 - accuracy:
0.8257
541/750 [==========>.....] - ETA: 0s - loss: 0.8764 - accuracy:
653/750 [=============>....] - ETA: 0s - loss: 0.8772 - accuracy:
750/750 [============= ] - 0s 577us/step - loss: 0.8764 - accuracy:
0.8248 - val_loss: 0.8815 - val_accuracy: 0.8198
Epoch 86/100
1/750 [.....] - ETA: 0s - loss: 0.8946 - accuracy:
109/750 [===>...... - ETA: 0s - loss: 0.8855 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.8870 - accuracy:
0.8191
322/750 [=======>.....] - ETA: 0s - loss: 0.8816 - accuracy:
0.8219
432/750 [=========>.....] - ETA: 0s - loss: 0.8766 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.8772 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.8773 - accuracy:
0.8249
0.8247
0.8247 - val loss: 0.8778 - val accuracy: 0.8227
Epoch 87/100
1/750 [.....] - ETA: 0s - loss: 0.8416 - accuracy:
108/750 [===>.....] - ETA: 0s - loss: 0.8768 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.8706 - accuracy:
0.8286
327/750 [=========>.....] - ETA: 0s - loss: 0.8746 - accuracy:
0.8267
437/750 [========>.....] - ETA: 0s - loss: 0.8720 - accuracy:
544/750 [=========>.....] - ETA: 0s - loss: 0.8731 - accuracy:
0.8271
654/750 [=============>....] - ETA: 0s - loss: 0.8747 - accuracy:
```

```
0.8259
0.8255 - val_loss: 0.8772 - val_accuracy: 0.8224
Epoch 88/100
1/750 [.....] - ETA: 0s - loss: 0.8028 - accuracy:
110/750 [===>...... - ETA: 0s - loss: 0.8749 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.8790 - accuracy:
323/750 [=======>..... - ETA: 0s - loss: 0.8785 - accuracy:
0.8261
429/750 [=========>.....] - ETA: 0s - loss: 0.8745 - accuracy:
0.8278
535/750 [==========>.....] - ETA: 0s - loss: 0.8750 - accuracy:
0.8270
646/750 [============>....] - ETA: 0s - loss: 0.8753 - accuracy:
0.8256 - val_loss: 0.8847 - val_accuracy: 0.8156
Epoch 89/100
1/750 [.....] - ETA: 0s - loss: 0.7029 - accuracy:
108/750 [===>.....] - ETA: 0s - loss: 0.8909 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.8846 - accuracy:
0.8196
330/750 [=========>.....] - ETA: 0s - loss: 0.8786 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.8770 - accuracy:
547/750 [==========>.....] - ETA: 0s - loss: 0.8768 - accuracy:
0.8241
0.8249
0.8248 - val_loss: 0.8795 - val_accuracy: 0.8231
Epoch 90/100
1/750 [.....] - ETA: 0s - loss: 0.9325 - accuracy:
104/750 [===>......] - ETA: 0s - loss: 0.8722 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.8773 - accuracy:
0.8227
325/750 [=======>...... - ETA: 0s - loss: 0.8767 - accuracy:
0.8247
430/750 [=========>.....] - ETA: 0s - loss: 0.8783 - accuracy:
```

```
538/750 [==========>.....] - ETA: 0s - loss: 0.8798 - accuracy:
0.8246
0.8263
0.8263 - val loss: 0.8776 - val accuracy: 0.8217
Epoch 91/100
1/750 [.....] - ETA: 0s - loss: 0.8299 - accuracy:
107/750 [===>.....] - ETA: 0s - loss: 0.8750 - accuracy:
0.8242
216/750 [======>.....] - ETA: 0s - loss: 0.8777 - accuracy:
319/750 [=======>...... - ETA: 0s - loss: 0.8776 - accuracy:
422/750 [=========>...... - ETA: 0s - loss: 0.8773 - accuracy:
534/750 [=========>.....] - ETA: 0s - loss: 0.8748 - accuracy:
0.8239
639/750 [============>....] - ETA: 0s - loss: 0.8746 - accuracy:
0.8246
750/750 [============= ] - 0s 587us/step - loss: 0.8756 - accuracy:
0.8242 - val_loss: 0.8813 - val_accuracy: 0.8213
Epoch 92/100
1/750 [.....] - ETA: 0s - loss: 1.0585 - accuracy:
108/750 [===>.....] - ETA: 0s - loss: 0.8708 - accuracy:
0.8274
220/750 [======>...... - ETA: 0s - loss: 0.8679 - accuracy:
0.8286
326/750 [========>.....] - ETA: 0s - loss: 0.8645 - accuracy:
0.8301
433/750 [=========>.....] - ETA: 0s - loss: 0.8672 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.8721 - accuracy:
0.8270
650/750 [===============>....] - ETA: 0s - loss: 0.8740 - accuracy:
0.8260 - val_loss: 0.8748 - val_accuracy: 0.8241
Epoch 93/100
1/750 [.....] - ETA: 0s - loss: 1.1325 - accuracy:
```

```
110/750 [===>.....] - ETA: 0s - loss: 0.8720 - accuracy:
0.8274
218/750 [======>.....] - ETA: 0s - loss: 0.8700 - accuracy:
0.8299
328/750 [========>.....] - ETA: 0s - loss: 0.8752 - accuracy:
0.8266
438/750 [========>.....] - ETA: 0s - loss: 0.8747 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.8749 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.8745 - accuracy:
0.8256
750/750 [============= ] - 0s 573us/step - loss: 0.8748 - accuracy:
0.8264 - val_loss: 0.8759 - val_accuracy: 0.8228
Epoch 94/100
1/750 [.....] - ETA: 0s - loss: 0.9224 - accuracy:
112/750 [===>...... - ETA: 0s - loss: 0.8764 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.8695 - accuracy:
0.8256
329/750 [=======>.....] - ETA: 0s - loss: 0.8691 - accuracy:
0.8277
440/750 [=========>.....] - ETA: 0s - loss: 0.8711 - accuracy:
0.8267
547/750 [=========>.....] - ETA: 0s - loss: 0.8738 - accuracy:
659/750 [============>....] - ETA: 0s - loss: 0.8754 - accuracy:
0.8255 - val loss: 0.8779 - val accuracy: 0.8208
Epoch 95/100
 1/750 [.....] - ETA: 0s - loss: 0.9172 - accuracy:
0.7969
108/750 [===>...... - ETA: 0s - loss: 0.8812 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.8788 - accuracy:
0.8227
322/750 [=======>.....] - ETA: 0s - loss: 0.8737 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.8726 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.8732 - accuracy:
0.8261
622/750 [===========>.....] - ETA: 0s - loss: 0.8741 - accuracy:
```

```
0.8254 - val_loss: 0.8771 - val_accuracy: 0.8235
Epoch 96/100
1/750 [.....] - ETA: 0s - loss: 0.8750 - accuracy:
103/750 [===>.....] - ETA: 0s - loss: 0.8620 - accuracy:
209/750 [=====>.....] - ETA: 0s - loss: 0.8680 - accuracy:
315/750 [=======>..... - ETA: 0s - loss: 0.8757 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.8737 - accuracy:
0.8266
533/750 [==========>.....] - ETA: 0s - loss: 0.8755 - accuracy:
0.8254
643/750 [============>....] - ETA: 0s - loss: 0.8754 - accuracy:
0.8259 - val loss: 0.8759 - val accuracy: 0.8237
Epoch 97/100
1/750 [.....] - ETA: 0s - loss: 0.8355 - accuracy:
106/750 [===>...... - ETA: 0s - loss: 0.8814 - accuracy:
0.8244
219/750 [======>.....] - ETA: 0s - loss: 0.8736 - accuracy:
0.8256
326/750 [========>.....] - ETA: 0s - loss: 0.8784 - accuracy:
0.8241
433/750 [=========>.....] - ETA: 0s - loss: 0.8775 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.8785 - accuracy:
0.8253 - val_loss: 0.8758 - val_accuracy: 0.8236
Epoch 98/100
1/750 [...... 0.8865 - accuracy:
0.8281
108/750 [===>.....] - ETA: 0s - loss: 0.8770 - accuracy:
0.8267
213/750 [======>.....] - ETA: 0s - loss: 0.8717 - accuracy:
318/750 [=======>.....] - ETA: 0s - loss: 0.8775 - accuracy:
```

```
0.8249
427/750 [=========>.....] - ETA: 0s - loss: 0.8760 - accuracy:
0.8263
531/750 [==========>.....] - ETA: 0s - loss: 0.8768 - accuracy:
0.8256
0.8257
0.8260 - val loss: 0.8762 - val accuracy: 0.8210
Epoch 99/100
1/750 [.....] - ETA: 0s - loss: 0.9683 - accuracy:
0.7812
114/750 [===>.....] - ETA: 0s - loss: 0.8726 - accuracy:
0.8236
221/750 [======>.....] - ETA: 0s - loss: 0.8755 - accuracy:
332/750 [=======>.....] - ETA: 0s - loss: 0.8757 - accuracy:
0.8231
443/750 [==========>.....] - ETA: 0s - loss: 0.8724 - accuracy:
553/750 [==========>.....] - ETA: 0s - loss: 0.8724 - accuracy:
0.8266
664/750 [============>....] - ETA: 0s - loss: 0.8719 - accuracy:
0.8269
750/750 [============= ] - 0s 571us/step - loss: 0.8743 - accuracy:
0.8259 - val_loss: 0.8961 - val_accuracy: 0.8105
Epoch 100/100
 1/750 [...... 0.8595 - accuracy:
0.8594
110/750 [===>.....] - ETA: 0s - loss: 0.8681 - accuracy:
0.8247
216/750 [======>.....] - ETA: 0s - loss: 0.8750 - accuracy:
0.8251
326/750 [=======>.....] - ETA: 0s - loss: 0.8776 - accuracy:
0.8249
433/750 [=========>.....] - ETA: 0s - loss: 0.8742 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.8745 - accuracy:
647/750 [===========>.....] - ETA: 0s - loss: 0.8753 - accuracy:
0.8264 - val loss: 0.8738 - val accuracy: 0.8217
1/313 [.....] - ETA: 3s - loss: 0.9921 - accuracy:
139/313 [=======>...... - ETA: 0s - loss: 0.8990 - accuracy:
0.8199
```

Testing problem_3b:

Importing MNIST Dataset...
(48000, 784) train samples
(12000, 784) validation samples
(10000, 784) test samples

(48000, 10) train labels (12000, 10) validation labels (10000, 10) test labels

Running for Model 1/12

Model: "sequential_1"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 40)	31400
hidden1 (Dense)	(None, 40)	1640
hidden2 (Dense)	(None, 40)	1640
hidden3 (Dense)	(None, 40)	1640
output_layer (Dense)	(None, 10)	410

Total params: 36,730 Trainable params: 36,730 Non-trainable params: 0

```
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.01 and L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 40, 'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size': 40, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 40, 'activation_function': 'relu'}, {'name': 'hidden3', 'size': 40, 'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10, 'activation_function': 'softmax'}]
```

```
1/750 [.....] - ETA: 2:08 - loss: 2.5158 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 2.4652 - accuracy: 0.1094
153/750 [====>......] - ETA: 0s - loss: 2.3688 - accuracy:
0.1863
235/750 [======>..... - ETA: 0s - loss: 2.2122 - accuracy:
0.2709
323/750 [=======>.....] - ETA: 0s - loss: 2.0203 - accuracy:
414/750 [=========>.....] - ETA: 0s - loss: 1.8548 - accuracy:
498/750 [==========>.....] - ETA: 0s - loss: 1.7297 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 1.6291 - accuracy:
0.5485 - val_loss: 0.9112 - val_accuracy: 0.7477
Epoch 2/220
1/750 [.....] - ETA: 0s - loss: 0.7664 - accuracy:
0.8281
82/750 [==>.....] - ETA: 0s - loss: 0.9028 - accuracy:
0.7511
163/750 [=====>.....] - ETA: 0s - loss: 0.8911 - accuracy:
0.7567
254/750 [=======>.....] - ETA: 0s - loss: 0.8769 - accuracy:
0.7696
342/750 [========>.....] - ETA: 0s - loss: 0.8727 - accuracy:
0.7611
426/750 [=========>.....] - ETA: 0s - loss: 0.8657 - accuracy:
507/750 [========>.....] - ETA: 0s - loss: 0.8558 - accuracy:
0.7681
588/750 [===========>.....] - ETA: 0s - loss: 0.8486 - accuracy:
0.7739
0.7759 - val loss: 0.8065 - val accuracy: 0.7833
Epoch 3/220
1/750 [....... - 6.8794 - accuracy:
0.7031
93/750 [==>.....] - ETA: 0s - loss: 0.7751 - accuracy:
0.7969
```

```
175/750 [=====>...... - ETA: 0s - loss: 0.7709 - accuracy:
0.7993
250/750 [=======>.....] - ETA: 0s - loss: 0.7667 - accuracy:
0.8031
332/750 [========>.....] - ETA: 0s - loss: 0.7697 - accuracy:
0.8998
421/750 [========>.....] - ETA: 0s - loss: 0.7645 - accuracy:
0.8036
514/750 [=========>.....] - ETA: 0s - loss: 0.7622 - accuracy:
0.8046
603/750 [===========>.....] - ETA: 0s - loss: 0.7591 - accuracy:
0.8057
750/750 [================ ] - 1s 724us/step - loss: 0.7545 - accuracy:
0.8080 - val loss: 0.7263 - val accuracy: 0.8202
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 0.8295 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.7205 - accuracy:
0.8181
175/750 [=====>.....] - ETA: 0s - loss: 0.7202 - accuracy:
0.8175
261/750 [=======>.....] - ETA: 0s - loss: 0.7205 - accuracy:
0.8193
349/750 [=======>.....] - ETA: 0s - loss: 0.7170 - accuracy:
0.8296
435/750 [==========>.....] - ETA: 0s - loss: 0.7155 - accuracy:
523/750 [==========>.....] - ETA: 0s - loss: 0.7125 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 0.7155 - accuracy:
699/750 [============>...] - ETA: 0s - loss: 0.7158 - accuracy:
0.8223 - val_loss: 0.7006 - val_accuracy: 0.8248
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 0.9115 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6757 - accuracy:
178/750 [=====>...... - ETA: 0s - loss: 0.6870 - accuracy:
0.8321
265/750 [=======>.....] - ETA: 0s - loss: 0.6910 - accuracy:
0.8316
358/750 [========>.....] - ETA: 0s - loss: 0.6898 - accuracy:
0.8307
```

```
439/750 [=========>.....] - ETA: 0s - loss: 0.6886 - accuracy:
0.8314
523/750 [===========>.....] - ETA: 0s - loss: 0.6880 - accuracy:
0.8307
0.8319 - val loss: 0.6728 - val accuracy: 0.8394
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 0.8536 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6761 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.6652 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.6646 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.6657 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.6678 - accuracy:
0.8376
535/750 [==========>.....] - ETA: 0s - loss: 0.6661 - accuracy:
0.8383
0.8394
750/750 [=============== ] - 1s 708us/step - loss: 0.6639 - accuracy:
0.8396 - val_loss: 0.6577 - val_accuracy: 0.8409
Epoch 7/220
1/750 [.....] - ETA: 0s - loss: 0.5709 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.6322 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.6435 - accuracy:
0.8474
251/750 [=======>.....] - ETA: 0s - loss: 0.6515 - accuracy:
339/750 [=======>.....] - ETA: 0s - loss: 0.6463 - accuracy:
0.8469
430/750 [=========>.....] - ETA: 0s - loss: 0.6469 - accuracy:
0.8456
521/750 [===========>.....] - ETA: 0s - loss: 0.6491 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.6457 - accuracy:
```

```
692/750 [============>...] - ETA: 0s - loss: 0.6451 - accuracy:
0.8453
0.8448 - val loss: 0.6413 - val accuracy: 0.8469
Epoch 8/220
 1/750 [.....] - ETA: 0s - loss: 0.6163 - accuracy:
0.8438
85/750 [==>.....] - ETA: 0s - loss: 0.6359 - accuracy:
0.8472
161/750 [====>.....] - ETA: 0s - loss: 0.6442 - accuracy:
249/750 [======>.....] - ETA: 0s - loss: 0.6391 - accuracy:
0.8470
337/750 [=======>.....] - ETA: 0s - loss: 0.6404 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.6378 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.6360 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.6358 - accuracy:
750/750 [================ ] - 1s 712us/step - loss: 0.6297 - accuracy:
0.8497 - val loss: 0.6487 - val accuracy: 0.8422
Epoch 9/220
 1/750 [.................] - ETA: 0s - loss: 0.7547 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6212 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.6223 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.6229 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6195 - accuracy:
0.8521
446/750 [=========>.....] - ETA: 0s - loss: 0.6199 - accuracy:
0.8517
537/750 [=========>.....] - ETA: 0s - loss: 0.6185 - accuracy:
629/750 [===========>....] - ETA: 0s - loss: 0.6188 - accuracy:
719/750 [==============>..] - ETA: 0s - loss: 0.6174 - accuracy:
0.8531
750/750 [================ ] - 1s 693us/step - loss: 0.6175 - accuracy:
0.8531 - val_loss: 0.6273 - val_accuracy: 0.8493
Epoch 10/220
```

```
1/750 [...... - ETA: 0s - loss: 0.5411 - accuracy:
0.8438
89/750 [==>.....] - ETA: 0s - loss: 0.6253 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.6154 - accuracy:
265/750 [======>..... - ETA: 0s - loss: 0.6173 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.6122 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.6089 - accuracy:
517/750 [==========>.....] - ETA: 0s - loss: 0.6088 - accuracy:
0.8556
688/750 [============>...] - ETA: 0s - loss: 0.6075 - accuracy:
0.8551
0.8558 - val loss: 0.6339 - val accuracy: 0.8453
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 0.7017 - accuracy:
0.7969
88/750 [==>.....] - ETA: 0s - loss: 0.6119 - accuracy:
0.8473
175/750 [=====>.....] - ETA: 0s - loss: 0.6161 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.6106 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.6115 - accuracy:
421/750 [========>.....] - ETA: 0s - loss: 0.6056 - accuracy:
487/750 [=========>.....] - ETA: 0s - loss: 0.6022 - accuracy:
563/750 [=========>.....] - ETA: 0s - loss: 0.5987 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.5981 - accuracy:
0.8577
0.8584 - val loss: 0.6017 - val accuracy: 0.8558
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 0.5698 - accuracy:
0.8750
92/750 [==>.....] - ETA: 0s - loss: 0.5750 - accuracy:
0.8682
```

```
176/750 [=====>...... - ETA: 0s - loss: 0.5739 - accuracy:
0.8658
265/750 [=======>.....] - ETA: 0s - loss: 0.5777 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.5840 - accuracy:
443/750 [========>.....] - ETA: 0s - loss: 0.5864 - accuracy:
0.8699
531/750 [=========>.....] - ETA: 0s - loss: 0.5862 - accuracy:
0.8608
618/750 [===========>.....] - ETA: 0s - loss: 0.5859 - accuracy:
0.8604 - val loss: 0.6017 - val accuracy: 0.8552
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 0.5908 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5775 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.5760 - accuracy:
0.8647
265/750 [=======>.....] - ETA: 0s - loss: 0.5785 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.5789 - accuracy:
0.8633
438/750 [==========>.....] - ETA: 0s - loss: 0.5772 - accuracy:
0.8649
526/750 [==========>.....] - ETA: 0s - loss: 0.5768 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.5750 - accuracy:
698/750 [============>...] - ETA: 0s - loss: 0.5774 - accuracy:
0.8649
0.8636 - val_loss: 0.5973 - val_accuracy: 0.8553
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 0.4324 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5758 - accuracy:
175/750 [=====>...... - ETA: 0s - loss: 0.5716 - accuracy:
0.8649
264/750 [=======>.....] - ETA: 0s - loss: 0.5719 - accuracy:
0.8644
349/750 [=======>.....] - ETA: 0s - loss: 0.5723 - accuracy:
```

```
416/750 [========>.....] - ETA: 0s - loss: 0.5750 - accuracy:
0.8634
481/750 [==========>.....] - ETA: 0s - loss: 0.5751 - accuracy:
0.8629
564/750 [===============>.....] - ETA: 0s - loss: 0.5748 - accuracy:
0.8629
653/750 [============>....] - ETA: 0s - loss: 0.5733 - accuracy:
0.8631
0.8638
750/750 [============= ] - 1s 740us/step - loss: 0.5709 - accuracy:
0.8641 - val_loss: 0.5825 - val_accuracy: 0.8601
Epoch 15/220
1/750 [.....] - ETA: 0s - loss: 0.4975 - accuracy:
85/750 [==>...... - ETA: 0s - loss: 0.5670 - accuracy:
170/750 [====>.....] - ETA: 0s - loss: 0.5705 - accuracy:
258/750 [=======>..... - ETA: 0s - loss: 0.5632 - accuracy:
0.8686
350/750 [=======>.....] - ETA: 0s - loss: 0.5658 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.5682 - accuracy:
0.8653
522/750 [=========>.....] - ETA: 0s - loss: 0.5661 - accuracy:
0.8657
0.8661
0.8662 - val loss: 0.5948 - val accuracy: 0.8558
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 0.4953 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5661 - accuracy:
0.8653
181/750 [=====>.....] - ETA: 0s - loss: 0.5612 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.5609 - accuracy:
0.8698
358/750 [=======>.....] - ETA: 0s - loss: 0.5622 - accuracy:
0.8674
450/750 [=========>.....] - ETA: 0s - loss: 0.5602 - accuracy:
0.8678
538/750 [==========>.....] - ETA: 0s - loss: 0.5605 - accuracy:
0.8685
```

```
0.8684
0.8683
0.8682 - val_loss: 0.5821 - val_accuracy: 0.8595
Epoch 17/220
1/750 [.....] - ETA: 0s - loss: 0.4408 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.5497 - accuracy:
0.8643
168/750 [====>.....] - ETA: 0s - loss: 0.5476 - accuracy:
0.8661
255/750 [======>..... - ETA: 0s - loss: 0.5493 - accuracy:
0.8680
342/750 [========>.....] - ETA: 0s - loss: 0.5532 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.5492 - accuracy:
0.8697
516/750 [=========>.....] - ETA: 0s - loss: 0.5492 - accuracy:
0.8696
694/750 [=============>...] - ETA: 0s - loss: 0.5510 - accuracy:
0.8699 - val loss: 0.5682 - val accuracy: 0.8631
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.4568 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5433 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.5394 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.5401 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.5380 - accuracy:
0.8742
438/750 [=========>..... - ETA: 0s - loss: 0.5375 - accuracy:
0.8747
528/750 [=========>.....] - ETA: 0s - loss: 0.5407 - accuracy:
695/750 [============>...] - ETA: 0s - loss: 0.5439 - accuracy:
0.8721 - val_loss: 0.5754 - val_accuracy: 0.8597
```

```
1/750 [.....] - ETA: 0s - loss: 0.4373 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5320 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5324 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.5390 - accuracy:
0.8738
350/750 [=======>.....] - ETA: 0s - loss: 0.5378 - accuracy:
0.8726
435/750 [=========>.....] - ETA: 0s - loss: 0.5348 - accuracy:
0.8735
524/750 [============>.....] - ETA: 0s - loss: 0.5373 - accuracy:
0.8717
0.8721
750/750 [================ ] - 1s 712us/step - loss: 0.5385 - accuracy:
0.8720 - val_loss: 0.5615 - val_accuracy: 0.8622
Epoch 20/220
1/750 [.....] - ETA: 0s - loss: 0.3879 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.5245 - accuracy:
0.8771
179/750 [=====>.....] - ETA: 0s - loss: 0.5260 - accuracy:
0.8770
269/750 [=======>.....] - ETA: 0s - loss: 0.5293 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5319 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.5326 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.5323 - accuracy:
0.8739
629/750 [============>....] - ETA: 0s - loss: 0.5329 - accuracy:
0.8742
0.8742 - val loss: 0.5610 - val accuracy: 0.8666
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 0.6720 - accuracy:
0.8281
88/750 [==>.....] - ETA: 0s - loss: 0.5096 - accuracy:
0.8837
```

```
168/750 [====>..... - ETA: 0s - loss: 0.5173 - accuracy:
0.8813
252/750 [=======>.....] - ETA: 0s - loss: 0.5189 - accuracy:
0.8801
335/750 [========>..... - ETA: 0s - loss: 0.5185 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.5227 - accuracy:
0.8784
515/750 [=========>.....] - ETA: 0s - loss: 0.5280 - accuracy:
0.8760
605/750 [===========>.....] - ETA: 0s - loss: 0.5284 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.5283 - accuracy:
750/750 [================ ] - 1s 712us/step - loss: 0.5269 - accuracy:
0.8756 - val loss: 0.5484 - val accuracy: 0.8654
Epoch 22/220
 1/750 [.....] - ETA: 0s - loss: 0.4313 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5251 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5265 - accuracy:
0.8772
266/750 [=======>.....] - ETA: 0s - loss: 0.5266 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8771
446/750 [=========>.....] - ETA: 0s - loss: 0.5228 - accuracy:
0.8759
530/750 [==========>.....] - ETA: 0s - loss: 0.5227 - accuracy:
0.8756
612/750 [===========>.....] - ETA: 0s - loss: 0.5229 - accuracy:
695/750 [===========>...] - ETA: 0s - loss: 0.5223 - accuracy:
0.8758 - val_loss: 0.5910 - val_accuracy: 0.8462
Epoch 23/220
 1/750 [.....] - ETA: 0s - loss: 0.5453 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5232 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.5216 - accuracy:
0.8778
260/750 [=======>.....] - ETA: 0s - loss: 0.5184 - accuracy:
0.8780
349/750 [=======>.....] - ETA: 0s - loss: 0.5233 - accuracy:
0.8749
```

```
439/750 [=========>.....] - ETA: 0s - loss: 0.5219 - accuracy:
0.8770
522/750 [===========>.....] - ETA: 0s - loss: 0.5206 - accuracy:
750/750 [============== ] - 1s 701us/step - loss: 0.5175 - accuracy:
0.8774 - val loss: 0.5474 - val accuracy: 0.8668
Epoch 24/220
1/750 [.....] - ETA: 0s - loss: 0.5467 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5014 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5068 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.5057 - accuracy:
352/750 [========>.....] - ETA: 0s - loss: 0.5064 - accuracy:
0.8801
441/750 [=========>.....] - ETA: 0s - loss: 0.5096 - accuracy:
0.8786
529/750 [=========>.....] - ETA: 0s - loss: 0.5092 - accuracy:
0.8793
0.8779
0.8783
750/750 [=============== ] - 1s 712us/step - loss: 0.5109 - accuracy:
0.8788 - val_loss: 0.5371 - val_accuracy: 0.8717
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.5181 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4887 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.5036 - accuracy:
0.8847
270/750 [=======>.....] - ETA: 0s - loss: 0.5078 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.5086 - accuracy:
0.8894
446/750 [=========>.....] - ETA: 0s - loss: 0.5089 - accuracy:
0.8797
518/750 [=========>.....] - ETA: 0s - loss: 0.5087 - accuracy:
0.8798
609/750 [===========>.....] - ETA: 0s - loss: 0.5078 - accuracy:
0.8798
```

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750/750 [================ ] - 1s 708us/step - loss: 0.5070 - accuracy:
0.8801 - val loss: 0.5539 - val accuracy: 0.8645
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.4770 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.4813 - accuracy:
0.8894
179/750 [=====>.....] - ETA: 0s - loss: 0.4920 - accuracy:
0.8847
270/750 [======>.....] - ETA: 0s - loss: 0.5016 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.5006 - accuracy:
0.8805
440/750 [=========>.....] - ETA: 0s - loss: 0.5031 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.5025 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.5027 - accuracy:
750/750 [================ ] - 1s 720us/step - loss: 0.5027 - accuracy:
0.8814 - val loss: 0.5509 - val accuracy: 0.8625
Epoch 27/220
 1/750 [.................] - ETA: 0s - loss: 0.4709 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.4927 - accuracy:
167/750 [====>.....] - ETA: 0s - loss: 0.5013 - accuracy:
0.8794
256/750 [=======>..... - ETA: 0s - loss: 0.5016 - accuracy:
0.8797
339/750 [=======>.....] - ETA: 0s - loss: 0.5045 - accuracy:
0.8784
420/750 [========>....] - ETA: 0s - loss: 0.5007 - accuracy:
0.8797
508/750 [=========>.....] - ETA: 0s - loss: 0.4978 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.4963 - accuracy:
750/750 [================ ] - 1s 714us/step - loss: 0.4985 - accuracy:
0.8814 - val_loss: 0.5401 - val_accuracy: 0.8669
Epoch 28/220
```

```
1/750 [...... - ETA: 0s - loss: 0.4094 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4804 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.4844 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.4964 - accuracy:
0.8824
434/750 [=========>.....] - ETA: 0s - loss: 0.4992 - accuracy:
0.8814
522/750 [==========>.....] - ETA: 0s - loss: 0.4963 - accuracy:
696/750 [===========>...] - ETA: 0s - loss: 0.4942 - accuracy:
0.8829 - val loss: 0.5242 - val accuracy: 0.8742
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.4162 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4894 - accuracy:
168/750 [====>.....] - ETA: 0s - loss: 0.4906 - accuracy:
0.8824
249/750 [======>.....] - ETA: 0s - loss: 0.4924 - accuracy:
332/750 [========>.....] - ETA: 0s - loss: 0.4908 - accuracy:
417/750 [========>.....] - ETA: 0s - loss: 0.4909 - accuracy:
0.8826
507/750 [===========>.....] - ETA: 0s - loss: 0.4875 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.4913 - accuracy:
0.8829
680/750 [============>...] - ETA: 0s - loss: 0.4908 - accuracy:
0.8832
750/750 [=============== ] - 1s 728us/step - loss: 0.4906 - accuracy:
0.8835 - val loss: 0.5285 - val accuracy: 0.8722
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.4553 - accuracy:
0.9219
85/750 [==>.....] - ETA: 0s - loss: 0.4732 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.4822 - accuracy:
0.8873
```

```
259/750 [=======>.....] - ETA: 0s - loss: 0.4855 - accuracy:
0.8862
335/750 [========>.....] - ETA: 0s - loss: 0.4831 - accuracy:
0.8872
421/750 [========>..... - ETA: 0s - loss: 0.4866 - accuracy:
0.8856
506/750 [========>>.....] - ETA: 0s - loss: 0.4859 - accuracy:
0.8859
590/750 [===========>.....] - ETA: 0s - loss: 0.4876 - accuracy:
0.8847
0.8851
0.8852 - val loss: 0.5230 - val accuracy: 0.8733
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.4679 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4849 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.4808 - accuracy:
0.8870
265/750 [=======>.....] - ETA: 0s - loss: 0.4800 - accuracy:
0.8881
360/750 [=========>.....] - ETA: 0s - loss: 0.4832 - accuracy:
0.8864
448/750 [=========>.....] - ETA: 0s - loss: 0.4843 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.4808 - accuracy:
0.8861
0.8850 - val_loss: 0.5238 - val_accuracy: 0.8734
Epoch 32/220
1/750 [...... os. 3719 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.4733 - accuracy:
0.8897
176/750 [=====>.....] - ETA: 0s - loss: 0.4774 - accuracy:
0.8887
265/750 [======>..... - ETA: 0s - loss: 0.4772 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.4786 - accuracy:
0.8875
445/750 [=========>...... - ETA: 0s - loss: 0.4794 - accuracy:
0.8873
```

```
532/750 [==========>.....] - ETA: 0s - loss: 0.4777 - accuracy:
0.8865 - val_loss: 0.5195 - val_accuracy: 0.8740
Epoch 33/220
1/750 [.....] - ETA: 0s - loss: 0.3852 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.4827 - accuracy:
0.8843
173/750 [====>...... - ETA: 0s - loss: 0.4758 - accuracy:
0.8876
265/750 [=======>.....] - ETA: 0s - loss: 0.4788 - accuracy:
0.8857
349/750 [========>.....] - ETA: 0s - loss: 0.4774 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.4757 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.4752 - accuracy:
0.8873
615/750 [============>.....] - ETA: 0s - loss: 0.4747 - accuracy:
0.8874
0.8871
0.8869 - val_loss: 0.5254 - val_accuracy: 0.8719
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.4907 - accuracy:
0.8281
89/750 [==>.....] - ETA: 0s - loss: 0.4617 - accuracy:
0.8871
176/750 [=====>.....] - ETA: 0s - loss: 0.4723 - accuracy:
0.8871
265/750 [======>.....] - ETA: 0s - loss: 0.4690 - accuracy:
0.8893
354/750 [========>.....] - ETA: 0s - loss: 0.4693 - accuracy:
0.8897
427/750 [========>.....] - ETA: 0s - loss: 0.4665 - accuracy:
0.8906
512/750 [===========>.....] - ETA: 0s - loss: 0.4709 - accuracy:
0.8894
597/750 [===========>.....] - ETA: 0s - loss: 0.4732 - accuracy:
0.8891
0.8891
```

```
0.8887 - val loss: 0.5107 - val accuracy: 0.8776
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.5694 - accuracy:
0.8750
90/750 [==>.....] - ETA: 0s - loss: 0.4715 - accuracy:
0.8877
177/750 [=====>...... - ETA: 0s - loss: 0.4663 - accuracy:
0.8899
265/750 [=======>.....] - ETA: 0s - loss: 0.4662 - accuracy:
0.8896
355/750 [=======>.....] - ETA: 0s - loss: 0.4662 - accuracy:
0.8895
439/750 [==========>.....] - ETA: 0s - loss: 0.4685 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.4688 - accuracy:
0.8876
0.8881 - val_loss: 0.5055 - val_accuracy: 0.8771
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.4283 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.4683 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4675 - accuracy:
0.8877
266/750 [=======>.....] - ETA: 0s - loss: 0.4670 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.4652 - accuracy:
0.8894
437/750 [========>.....] - ETA: 0s - loss: 0.4653 - accuracy:
0.8896
527/750 [=========>.....] - ETA: 0s - loss: 0.4670 - accuracy:
0.8896
0.8897 - val loss: 0.5121 - val accuracy: 0.8755
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.4955 - accuracy:
```

```
87/750 [==>...... - ETA: 0s - loss: 0.4514 - accuracy:
0.8980
175/750 [=====>.....] - ETA: 0s - loss: 0.4591 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.4601 - accuracy:
0.8926
347/750 [=======>.....] - ETA: 0s - loss: 0.4613 - accuracy:
0.8921
435/750 [=========>..... - ETA: 0s - loss: 0.4607 - accuracy:
0.8922
524/750 [=========>.....] - ETA: 0s - loss: 0.4647 - accuracy:
0.8907
0.8906 - val loss: 0.5015 - val_accuracy: 0.8777
Epoch 38/220
1/750 [...... - ETA: 0s - loss: 0.3824 - accuracy:
0.9531
84/750 [==>...... - ETA: 0s - loss: 0.4521 - accuracy:
0.8943
174/750 [====>.....] - ETA: 0s - loss: 0.4629 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.4634 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.4648 - accuracy:
0.8891
431/750 [=========>.....] - ETA: 0s - loss: 0.4615 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.4590 - accuracy:
0.8916
612/750 [===========>.....] - ETA: 0s - loss: 0.4604 - accuracy:
705/750 [==============>..] - ETA: 0s - loss: 0.4606 - accuracy:
750/750 [============= ] - 1s 697us/step - loss: 0.4609 - accuracy:
0.8900 - val_loss: 0.5110 - val_accuracy: 0.8756
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.4130 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.4580 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4519 - accuracy:
263/750 [=======>..... - ETA: 0s - loss: 0.4539 - accuracy:
0.8931
```

```
349/750 [========>.....] - ETA: 0s - loss: 0.4571 - accuracy:
0.8913
437/750 [=========>.....] - ETA: 0s - loss: 0.4582 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.4593 - accuracy:
0.8919
611/750 [===========>.....] - ETA: 0s - loss: 0.4590 - accuracy:
0.8916
699/750 [============>...] - ETA: 0s - loss: 0.4589 - accuracy:
0.8913
750/750 [============= ] - 1s 701us/step - loss: 0.4593 - accuracy:
0.8917 - val_loss: 0.4980 - val_accuracy: 0.8788
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.3546 - accuracy:
87/750 [==>...... - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.4534 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.4617 - accuracy:
0.8907
352/750 [=======>.....] - ETA: 0s - loss: 0.4591 - accuracy:
0.8911
440/750 [========>.....] - ETA: 0s - loss: 0.4570 - accuracy:
0.8925
530/750 [=========>.....] - ETA: 0s - loss: 0.4567 - accuracy:
0.8914
0.8914
0.8919 - val loss: 0.4990 - val accuracy: 0.8788
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.4468 - accuracy:
0.8906
90/750 [==>.....] - ETA: 0s - loss: 0.4474 - accuracy:
0.8972
181/750 [=====>.....] - ETA: 0s - loss: 0.4521 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.4493 - accuracy:
0.8973
355/750 [=======>.....] - ETA: 0s - loss: 0.4543 - accuracy:
0.8944
446/750 [========>.....] - ETA: 0s - loss: 0.4555 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.4537 - accuracy:
0.8941
```

```
750/750 [================ ] - 1s 698us/step - loss: 0.4530 - accuracy:
0.8931 - val_loss: 0.4969 - val_accuracy: 0.8792
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.3679 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.4355 - accuracy:
0.8977
172/750 [====>...... - ETA: 0s - loss: 0.4382 - accuracy:
0.8966
265/750 [======>..... - ETA: 0s - loss: 0.4451 - accuracy:
0.8927
355/750 [========>.....] - ETA: 0s - loss: 0.4446 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.4503 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.4489 - accuracy:
0.8921
0.8922 - val loss: 0.4921 - val accuracy: 0.8790
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.3110 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4571 - accuracy:
0.8885
170/750 [====>...... - ETA: 0s - loss: 0.4479 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.4472 - accuracy:
0.8940
346/750 [========>.....] - ETA: 0s - loss: 0.4453 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.4452 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.4459 - accuracy:
594/750 [============>.....] - ETA: 0s - loss: 0.4467 - accuracy:
0.8943
0.8938
0.8943
```

```
0.8942 - val loss: 0.5033 - val accuracy: 0.8767
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.4074 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4501 - accuracy:
0.8983
181/750 [=====>...... - ETA: 0s - loss: 0.4478 - accuracy:
0.8968
271/750 [=======>.....] - ETA: 0s - loss: 0.4535 - accuracy:
0.8934
360/750 [========>.....] - ETA: 0s - loss: 0.4514 - accuracy:
0.8938
451/750 [==========>.....] - ETA: 0s - loss: 0.4517 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.4519 - accuracy:
628/750 [===============>.....] - ETA: 0s - loss: 0.4495 - accuracy:
0.8938 - val_loss: 0.4987 - val_accuracy: 0.8762
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.4545 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.4478 - accuracy:
0.8944
180/750 [=====>.....] - ETA: 0s - loss: 0.4377 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.4373 - accuracy:
0.8971
360/750 [=======>.....] - ETA: 0s - loss: 0.4407 - accuracy:
448/750 [========>...... - ETA: 0s - loss: 0.4425 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.4422 - accuracy:
0.8965
0.8951 - val loss: 0.4902 - val accuracy: 0.8793
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.5002 - accuracy:
```

```
91/750 [==>...... - ETA: 0s - loss: 0.4433 - accuracy:
0.8937
181/750 [=====>.....] - ETA: 0s - loss: 0.4434 - accuracy:
272/750 [======>.....] - ETA: 0s - loss: 0.4392 - accuracy:
0.8957
361/750 [=========>......] - ETA: 0s - loss: 0.4387 - accuracy:
0.8958
451/750 [=========>...... - ETA: 0s - loss: 0.4389 - accuracy:
0.8958
541/750 [=========>.....] - ETA: 0s - loss: 0.4395 - accuracy:
0.8954
0.8959 - val_loss: 0.5124 - val_accuracy: 0.8706
Epoch 47/220
1/750 [...... - ETA: 0s - loss: 0.3336 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.4477 - accuracy:
0.8928
177/750 [=====>.....] - ETA: 0s - loss: 0.4456 - accuracy:
269/750 [======>.....] - ETA: 0s - loss: 0.4427 - accuracy:
0.8958
353/750 [=======>.....] - ETA: 0s - loss: 0.4453 - accuracy:
0.8946
440/750 [=========>.....] - ETA: 0s - loss: 0.4448 - accuracy:
0.8941
525/750 [==========>.....] - ETA: 0s - loss: 0.4412 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.4403 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 0.4401 - accuracy:
750/750 [============= ] - 1s 717us/step - loss: 0.4401 - accuracy:
0.8954 - val_loss: 0.4840 - val_accuracy: 0.8824
Epoch 48/220
1/750 [...... os. - loss: 0.4489 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.4460 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.4511 - accuracy:
0.8925
259/750 [======>..... - ETA: 0s - loss: 0.4481 - accuracy:
0.8931
```

```
348/750 [========>.....] - ETA: 0s - loss: 0.4431 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.4410 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.4388 - accuracy:
0.8964
608/750 [===========>.....] - ETA: 0s - loss: 0.4369 - accuracy:
0.8972
695/750 [============>...] - ETA: 0s - loss: 0.4376 - accuracy:
0.8971
750/750 [============= ] - 1s 725us/step - loss: 0.4379 - accuracy:
0.8969 - val_loss: 0.4898 - val_accuracy: 0.8787
Epoch 49/220
 1/750 [.....] - ETA: 0s - loss: 0.5917 - accuracy:
0.8281
84/750 [==>....... - ETA: 0s - loss: 0.4383 - accuracy:
164/750 [====>.....] - ETA: 0s - loss: 0.4310 - accuracy:
250/750 [======>..... - ETA: 0s - loss: 0.4327 - accuracy:
0.8963
326/750 [========>.....] - ETA: 0s - loss: 0.4333 - accuracy:
401/750 [========>..... - ETA: 0s - loss: 0.4321 - accuracy:
0.8972
491/750 [=========>.....] - ETA: 0s - loss: 0.4325 - accuracy:
577/750 [=============>.....] - ETA: 0s - loss: 0.4341 - accuracy:
663/750 [============>....] - ETA: 0s - loss: 0.4342 - accuracy:
0.8971
0.8973 - val loss: 0.4884 - val accuracy: 0.8788
Epoch 50/220
 1/750 [.....] - ETA: 0s - loss: 0.4640 - accuracy:
85/750 [==>...... - ETA: 0s - loss: 0.4466 - accuracy:
0.8919
168/750 [=====>.....] - ETA: 0s - loss: 0.4400 - accuracy:
249/750 [======>.....] - ETA: 0s - loss: 0.4377 - accuracy:
0.8956
330/750 [=======>.....] - ETA: 0s - loss: 0.4356 - accuracy:
414/750 [========>..... - ETA: 0s - loss: 0.4323 - accuracy:
0.8973
501/750 [=========>.....] - ETA: 0s - loss: 0.4327 - accuracy:
```

```
588/750 [============>.....] - ETA: 0s - loss: 0.4333 - accuracy:
0.8973
0.8982 - val_loss: 0.4870 - val_accuracy: 0.8798
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.4553 - accuracy:
0.8996
86/750 [==>.....] - ETA: 0s - loss: 0.4164 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.4216 - accuracy:
0.9019
240/750 [======>.....] - ETA: 0s - loss: 0.4256 - accuracy:
0.9001
319/750 [=======>.....] - ETA: 0s - loss: 0.4247 - accuracy:
0.8994
399/750 [========>.....] - ETA: 0s - loss: 0.4255 - accuracy:
483/750 [=========>.....] - ETA: 0s - loss: 0.4270 - accuracy:
0.8992
567/750 [===========>.....] - ETA: 0s - loss: 0.4299 - accuracy:
0.8979
0.8977
0.8979 - val_loss: 0.4937 - val_accuracy: 0.8770
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.4249 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4108 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4251 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.4220 - accuracy:
0.9027
356/750 [========>.....] - ETA: 0s - loss: 0.4232 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.4250 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.4263 - accuracy:
0.9013
```

```
0.8986 - val loss: 0.4826 - val accuracy: 0.8783
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.3781 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4180 - accuracy:
0.9021
177/750 [=====>...... - ETA: 0s - loss: 0.4260 - accuracy:
0.8984
266/750 [=======>.....] - ETA: 0s - loss: 0.4208 - accuracy:
0.9011
347/750 [========>.....] - ETA: 0s - loss: 0.4234 - accuracy:
0.8993
435/750 [==========>.....] - ETA: 0s - loss: 0.4241 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.4247 - accuracy:
700/750 [==============>..] - ETA: 0s - loss: 0.4276 - accuracy:
0.8990 - val_loss: 0.4803 - val_accuracy: 0.8834
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.5064 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.4261 - accuracy:
0.8990
178/750 [=====>.....] - ETA: 0s - loss: 0.4290 - accuracy:
0.8991
268/750 [=======>.....] - ETA: 0s - loss: 0.4288 - accuracy:
0.8985
357/750 [=======>.....] - ETA: 0s - loss: 0.4278 - accuracy:
444/750 [========>...... - ETA: 0s - loss: 0.4285 - accuracy:
0.8983
533/750 [==========>.....] - ETA: 0s - loss: 0.4257 - accuracy:
0.8992
0.8987
750/750 [=============== ] - 1s 706us/step - loss: 0.4262 - accuracy:
0.8993 - val loss: 0.4818 - val accuracy: 0.8801
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.2802 - accuracy:
0.9531
```

```
88/750 [==>...... - ETA: 0s - loss: 0.4121 - accuracy:
0.8999
168/750 [====>.....] - ETA: 0s - loss: 0.4236 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.4265 - accuracy:
0.8962
350/750 [=======>.....] - ETA: 0s - loss: 0.4257 - accuracy:
0.8972
437/750 [=========>..... - ETA: 0s - loss: 0.4237 - accuracy:
0.8986
527/750 [=========>.....] - ETA: 0s - loss: 0.4230 - accuracy:
0.8987
0.8985
0.8981
750/750 [================ ] - 1s 697us/step - loss: 0.4241 - accuracy:
0.8986 - val loss: 0.4884 - val_accuracy: 0.8775
Epoch 56/220
1/750 [...... - ETA: 0s - loss: 0.3574 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4096 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.4090 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.4185 - accuracy:
0.9029
357/750 [=======>.....] - ETA: 0s - loss: 0.4194 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.4213 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.4222 - accuracy:
622/750 [===========>.....] - ETA: 0s - loss: 0.4207 - accuracy:
710/750 [==============>..] - ETA: 0s - loss: 0.4210 - accuracy:
0.9019
750/750 [============== ] - 1s 700us/step - loss: 0.4220 - accuracy:
0.9012 - val_loss: 0.4745 - val_accuracy: 0.8839
Epoch 57/220
1/750 [...... os - loss: 0.3997 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.4125 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.4124 - accuracy:
0.9043
263/750 [=======>..... - ETA: 0s - loss: 0.4078 - accuracy:
0.9046
```

```
350/750 [========>.....] - ETA: 0s - loss: 0.4131 - accuracy:
0.9032
439/750 [=========>.....] - ETA: 0s - loss: 0.4175 - accuracy:
0.9014
526/750 [=========>.....] - ETA: 0s - loss: 0.4168 - accuracy:
614/750 [===========>.....] - ETA: 0s - loss: 0.4180 - accuracy:
0.9017
0.9007
750/750 [============= ] - 1s 701us/step - loss: 0.4205 - accuracy:
0.9004 - val_loss: 0.4965 - val_accuracy: 0.8743
Epoch 58/220
1/750 [.....] - ETA: 0s - loss: 0.3774 - accuracy:
86/750 [==>...... - accuracy:
0.8964
177/750 [=====>.....] - ETA: 0s - loss: 0.4258 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.4230 - accuracy:
0.8979
358/750 [=======>.....] - ETA: 0s - loss: 0.4164 - accuracy:
445/750 [========>..... - ETA: 0s - loss: 0.4177 - accuracy:
0.9014
534/750 [=========>.....] - ETA: 0s - loss: 0.4167 - accuracy:
0.9026 - val loss: 0.4770 - val accuracy: 0.8818
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.3617 - accuracy:
0.8906
90/750 [==>.....] - ETA: 0s - loss: 0.4207 - accuracy:
0.9076
178/750 [=====>.....] - ETA: 0s - loss: 0.4189 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.4200 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.4192 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.4171 - accuracy:
0.9057
534/750 [==========>.....] - ETA: 0s - loss: 0.4184 - accuracy:
```

```
0.9033
0.9026
750/750 [================ ] - 1s 696us/step - loss: 0.4172 - accuracy:
0.9027 - val_loss: 0.4796 - val_accuracy: 0.8812
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.5020 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.4046 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.4070 - accuracy:
0.9077
268/750 [======>..... - ETA: 0s - loss: 0.4140 - accuracy:
0.9044
358/750 [========>.....] - ETA: 0s - loss: 0.4122 - accuracy:
441/750 [==========>.....] - ETA: 0s - loss: 0.4127 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.4149 - accuracy:
0.9032 - val loss: 0.4784 - val accuracy: 0.8811
Epoch 61/220
1/750 [.....] - ETA: 0s - loss: 0.3557 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.4145 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.4070 - accuracy:
273/750 [======>..... - ETA: 0s - loss: 0.4103 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.4112 - accuracy:
452/750 [=========>...... - ETA: 0s - loss: 0.4088 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.4099 - accuracy:
0.9031 - val_loss: 0.4934 - val_accuracy: 0.8753
```

```
1/750 [.....] - ETA: 0s - loss: 0.5803 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 0.4103 - accuracy:
174/750 [=====>.....] - ETA: 0s - loss: 0.4057 - accuracy:
0.9051
257/750 [======>..... - ETA: 0s - loss: 0.4132 - accuracy:
0.9028
343/750 [========>>.....] - ETA: 0s - loss: 0.4105 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.4109 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.4102 - accuracy:
750/750 [=============== ] - 1s 714us/step - loss: 0.4130 - accuracy:
0.9034 - val_loss: 0.4956 - val_accuracy: 0.8766
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.2542 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4149 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.4151 - accuracy:
0.8999
267/750 [=======>.....] - ETA: 0s - loss: 0.4125 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.4115 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.4138 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.4152 - accuracy:
0.9024
607/750 [===========>.....] - ETA: 0s - loss: 0.4149 - accuracy:
0.9021
750/750 [================ ] - 1s 705us/step - loss: 0.4123 - accuracy:
0.9035 - val loss: 0.4749 - val accuracy: 0.8831
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.2647 - accuracy:
0.9688
90/750 [==>...... - ETA: 0s - loss: 0.4112 - accuracy:
0.9969
```

```
180/750 [=====>...... - ETA: 0s - loss: 0.4045 - accuracy:
0.9075
268/750 [=======>.....] - ETA: 0s - loss: 0.4019 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.4058 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.4065 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.4067 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.4079 - accuracy:
750/750 [=============== ] - 1s 708us/step - loss: 0.4104 - accuracy:
0.9036 - val loss: 0.4874 - val accuracy: 0.8804
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.4109 - accuracy:
85/750 [==>...... - ETA: 0s - loss: 0.4015 - accuracy:
170/750 [====>..... - ETA: 0s - loss: 0.4019 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.4057 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.4098 - accuracy:
0.9039
426/750 [==========>.....] - ETA: 0s - loss: 0.4102 - accuracy:
0.9046
514/750 [===========>.....] - ETA: 0s - loss: 0.4114 - accuracy:
0.9034
595/750 [============>.....] - ETA: 0s - loss: 0.4105 - accuracy:
680/750 [============>...] - ETA: 0s - loss: 0.4088 - accuracy:
0.9046
0.9049 - val_loss: 0.4734 - val_accuracy: 0.8852
Epoch 66/220
1/750 [.....] - ETA: 0s - loss: 0.4905 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4101 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.4066 - accuracy:
0.9034
260/750 [=======>.....] - ETA: 0s - loss: 0.4083 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.4077 - accuracy:
```

```
431/750 [=========>.....] - ETA: 0s - loss: 0.4082 - accuracy:
0.9051
516/750 [===========>.....] - ETA: 0s - loss: 0.4084 - accuracy:
598/750 [=============>.....] - ETA: 0s - loss: 0.4074 - accuracy:
0.9049
750/750 [============= ] - 1s 725us/step - loss: 0.4074 - accuracy:
0.9050 - val loss: 0.4660 - val accuracy: 0.8859
Epoch 67/220
1/750 [.....] - ETA: 1s - loss: 0.3598 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3952 - accuracy:
0.9081
168/750 [====>.....] - ETA: 0s - loss: 0.4035 - accuracy:
251/750 [======>.....] - ETA: 0s - loss: 0.4089 - accuracy:
339/750 [========>.....] - ETA: 0s - loss: 0.4103 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.4080 - accuracy:
0.9041
511/750 [=========>.....] - ETA: 0s - loss: 0.4070 - accuracy:
0.9039
597/750 [=============>.....] - ETA: 0s - loss: 0.4066 - accuracy:
0.9047
750/750 [=============== ] - 1s 740us/step - loss: 0.4060 - accuracy:
0.9054 - val_loss: 0.4796 - val_accuracy: 0.8794
Epoch 68/220
1/750 [.....] - ETA: 0s - loss: 0.2600 - accuracy:
0.9688
90/750 [==>.....] - ETA: 0s - loss: 0.3943 - accuracy:
0.9097
172/750 [====>.....] - ETA: 0s - loss: 0.4023 - accuracy:
248/750 [======>.....] - ETA: 0s - loss: 0.4026 - accuracy:
325/750 [=======>.....] - ETA: 0s - loss: 0.4041 - accuracy:
411/750 [========>.....] - ETA: 0s - loss: 0.4033 - accuracy:
0.9056
498/750 [==========>.....] - ETA: 0s - loss: 0.4050 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.4052 - accuracy:
```

```
0.9041
750/750 [================ ] - 1s 746us/step - loss: 0.4051 - accuracy:
0.9049 - val_loss: 0.4830 - val_accuracy: 0.8814
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.4254 - accuracy:
0.8996
91/750 [==>.....] - ETA: 0s - loss: 0.4060 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3991 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.4033 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.4008 - accuracy:
0.9071
446/750 [=========>.....] - ETA: 0s - loss: 0.3985 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3977 - accuracy:
0.9081
0.9074
0.9063 - val loss: 0.4704 - val accuracy: 0.8833
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.3800 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3951 - accuracy:
0.9064
178/750 [=====>.....] - ETA: 0s - loss: 0.3978 - accuracy:
0.9074
266/750 [======>.....] - ETA: 0s - loss: 0.3963 - accuracy:
0.9073
356/750 [========>.....] - ETA: 0s - loss: 0.4007 - accuracy:
0.9066
443/750 [=========>.....] - ETA: 0s - loss: 0.4006 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.4009 - accuracy:
0.9064
707/750 [==============>..] - ETA: 0s - loss: 0.4023 - accuracy:
0.9064
750/750 [================ ] - 1s 701us/step - loss: 0.4020 - accuracy:
0.9066 - val_loss: 0.4841 - val_accuracy: 0.8771
```

```
1/750 [.....] - ETA: 0s - loss: 0.4595 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.3955 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3980 - accuracy:
263/750 [======>...... - ETA: 0s - loss: 0.3978 - accuracy:
0.9076
351/750 [=======>.....] - ETA: 0s - loss: 0.4003 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3992 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.4003 - accuracy:
0.9064 - val_loss: 0.5245 - val_accuracy: 0.8610
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.3559 - accuracy:
0.9531
79/750 [==>.....] - ETA: 0s - loss: 0.3940 - accuracy:
164/750 [=====>.....] - ETA: 0s - loss: 0.3883 - accuracy:
0.9104
248/750 [======>.....] - ETA: 0s - loss: 0.3929 - accuracy:
330/750 [========>.....] - ETA: 0s - loss: 0.3934 - accuracy:
420/750 [========>.....] - ETA: 0s - loss: 0.3936 - accuracy:
504/750 [========>.....] - ETA: 0s - loss: 0.3954 - accuracy:
588/750 [===========>.....] - ETA: 0s - loss: 0.3988 - accuracy:
0.9076
0.9084 - val loss: 0.4690 - val accuracy: 0.8837
Epoch 73/220
1/750 [...... 0.5533 - accuracy:
0.8750
88/750 [==>.....] - ETA: 0s - loss: 0.4032 - accuracy:
```

```
177/750 [=====>...... - ETA: 0s - loss: 0.3949 - accuracy:
0.9091
263/750 [=======>.....] - ETA: 0s - loss: 0.3996 - accuracy:
349/750 [=======>..... - ETA: 0s - loss: 0.3951 - accuracy:
0.9098
436/750 [=========>.....] - ETA: 0s - loss: 0.3952 - accuracy:
0.9097
524/750 [=========>.....] - ETA: 0s - loss: 0.3960 - accuracy:
0.9091
609/750 [===========>.....] - ETA: 0s - loss: 0.3975 - accuracy:
0.9081
0.9089 - val loss: 0.4715 - val accuracy: 0.8842
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.2932 - accuracy:
90/750 [==>...... - ETA: 0s - loss: 0.3913 - accuracy:
0.9061
181/750 [=====>.....] - ETA: 0s - loss: 0.3903 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.3955 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.4001 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.4012 - accuracy:
0.9048
542/750 [==========>.....] - ETA: 0s - loss: 0.4016 - accuracy:
750/750 [============= ] - 1s 684us/step - loss: 0.3973 - accuracy:
0.9068 - val_loss: 0.4768 - val_accuracy: 0.8791
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.3507 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3963 - accuracy:
172/750 [====>...... - ETA: 0s - loss: 0.3965 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3950 - accuracy:
0.9071
343/750 [=======>.....] - ETA: 0s - loss: 0.3962 - accuracy:
```

```
432/750 [=========>.....] - ETA: 0s - loss: 0.3953 - accuracy:
0.9075
519/750 [===========>.....] - ETA: 0s - loss: 0.3944 - accuracy:
0.9076
0.9076
750/750 [============= ] - 1s 725us/step - loss: 0.3963 - accuracy:
0.9076 - val loss: 0.4699 - val accuracy: 0.8832
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.3553 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3982 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3998 - accuracy:
0.9077
262/750 [=======>.....] - ETA: 0s - loss: 0.3996 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3962 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.3973 - accuracy:
0.9077
530/750 [=========>.....] - ETA: 0s - loss: 0.3972 - accuracy:
0.9071
0.9077
0.9073
0.9078 - val_loss: 0.4751 - val_accuracy: 0.8785
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.3035 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3890 - accuracy:
170/750 [====>.....] - ETA: 0s - loss: 0.3884 - accuracy:
0.9108
255/750 [=======>.....] - ETA: 0s - loss: 0.3873 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.3854 - accuracy:
0.9106
424/750 [========>.....] - ETA: 0s - loss: 0.3866 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.3857 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.3889 - accuracy:
```

```
0.9093
0.9085 - val loss: 0.4671 - val accuracy: 0.8841
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.4234 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.3910 - accuracy:
0.9115
179/750 [=====>.....] - ETA: 0s - loss: 0.3905 - accuracy:
263/750 [======>.....] - ETA: 0s - loss: 0.3928 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.3940 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3936 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3964 - accuracy:
0.9086
611/750 [============>.....] - ETA: 0s - loss: 0.3949 - accuracy:
750/750 [============= ] - 1s 717us/step - loss: 0.3938 - accuracy:
0.9101 - val loss: 0.4741 - val accuracy: 0.8777
Epoch 79/220
1/750 [.................] - ETA: 0s - loss: 0.4551 - accuracy:
0.8906
83/750 [==>.....] - ETA: 0s - loss: 0.4123 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.4000 - accuracy:
256/750 [======>..... - ETA: 0s - loss: 0.3957 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.3942 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.3924 - accuracy:
0.9088
509/750 [=========>.....] - ETA: 0s - loss: 0.3905 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.3898 - accuracy:
750/750 [================ ] - 1s 717us/step - loss: 0.3918 - accuracy:
0.9093 - val_loss: 0.4653 - val_accuracy: 0.8855
Epoch 80/220
```

```
1/750 [...... - ETA: 0s - loss: 0.4346 - accuracy:
0.8594
88/750 [==>.....] - ETA: 0s - loss: 0.3993 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3944 - accuracy:
0.9099
356/750 [========>.....] - ETA: 0s - loss: 0.3927 - accuracy:
0.9078
444/750 [=========>.....] - ETA: 0s - loss: 0.3934 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.3937 - accuracy:
0.9088 - val loss: 0.4755 - val accuracy: 0.8810
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.3815 - accuracy:
0.9531
68/750 [=>.....] - ETA: 0s - loss: 0.3707 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.3822 - accuracy:
0.9156
242/750 [======>.....] - ETA: 0s - loss: 0.3840 - accuracy:
329/750 [========>.....] - ETA: 0s - loss: 0.3883 - accuracy:
417/750 [========>..... - ETA: 0s - loss: 0.3863 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.3864 - accuracy:
0.9131
597/750 [===========>.....] - ETA: 0s - loss: 0.3894 - accuracy:
688/750 [============>...] - ETA: 0s - loss: 0.3899 - accuracy:
0.9116
750/750 [================ ] - 1s 712us/step - loss: 0.3902 - accuracy:
0.9115 - val loss: 0.4689 - val accuracy: 0.8842
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.3078 - accuracy:
0.9531
87/750 [==>...... - ETA: 0s - loss: 0.4015 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.3901 - accuracy:
```

```
258/750 [=======>...... - ETA: 0s - loss: 0.3856 - accuracy:
0.9113
331/750 [========>.....] - ETA: 0s - loss: 0.3833 - accuracy:
0.9122
421/750 [========>..... - ETA: 0s - loss: 0.3833 - accuracy:
0.9129
501/750 [=========>.....] - ETA: 0s - loss: 0.3863 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.3884 - accuracy:
0.9111
681/750 [============>...] - ETA: 0s - loss: 0.3888 - accuracy:
0.9097 - val loss: 0.4881 - val accuracy: 0.8746
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.3509 - accuracy:
0.9062
85/750 [==>.....] - ETA: 0s - loss: 0.3874 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.3891 - accuracy:
0.9104
259/750 [=======>.....] - ETA: 0s - loss: 0.3850 - accuracy:
0.9126
338/750 [========>.....] - ETA: 0s - loss: 0.3840 - accuracy:
414/750 [========>.....] - ETA: 0s - loss: 0.3859 - accuracy:
500/750 [===========>.....] - ETA: 0s - loss: 0.3879 - accuracy:
580/750 [============>.....] - ETA: 0s - loss: 0.3868 - accuracy:
667/750 [===========>....] - ETA: 0s - loss: 0.3861 - accuracy:
0.9112 - val_loss: 0.5085 - val_accuracy: 0.8672
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.5641 - accuracy:
0.8281
84/750 [==>.....] - ETA: 0s - loss: 0.3750 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3768 - accuracy:
224/750 [=====>>...... - ETA: 0s - loss: 0.3769 - accuracy:
0.9163
300/750 [=======>.....] - ETA: 0s - loss: 0.3798 - accuracy:
0.9141
381/750 [========>..... - ETA: 0s - loss: 0.3781 - accuracy:
```

```
466/750 [==========>.....] - ETA: 0s - loss: 0.3819 - accuracy:
0.9123
549/750 [==========>.....] - ETA: 0s - loss: 0.3837 - accuracy:
636/750 [================>.....] - ETA: 0s - loss: 0.3859 - accuracy:
0.9107
0.9101 - val loss: 0.4860 - val accuracy: 0.8771
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.3966 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3898 - accuracy:
0.9121
162/750 [====>.....] - ETA: 0s - loss: 0.3828 - accuracy:
251/750 [======>.....] - ETA: 0s - loss: 0.3870 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.3853 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.3853 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3864 - accuracy:
0.9106
597/750 [=============>.....] - ETA: 0s - loss: 0.3884 - accuracy:
0.9101
750/750 [=============== ] - 1s 736us/step - loss: 0.3874 - accuracy:
0.9100 - val_loss: 0.4771 - val_accuracy: 0.8788
Epoch 86/220
1/750 [.....] - ETA: 0s - loss: 0.3600 - accuracy:
85/750 [==>...... - ETA: 0s - loss: 0.3818 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3844 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.3820 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3828 - accuracy:
441/750 [=========>..... - ETA: 0s - loss: 0.3820 - accuracy:
0.9124
532/750 [==========>.....] - ETA: 0s - loss: 0.3841 - accuracy:
621/750 [===========>.....] - ETA: 0s - loss: 0.3863 - accuracy:
0.9117
```

```
0.9116
750/750 [================ ] - 1s 705us/step - loss: 0.3859 - accuracy:
0.9116 - val loss: 0.4712 - val accuracy: 0.8817
Epoch 87/220
1/750 [.....] - ETA: 0s - loss: 0.3315 - accuracy:
0.9219
88/750 [==>.....] - ETA: 0s - loss: 0.3735 - accuracy:
0.9158
174/750 [====>.....] - ETA: 0s - loss: 0.3811 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3833 - accuracy:
0.9146
353/750 [=======>.....] - ETA: 0s - loss: 0.3804 - accuracy:
0.9147
443/750 [=========>.....] - ETA: 0s - loss: 0.3816 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3826 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.3842 - accuracy:
0.9129
750/750 [============= ] - 1s 700us/step - loss: 0.3856 - accuracy:
0.9119 - val loss: 0.4700 - val accuracy: 0.8812
Epoch 88/220
 1/750 [.................] - ETA: 0s - loss: 0.3612 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.3855 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3882 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.3855 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3833 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3837 - accuracy:
0.9136
529/750 [=========>.....] - ETA: 0s - loss: 0.3861 - accuracy:
618/750 [===========>.....] - ETA: 0s - loss: 0.3855 - accuracy:
705/750 [=============>..] - ETA: 0s - loss: 0.3862 - accuracy:
0.9117
0.9124 - val_loss: 0.4802 - val_accuracy: 0.8775
Epoch 89/220
```

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1/750 [.....] - ETA: 0s - loss: 0.2753 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3820 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3886 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.3836 - accuracy:
0.9128
359/750 [========>.....] - ETA: 0s - loss: 0.3822 - accuracy:
0.9136
449/750 [=========>.....] - ETA: 0s - loss: 0.3820 - accuracy:
0.9134
540/750 [==========>.....] - ETA: 0s - loss: 0.3841 - accuracy:
0.9121
0.9116 - val loss: 0.5181 - val accuracy: 0.8647
Epoch 90/220
1/750 [.....] - ETA: 0s - loss: 0.3993 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3901 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3832 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3794 - accuracy:
0.9154
346/750 [========>.....] - ETA: 0s - loss: 0.3789 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.3788 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.3779 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.3797 - accuracy:
0.9139
684/750 [============>...] - ETA: 0s - loss: 0.3811 - accuracy:
0.9131
750/750 [================ ] - 1s 717us/step - loss: 0.3819 - accuracy:
0.9130 - val loss: 0.4688 - val accuracy: 0.8846
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.4267 - accuracy:
92/750 [==>....... - accuracy:
0.9146
182/750 [=====>.....] - ETA: 0s - loss: 0.3850 - accuracy:
```

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269/750 [======>.....] - ETA: 0s - loss: 0.3883 - accuracy:
0.9114
360/750 [========>.....] - ETA: 0s - loss: 0.3884 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3872 - accuracy:
0.9118
536/750 [=========>.....] - ETA: 0s - loss: 0.3840 - accuracy:
0.9125
626/750 [============>....] - ETA: 0s - loss: 0.3829 - accuracy:
0.9122
717/750 [===============>..] - ETA: 0s - loss: 0.3827 - accuracy:
0.9119
0.9122 - val loss: 0.4698 - val accuracy: 0.8841
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.4103 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3742 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 0.3745 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3727 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.3765 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.3758 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3756 - accuracy:
0.9148
610/750 [============>.....] - ETA: 0s - loss: 0.3802 - accuracy:
0.9130 - val_loss: 0.4724 - val_accuracy: 0.8818
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.3165 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3699 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3771 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3805 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3806 - accuracy:
0.9148
445/750 [=========>...... - ETA: 0s - loss: 0.3794 - accuracy:
```

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536/750 [=========>.....] - ETA: 0s - loss: 0.3810 - accuracy:
0.9139 - val_loss: 0.5225 - val_accuracy: 0.8605
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.2890 - accuracy:
0.9219
92/750 [==>.....] - ETA: 0s - loss: 0.3814 - accuracy:
0.9149
180/750 [=====>...... - ETA: 0s - loss: 0.3812 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3807 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.3781 - accuracy:
440/750 [=========>....] - ETA: 0s - loss: 0.3773 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3772 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.3771 - accuracy:
0.9130 - val_loss: 0.4872 - val_accuracy: 0.8802
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.3122 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3821 - accuracy:
0.9148
180/750 [=====>.....] - ETA: 0s - loss: 0.3754 - accuracy:
268/750 [======>.....] - ETA: 0s - loss: 0.3786 - accuracy:
0.9158
359/750 [=======>...... - ETA: 0s - loss: 0.3801 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.3788 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3781 - accuracy:
0.9158
0.9151
```

```
0.9144 - val loss: 0.4936 - val accuracy: 0.8755
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.5583 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3806 - accuracy:
0.9118
176/750 [=====>...... - ETA: 0s - loss: 0.3819 - accuracy:
0.9125
261/750 [=======>.....] - ETA: 0s - loss: 0.3804 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.3784 - accuracy:
0.9136
434/750 [==========>.....] - ETA: 0s - loss: 0.3778 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3778 - accuracy:
0.9144
0.9140 - val_loss: 0.4693 - val_accuracy: 0.8836
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.3252 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.3712 - accuracy:
0.9136
182/750 [=====>.....] - ETA: 0s - loss: 0.3795 - accuracy:
272/750 [=======>.....] - ETA: 0s - loss: 0.3779 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3775 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.3775 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3771 - accuracy:
0.9148 - val loss: 0.4843 - val accuracy: 0.8763
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.4865 - accuracy:
```

```
87/750 [==>...... - ETA: 0s - loss: 0.3695 - accuracy:
0.9147
166/750 [====>.....] - ETA: 0s - loss: 0.3744 - accuracy:
251/750 [======>.....] - ETA: 0s - loss: 0.3756 - accuracy:
0.9146
332/750 [=======>.....] - ETA: 0s - loss: 0.3736 - accuracy:
0.9156
424/750 [========>..... - ETA: 0s - loss: 0.3749 - accuracy:
0.9149
514/750 [=========>.....] - ETA: 0s - loss: 0.3726 - accuracy:
0.9159
0.9151
750/750 [=============== ] - 1s 710us/step - loss: 0.3762 - accuracy:
0.9140 - val loss: 0.5186 - val_accuracy: 0.8669
Epoch 99/220
1/750 [...... - ETA: 0s - loss: 0.4682 - accuracy:
0.8594
91/750 [==>.....] - ETA: 0s - loss: 0.3635 - accuracy:
0.9171
176/750 [=====>.....] - ETA: 0s - loss: 0.3705 - accuracy:
0.9171
267/750 [======>.....] - ETA: 0s - loss: 0.3732 - accuracy:
0.9156
343/750 [========>.....] - ETA: 0s - loss: 0.3741 - accuracy:
0.9147
425/750 [=========>.....] - ETA: 0s - loss: 0.3723 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.3744 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.3760 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.3779 - accuracy:
750/750 [============= ] - 1s 710us/step - loss: 0.3788 - accuracy:
0.9137 - val_loss: 0.4677 - val_accuracy: 0.8822
Epoch 100/220
1/750 [...... os. - loss: 0.3684 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3801 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.3793 - accuracy:
256/750 [=======>..... - ETA: 0s - loss: 0.3765 - accuracy:
```

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349/750 [========>.....] - ETA: 0s - loss: 0.3790 - accuracy:
0.9137
439/750 [=========>.....] - ETA: 0s - loss: 0.3782 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.3767 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.3781 - accuracy:
0.9149
694/750 [=============>...] - ETA: 0s - loss: 0.3767 - accuracy:
750/750 [============= ] - 1s 708us/step - loss: 0.3756 - accuracy:
0.9155 - val_loss: 0.4731 - val_accuracy: 0.8800
Epoch 101/220
 1/750 [.....] - ETA: 0s - loss: 0.4253 - accuracy:
91/750 [==>....... - accuracy:
0.9181
181/750 [=====>.....] - ETA: 0s - loss: 0.3715 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.3734 - accuracy:
0.9149
360/750 [=======>.....] - ETA: 0s - loss: 0.3727 - accuracy:
0.9161
449/750 [========>.....] - ETA: 0s - loss: 0.3732 - accuracy:
0.9156
538/750 [=========>.....] - ETA: 0s - loss: 0.3743 - accuracy:
0.9146
630/750 [===============>....] - ETA: 0s - loss: 0.3730 - accuracy:
0.9151
0.9150 - val loss: 0.4712 - val accuracy: 0.8858
Epoch 102/220
 1/750 [.....] - ETA: 0s - loss: 0.3383 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3657 - accuracy:
0.9195
171/750 [=====>......] - ETA: 0s - loss: 0.3731 - accuracy:
258/750 [======>..... - ETA: 0s - loss: 0.3736 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.3764 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3754 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3732 - accuracy:
```

```
616/750 [===========>.....] - ETA: 0s - loss: 0.3747 - accuracy:
0.9149
750/750 [================ ] - 1s 700us/step - loss: 0.3747 - accuracy:
0.9150 - val_loss: 0.4749 - val_accuracy: 0.8816
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.2550 - accuracy:
0.9844
86/750 [==>.....] - ETA: 0s - loss: 0.3744 - accuracy:
0.9186
176/750 [=====>.....] - ETA: 0s - loss: 0.3700 - accuracy:
265/750 [======>..... - ETA: 0s - loss: 0.3743 - accuracy:
0.9167
353/750 [========>.....] - ETA: 0s - loss: 0.3732 - accuracy:
441/750 [==========>.....] - ETA: 0s - loss: 0.3739 - accuracy:
0.9159
531/750 [=========>.....] - ETA: 0s - loss: 0.3735 - accuracy:
0.9153
0.9153 - val loss: 0.4701 - val accuracy: 0.8851
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.3187 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.3648 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.3634 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.3648 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.3661 - accuracy:
0.9201
431/750 [=========>..... - ETA: 0s - loss: 0.3670 - accuracy:
0.9196
521/750 [=========>.....] - ETA: 0s - loss: 0.3691 - accuracy:
0.9172
699/750 [============>...] - ETA: 0s - loss: 0.3725 - accuracy:
0.9164
0.9163 - val_loss: 0.4601 - val_accuracy: 0.8875
```

```
1/750 [.....] - ETA: 0s - loss: 0.3261 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.3671 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.3692 - accuracy:
0.9184
273/750 [======>...... - ETA: 0s - loss: 0.3638 - accuracy:
0.9195
362/750 [=======>.....] - ETA: 0s - loss: 0.3655 - accuracy:
0.9189
452/750 [==========>.....] - ETA: 0s - loss: 0.3656 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.3695 - accuracy:
0.9170 - val_loss: 0.4628 - val_accuracy: 0.8852
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.3548 - accuracy:
0.9375
87/750 [==>.....] - ETA: 0s - loss: 0.3654 - accuracy:
0.9201
160/750 [=====>.....] - ETA: 0s - loss: 0.3708 - accuracy:
0.9181
244/750 [======>.....] - ETA: 0s - loss: 0.3691 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.3679 - accuracy:
0.9173
426/750 [=========>.....] - ETA: 0s - loss: 0.3695 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.3706 - accuracy:
0.9166
609/750 [===========>.....] - ETA: 0s - loss: 0.3715 - accuracy:
0.9163
0.9157 - val loss: 0.4703 - val accuracy: 0.8837
Epoch 107/220
1/750 [...... 0.2539 - accuracy:
0.9688
89/750 [==>.....] - ETA: 0s - loss: 0.3613 - accuracy:
0.9194
```

```
180/750 [=====>...... - ETA: 0s - loss: 0.3745 - accuracy:
0.9141
270/750 [=======>.....] - ETA: 0s - loss: 0.3730 - accuracy:
0.9163
360/750 [=======>.....] - ETA: 0s - loss: 0.3714 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3704 - accuracy:
0.9167
536/750 [=========>.....] - ETA: 0s - loss: 0.3721 - accuracy:
0.9170
627/750 [============>....] - ETA: 0s - loss: 0.3702 - accuracy:
750/750 [================ ] - 1s 694us/step - loss: 0.3718 - accuracy:
0.9173 - val loss: 0.4916 - val accuracy: 0.8775
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.4228 - accuracy:
91/750 [==>....... - ETA: 0s - loss: 0.3568 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.3615 - accuracy:
0.9214
274/750 [=======>.....] - ETA: 0s - loss: 0.3650 - accuracy:
0.9197
364/750 [=======>.....] - ETA: 0s - loss: 0.3710 - accuracy:
0.9176
456/750 [==========>.....] - ETA: 0s - loss: 0.3703 - accuracy:
0.9174
542/750 [==========>.....] - ETA: 0s - loss: 0.3715 - accuracy:
0.9166
632/750 [============>....] - ETA: 0s - loss: 0.3737 - accuracy:
722/750 [===============>..] - ETA: 0s - loss: 0.3721 - accuracy:
0.9161
0.9156 - val_loss: 0.4636 - val_accuracy: 0.8868
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.3454 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3713 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 0.3738 - accuracy:
0.9139
269/750 [=======>.....] - ETA: 0s - loss: 0.3691 - accuracy:
0.9169
357/750 [=======>.....] - ETA: 0s - loss: 0.3689 - accuracy:
```

```
447/750 [=========>.....] - ETA: 0s - loss: 0.3669 - accuracy:
0.9183
538/750 [==========>.....] - ETA: 0s - loss: 0.3686 - accuracy:
0.9171
0.9167
0.9166 - val loss: 0.4689 - val accuracy: 0.8850
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.3283 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.3689 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3737 - accuracy:
0.9171
271/750 [=======>.....] - ETA: 0s - loss: 0.3714 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.3682 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3672 - accuracy:
0.9184
536/750 [==========>.....] - ETA: 0s - loss: 0.3689 - accuracy:
0.9178
0.9180
750/750 [=============== ] - 1s 696us/step - loss: 0.3700 - accuracy:
0.9179 - val_loss: 0.4865 - val_accuracy: 0.8772
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.4169 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.3616 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3675 - accuracy:
0.9207
264/750 [=======>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9199
356/750 [=======>.....] - ETA: 0s - loss: 0.3724 - accuracy:
442/750 [=========>..... - ETA: 0s - loss: 0.3722 - accuracy:
0.9170
532/750 [==========>.....] - ETA: 0s - loss: 0.3706 - accuracy:
0.9184
612/750 [============>.....] - ETA: 0s - loss: 0.3698 - accuracy:
0.9186
```

```
0.9183
750/750 [================ ] - 1s 700us/step - loss: 0.3694 - accuracy:
0.9181 - val loss: 0.4614 - val accuracy: 0.8863
Epoch 112/220
 1/750 [.....] - ETA: 0s - loss: 0.3292 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3553 - accuracy:
0.9229
182/750 [=====>.....] - ETA: 0s - loss: 0.3577 - accuracy:
271/750 [======>.....] - ETA: 0s - loss: 0.3599 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.3586 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.3601 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.3648 - accuracy:
629/750 [============>....] - ETA: 0s - loss: 0.3659 - accuracy:
750/750 [============= ] - 1s 692us/step - loss: 0.3676 - accuracy:
0.9185 - val loss: 0.4856 - val accuracy: 0.8795
Epoch 113/220
 1/750 [................] - ETA: 0s - loss: 0.4063 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3647 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3695 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.3661 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.3659 - accuracy:
0.9188
443/750 [=========>.....] - ETA: 0s - loss: 0.3662 - accuracy:
0.9188
523/750 [=========>.....] - ETA: 0s - loss: 0.3676 - accuracy:
613/750 [===========>.....] - ETA: 0s - loss: 0.3683 - accuracy:
706/750 [==============>..] - ETA: 0s - loss: 0.3681 - accuracy:
0.9172 - val_loss: 0.4808 - val_accuracy: 0.8805
Epoch 114/220
```

```
1/750 [...... - ETA: 0s - loss: 0.3405 - accuracy:
0.9531
84/750 [==>.....] - ETA: 0s - loss: 0.3524 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.3582 - accuracy:
0.9228
262/750 [======>.....] - ETA: 0s - loss: 0.3595 - accuracy:
0.9224
349/750 [=======>.....] - ETA: 0s - loss: 0.3594 - accuracy:
0.9214
440/750 [=========>.....] - ETA: 0s - loss: 0.3617 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3631 - accuracy:
707/750 [===============>..] - ETA: 0s - loss: 0.3677 - accuracy:
0.9179
0.9180 - val loss: 0.4819 - val accuracy: 0.8803
Epoch 115/220
1/750 [.....] - ETA: 0s - loss: 0.6019 - accuracy:
0.8281
90/750 [==>.....] - ETA: 0s - loss: 0.3724 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3685 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3648 - accuracy:
0.9183
354/750 [=======>.....] - ETA: 0s - loss: 0.3692 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.3666 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.3648 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.3652 - accuracy:
0.9188
681/750 [============>...] - ETA: 0s - loss: 0.3687 - accuracy:
0.9178
0.9181 - val loss: 0.6307 - val accuracy: 0.8366
Epoch 116/220
1/750 [.....] - ETA: 0s - loss: 0.6228 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3579 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3576 - accuracy:
0.9201
```

```
270/750 [======>.....] - ETA: 0s - loss: 0.3608 - accuracy:
0.9201
361/750 [=======>.....] - ETA: 0s - loss: 0.3618 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3660 - accuracy:
0.9190
539/750 [=========>.....] - ETA: 0s - loss: 0.3673 - accuracy:
0.9184
628/750 [============>....] - ETA: 0s - loss: 0.3661 - accuracy:
0.9190
719/750 [==============>..] - ETA: 0s - loss: 0.3677 - accuracy:
0.9182
0.9183 - val loss: 0.4873 - val accuracy: 0.8773
Epoch 117/220
1/750 [.....] - ETA: 0s - loss: 0.3384 - accuracy:
0.9062
89/750 [==>.....] - ETA: 0s - loss: 0.3576 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 0.3615 - accuracy:
0.9207
266/750 [=======>.....] - ETA: 0s - loss: 0.3680 - accuracy:
0.9182
438/750 [=========>.....] - ETA: 0s - loss: 0.3667 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3669 - accuracy:
0.9186
622/750 [============>.....] - ETA: 0s - loss: 0.3642 - accuracy:
0.9196
0.9194 - val_loss: 0.4792 - val_accuracy: 0.8798
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.3135 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3521 - accuracy:
184/750 [=====>.....] - ETA: 0s - loss: 0.3624 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.3594 - accuracy:
0.9236
361/750 [========>.....] - ETA: 0s - loss: 0.3641 - accuracy:
453/750 [=========>...... - ETA: 0s - loss: 0.3646 - accuracy:
```

```
542/750 [=========>.....] - ETA: 0s - loss: 0.3672 - accuracy:
0.9195
0.9195
0.9192 - val_loss: 0.4629 - val_accuracy: 0.8864
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.3030 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3686 - accuracy:
0.9154
174/750 [====>...... - ETA: 0s - loss: 0.3680 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3673 - accuracy:
0.9167
339/750 [========>.....] - ETA: 0s - loss: 0.3630 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.3618 - accuracy:
516/750 [==========>.....] - ETA: 0s - loss: 0.3618 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.3657 - accuracy:
0.9196
0.9196
0.9195 - val_loss: 0.5000 - val_accuracy: 0.8738
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.4478 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3635 - accuracy:
0.9188
174/750 [====>.....] - ETA: 0s - loss: 0.3593 - accuracy:
0.9201
260/750 [======>.....] - ETA: 0s - loss: 0.3623 - accuracy:
0.9198
345/750 [========>.....] - ETA: 0s - loss: 0.3630 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.3666 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.3634 - accuracy:
0.9198
```

```
0.9208 - val loss: 0.4717 - val accuracy: 0.8857
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.3822 - accuracy:
0.9122
170/750 [====>...... - ETA: 0s - loss: 0.3716 - accuracy:
0.9172
259/750 [=======>.....] - ETA: 0s - loss: 0.3647 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.3646 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.3625 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.3644 - accuracy:
0.9195 - val_loss: 0.4945 - val_accuracy: 0.8768
Epoch 122/220
1/750 [.....] - ETA: 0s - loss: 0.4274 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3692 - accuracy:
0.9141
172/750 [====>...... - ETA: 0s - loss: 0.3651 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.3645 - accuracy:
0.9179
345/750 [========>.....] - ETA: 0s - loss: 0.3589 - accuracy:
433/750 [========>.....] - ETA: 0s - loss: 0.3604 - accuracy:
0.9196
519/750 [=========>.....] - ETA: 0s - loss: 0.3619 - accuracy:
693/750 [===============>...] - ETA: 0s - loss: 0.3632 - accuracy:
0.9197 - val loss: 0.4839 - val accuracy: 0.8747
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.3878 - accuracy:
```

```
90/750 [==>...... - ETA: 0s - loss: 0.3575 - accuracy:
0.9219
176/750 [=====>.....] - ETA: 0s - loss: 0.3570 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.3646 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3630 - accuracy:
0.9199
445/750 [=========>...... - ETA: 0s - loss: 0.3634 - accuracy:
0.9203
533/750 [=========>.....] - ETA: 0s - loss: 0.3631 - accuracy:
0.9201
0.9191
0.9199 - val loss: 0.5128 - val_accuracy: 0.8662
Epoch 124/220
1/750 [...... - ETA: 0s - loss: 0.3317 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3548 - accuracy:
0.9244
177/750 [=====>.....] - ETA: 0s - loss: 0.3625 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3599 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3618 - accuracy:
0.9206
446/750 [=========>.....] - ETA: 0s - loss: 0.3630 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
623/750 [===========>.....] - ETA: 0s - loss: 0.3617 - accuracy:
750/750 [============== ] - 1s 697us/step - loss: 0.3633 - accuracy:
0.9204 - val_loss: 0.5036 - val_accuracy: 0.8675
Epoch 125/220
1/750 [...... os. 3.481 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3778 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3624 - accuracy:
271/750 [======>.....] - ETA: 0s - loss: 0.3608 - accuracy:
```

```
347/750 [========>.....] - ETA: 0s - loss: 0.3605 - accuracy:
0.9227
430/750 [=========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3635 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.3630 - accuracy:
0.9214
700/750 [===============>..] - ETA: 0s - loss: 0.3634 - accuracy:
0.9211
750/750 [============= ] - 1s 706us/step - loss: 0.3640 - accuracy:
0.9204 - val_loss: 0.4704 - val_accuracy: 0.8842
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.3281 - accuracy:
92/750 [==>....... - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3605 - accuracy:
271/750 [======>..... - ETA: 0s - loss: 0.3650 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.3664 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9193
542/750 [=========>.....] - ETA: 0s - loss: 0.3653 - accuracy:
0.9194
626/750 [===============>....] - ETA: 0s - loss: 0.3646 - accuracy:
0.9196 - val loss: 0.4692 - val accuracy: 0.8831
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.3598 - accuracy:
94/750 [==>...... - ETA: 0s - loss: 0.3618 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3605 - accuracy:
0.9211
269/750 [======>.....] - ETA: 0s - loss: 0.3609 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.3604 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3594 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.3600 - accuracy:
```

```
0.9211
750/750 [================ ] - 1s 693us/step - loss: 0.3632 - accuracy:
0.9211 - val_loss: 0.4814 - val_accuracy: 0.8829
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.5270 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3536 - accuracy:
0.9261
178/750 [=====>.....] - ETA: 0s - loss: 0.3538 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.3575 - accuracy:
0.9214
360/750 [=======>.....] - ETA: 0s - loss: 0.3579 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3583 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3624 - accuracy:
707/750 [===============>..] - ETA: 0s - loss: 0.3608 - accuracy:
0.9207 - val loss: 0.4694 - val accuracy: 0.8858
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.4249 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3585 - accuracy:
181/750 [=====>...... - ETA: 0s - loss: 0.3635 - accuracy:
0.9187
268/750 [======>.....] - ETA: 0s - loss: 0.3655 - accuracy:
0.9187
358/750 [========>.....] - ETA: 0s - loss: 0.3646 - accuracy:
0.9193
447/750 [=========>...... - ETA: 0s - loss: 0.3609 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3606 - accuracy:
0.9201
715/750 [===============>..] - ETA: 0s - loss: 0.3618 - accuracy:
0.9201 - val_loss: 0.4654 - val_accuracy: 0.8869
```

```
1/750 [.....] - ETA: 0s - loss: 0.2825 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3638 - accuracy:
0.9206
177/750 [=====>.....] - ETA: 0s - loss: 0.3661 - accuracy:
0.9187
269/750 [======>..... - ETA: 0s - loss: 0.3653 - accuracy:
0.9184
357/750 [=======>.....] - ETA: 0s - loss: 0.3632 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3625 - accuracy:
0.9211
540/750 [==========>.....] - ETA: 0s - loss: 0.3604 - accuracy:
0.9227
750/750 [================ ] - 1s 693us/step - loss: 0.3601 - accuracy:
0.9211 - val_loss: 0.4912 - val_accuracy: 0.8783
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.2974 - accuracy:
0.9531
92/750 [==>.....] - ETA: 0s - loss: 0.3490 - accuracy:
0.9293
178/750 [=====>...... - ETA: 0s - loss: 0.3513 - accuracy:
0.9244
269/750 [=======>.....] - ETA: 0s - loss: 0.3581 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.3600 - accuracy:
452/750 [==========>.....] - ETA: 0s - loss: 0.3589 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
0.9226
631/750 [============>....] - ETA: 0s - loss: 0.3607 - accuracy:
0.9207 - val loss: 0.4837 - val accuracy: 0.8806
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.4122 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.3557 - accuracy:
```

```
186/750 [=====>...... - ETA: 0s - loss: 0.3590 - accuracy:
0.9204
273/750 [=======>.....] - ETA: 0s - loss: 0.3601 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.3602 - accuracy:
0.9211
454/750 [=========>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9216
541/750 [=========>.....] - ETA: 0s - loss: 0.3578 - accuracy:
0.9219
629/750 [===========>....] - ETA: 0s - loss: 0.3599 - accuracy:
0.9206 - val loss: 0.4771 - val accuracy: 0.8852
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.3571 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3621 - accuracy:
0.9231
179/750 [=====>.....] - ETA: 0s - loss: 0.3586 - accuracy:
0.9238
268/750 [=======>.....] - ETA: 0s - loss: 0.3619 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3595 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3607 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3600 - accuracy:
625/750 [============>....] - ETA: 0s - loss: 0.3610 - accuracy:
0.9224 - val_loss: 0.5000 - val_accuracy: 0.8750
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.5349 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3605 - accuracy:
178/750 [=====>...... - ETA: 0s - loss: 0.3524 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.3538 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3581 - accuracy:
```

```
449/750 [=========>.....] - ETA: 0s - loss: 0.3587 - accuracy:
0.9204
534/750 [==========>.....] - ETA: 0s - loss: 0.3603 - accuracy:
0.9211
0.9213 - val loss: 0.4738 - val accuracy: 0.8864
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.3545 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9263
172/750 [====>.....] - ETA: 0s - loss: 0.3535 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.3520 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.3538 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.3546 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.3559 - accuracy:
0.9237
0.9224
750/750 [=============== ] - 1s 712us/step - loss: 0.3595 - accuracy:
0.9224 - val_loss: 0.4749 - val_accuracy: 0.8852
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.5100 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3620 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3539 - accuracy:
0.9254
258/750 [=======>.....] - ETA: 0s - loss: 0.3602 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.3620 - accuracy:
428/750 [=========>...... - ETA: 0s - loss: 0.3592 - accuracy:
0.9231
519/750 [=========>.....] - ETA: 0s - loss: 0.3588 - accuracy:
0.9226
606/750 [===========>.....] - ETA: 0s - loss: 0.3588 - accuracy:
```

```
697/750 [===========>...] - ETA: 0s - loss: 0.3600 - accuracy:
0.9221
750/750 [================ ] - 1s 706us/step - loss: 0.3602 - accuracy:
0.9221 - val loss: 0.4941 - val accuracy: 0.8756
Epoch 137/220
 1/750 [.....] - ETA: 0s - loss: 0.3917 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.3747 - accuracy:
0.9163
178/750 [=====>.....] - ETA: 0s - loss: 0.3711 - accuracy:
0.9191
262/750 [======>.....] - ETA: 0s - loss: 0.3682 - accuracy:
0.9196
348/750 [=======>.....] - ETA: 0s - loss: 0.3643 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.3629 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.3607 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.3599 - accuracy:
0.9214
750/750 [============= ] - 1s 714us/step - loss: 0.3601 - accuracy:
0.9210 - val loss: 0.4891 - val accuracy: 0.8775
Epoch 138/220
 1/750 [.................] - ETA: 0s - loss: 0.3805 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3652 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3667 - accuracy:
254/750 [======>.....] - ETA: 0s - loss: 0.3599 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.3567 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3560 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3585 - accuracy:
0.9241
614/750 [===========>.....] - ETA: 0s - loss: 0.3604 - accuracy:
701/750 [===============>..] - ETA: 0s - loss: 0.3597 - accuracy:
0.9231
750/750 [================ ] - 1s 700us/step - loss: 0.3593 - accuracy:
0.9235 - val_loss: 0.4713 - val_accuracy: 0.8862
Epoch 139/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3716 - accuracy:
0.9375
91/750 [==>.....] - ETA: 0s - loss: 0.3737 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3720 - accuracy:
0.9177
269/750 [======>.....] - ETA: 0s - loss: 0.3648 - accuracy:
0.9206
357/750 [========>.....] - ETA: 0s - loss: 0.3675 - accuracy:
0.9194
443/750 [=========>.....] - ETA: 0s - loss: 0.3655 - accuracy:
0.9199
531/750 [==========>.....] - ETA: 0s - loss: 0.3621 - accuracy:
0.9221 - val loss: 0.4701 - val accuracy: 0.8857
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.3948 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.3549 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3520 - accuracy:
0.9277
266/750 [=======>.....] - ETA: 0s - loss: 0.3533 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.3554 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.3568 - accuracy:
0.9233
525/750 [=========>.....] - ETA: 0s - loss: 0.3563 - accuracy:
616/750 [============>.....] - ETA: 0s - loss: 0.3578 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.3569 - accuracy:
0.9236
750/750 [================ ] - 1s 702us/step - loss: 0.3575 - accuracy:
0.9231 - val loss: 0.4758 - val accuracy: 0.8824
Epoch 141/220
1/750 [.....] - ETA: 0s - loss: 0.2926 - accuracy:
0.9844
90/750 [==>.....] - ETA: 0s - loss: 0.3536 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3608 - accuracy:
0.9241
```

```
268/750 [=======>.....] - ETA: 0s - loss: 0.3569 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3591 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.3589 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3599 - accuracy:
0.9227
624/750 [============>.....] - ETA: 0s - loss: 0.3600 - accuracy:
0.9227
0.9233 - val loss: 0.4720 - val accuracy: 0.8838
Epoch 142/220
1/750 [.....] - ETA: 0s - loss: 0.3021 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.3366 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.3485 - accuracy:
0.9276
263/750 [=======>.....] - ETA: 0s - loss: 0.3570 - accuracy:
0.9224
0.9241
438/750 [=========>.....] - ETA: 0s - loss: 0.3553 - accuracy:
0.9231
527/750 [==========>.....] - ETA: 0s - loss: 0.3542 - accuracy:
0.9244
0.9230 - val_loss: 0.5077 - val_accuracy: 0.8737
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9375
89/750 [==>.....] - ETA: 0s - loss: 0.3554 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3557 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.3546 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.3581 - accuracy:
```

```
525/750 [=========>.....] - ETA: 0s - loss: 0.3584 - accuracy:
0.9228
615/750 [=============>.....] - ETA: 0s - loss: 0.3593 - accuracy:
0.9223
0.9220 - val_loss: 0.4858 - val_accuracy: 0.8819
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.3556 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3550 - accuracy:
0.9270
180/750 [=====>...... - ETA: 0s - loss: 0.3525 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.3554 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3565 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.3576 - accuracy:
523/750 [==========>.....] - ETA: 0s - loss: 0.3582 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.3577 - accuracy:
0.9234 - val_loss: 0.4831 - val_accuracy: 0.8807
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.2998 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3489 - accuracy:
0.9318
180/750 [=====>.....] - ETA: 0s - loss: 0.3518 - accuracy:
263/750 [======>.....] - ETA: 0s - loss: 0.3555 - accuracy:
0.9247
353/750 [========>.....] - ETA: 0s - loss: 0.3550 - accuracy:
444/750 [========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3586 - accuracy:
0.9243
0.9246
```

```
0.9244 - val loss: 0.4746 - val accuracy: 0.8846
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.3457 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9261
174/750 [====>...... - ETA: 0s - loss: 0.3556 - accuracy:
0.9223
264/750 [=======>.....] - ETA: 0s - loss: 0.3578 - accuracy:
352/750 [========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
443/750 [==========>.....] - ETA: 0s - loss: 0.3567 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3561 - accuracy:
0.9244
0.9244 - val_loss: 0.4874 - val_accuracy: 0.8774
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.3295 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.3645 - accuracy:
166/750 [====>...... - ETA: 0s - loss: 0.3565 - accuracy:
247/750 [======>.....] - ETA: 0s - loss: 0.3522 - accuracy:
333/750 [========>.....] - ETA: 0s - loss: 0.3535 - accuracy:
420/750 [=======>..... - ETA: 0s - loss: 0.3551 - accuracy:
0.9241
509/750 [=========>....] - ETA: 0s - loss: 0.3553 - accuracy:
0.9237
598/750 [===========>.....] - ETA: 0s - loss: 0.3577 - accuracy:
674/750 [===========>....] - ETA: 0s - loss: 0.3562 - accuracy:
0.9235 - val loss: 0.4666 - val accuracy: 0.8869
Epoch 148/220
1/750 [.....] - ETA: 0s - loss: 0.3301 - accuracy:
```

```
83/750 [==>...... - ETA: 0s - loss: 0.3567 - accuracy:
168/750 [====>.....] - ETA: 0s - loss: 0.3570 - accuracy:
254/750 [======>..... - ETA: 0s - loss: 0.3561 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.3591 - accuracy:
0.9219
424/750 [========>..... - ETA: 0s - loss: 0.3566 - accuracy:
0.9227
508/750 [=========>.....] - ETA: 0s - loss: 0.3580 - accuracy:
591/750 [============>.....] - ETA: 0s - loss: 0.3563 - accuracy:
750/750 [================ ] - 1s 737us/step - loss: 0.3559 - accuracy:
0.9236 - val loss: 0.4738 - val_accuracy: 0.8845
Epoch 149/220
1/750 [.....] - ETA: 0s - loss: 0.2649 - accuracy:
0.9844
85/750 [==>.....] - ETA: 0s - loss: 0.3579 - accuracy:
166/750 [====>.....] - ETA: 0s - loss: 0.3551 - accuracy:
248/750 [======>.....] - ETA: 0s - loss: 0.3559 - accuracy:
330/750 [========>.....] - ETA: 0s - loss: 0.3549 - accuracy:
0.9236
414/750 [========>.....] - ETA: 0s - loss: 0.3571 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.3573 - accuracy:
589/750 [===========>.....] - ETA: 0s - loss: 0.3552 - accuracy:
679/750 [============>...] - ETA: 0s - loss: 0.3547 - accuracy:
0.9239
750/750 [============= ] - 1s 721us/step - loss: 0.3563 - accuracy:
0.9234 - val_loss: 0.4836 - val_accuracy: 0.8823
Epoch 150/220
1/750 [.....] - ETA: 0s - loss: 0.4324 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.3520 - accuracy:
0.9276
180/750 [=====>.....] - ETA: 0s - loss: 0.3504 - accuracy:
272/750 [=======>..... - ETA: 0s - loss: 0.3532 - accuracy:
0.9254
```

```
363/750 [========>.....] - ETA: 0s - loss: 0.3546 - accuracy:
0.9243
452/750 [==========>.....] - ETA: 0s - loss: 0.3542 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
631/750 [============>....] - ETA: 0s - loss: 0.3572 - accuracy:
720/750 [===============>..] - ETA: 0s - loss: 0.3578 - accuracy:
0.9231
750/750 [============= ] - 1s 693us/step - loss: 0.3577 - accuracy:
0.9233 - val_loss: 0.4693 - val_accuracy: 0.8870
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.2711 - accuracy:
91/750 [==>....... - accuracy:
0.9277
183/750 [=====>.....] - ETA: 0s - loss: 0.3477 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.3498 - accuracy:
0.9274
359/750 [=======>.....] - ETA: 0s - loss: 0.3506 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9274
524/750 [=========>.....] - ETA: 0s - loss: 0.3515 - accuracy:
0.9264
0.9248 - val loss: 0.4973 - val accuracy: 0.8748
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.3056 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3538 - accuracy:
0.9251
178/750 [=====>.....] - ETA: 0s - loss: 0.3563 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.3571 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3584 - accuracy:
443/750 [========>..... - ETA: 0s - loss: 0.3591 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3585 - accuracy:
```

```
624/750 [===========>.....] - ETA: 0s - loss: 0.3577 - accuracy:
0.9234
0.9238 - val_loss: 0.4997 - val_accuracy: 0.8792
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.3792 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3552 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3553 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3508 - accuracy:
0.9246
353/750 [========>.....] - ETA: 0s - loss: 0.3538 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.3534 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.3553 - accuracy:
0.9241
0.9248 - val loss: 0.4978 - val accuracy: 0.8738
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.5515 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.3617 - accuracy:
178/750 [=====>...... - ETA: 0s - loss: 0.3600 - accuracy:
271/750 [======>..... - ETA: 0s - loss: 0.3549 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.3539 - accuracy:
446/750 [=========>...... - ETA: 0s - loss: 0.3523 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3529 - accuracy:
0.9251
0.9241 - val_loss: 0.4933 - val_accuracy: 0.8734
```

```
1/750 [.....] - ETA: 0s - loss: 0.3079 - accuracy:
0.9219
91/750 [==>.....] - ETA: 0s - loss: 0.3565 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3527 - accuracy:
0.9256
264/750 [======>..... - ETA: 0s - loss: 0.3497 - accuracy:
0.9261
355/750 [=======>.....] - ETA: 0s - loss: 0.3494 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.3512 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3511 - accuracy:
0.9242 - val_loss: 0.4898 - val_accuracy: 0.8811
Epoch 156/220
1/750 [.....] - ETA: 0s - loss: 0.3360 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3489 - accuracy:
0.9248
179/750 [=====>.....] - ETA: 0s - loss: 0.3487 - accuracy:
0.9247
267/750 [=======>.....] - ETA: 0s - loss: 0.3561 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3552 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.3529 - accuracy:
534/750 [=========>.....] - ETA: 0s - loss: 0.3545 - accuracy:
622/750 [===========>.....] - ETA: 0s - loss: 0.3549 - accuracy:
0.9241
0.9242 - val loss: 0.4709 - val accuracy: 0.8857
Epoch 157/220
1/750 [...... 0.3891 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3492 - accuracy:
```

```
174/750 [====>...... - ETA: 0s - loss: 0.3466 - accuracy:
0.9275
263/750 [=======>.....] - ETA: 0s - loss: 0.3528 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3509 - accuracy:
0.9276
447/750 [========>.....] - ETA: 0s - loss: 0.3525 - accuracy:
0.9269
535/750 [=========>.....] - ETA: 0s - loss: 0.3519 - accuracy:
0.9265
620/750 [===========>.....] - ETA: 0s - loss: 0.3534 - accuracy:
0.9256
0.9255 - val loss: 0.4801 - val accuracy: 0.8829
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.2676 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9267
175/750 [=====>.....] - ETA: 0s - loss: 0.3462 - accuracy:
0.9277
263/750 [=======>.....] - ETA: 0s - loss: 0.3486 - accuracy:
0.9271
349/750 [========>.....] - ETA: 0s - loss: 0.3525 - accuracy:
439/750 [==========>.....] - ETA: 0s - loss: 0.3514 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.3532 - accuracy:
617/750 [===========>.....] - ETA: 0s - loss: 0.3537 - accuracy:
750/750 [============ ] - 1s 693us/step - loss: 0.3528 - accuracy:
0.9247 - val_loss: 0.5055 - val_accuracy: 0.8745
Epoch 159/220
1/750 [.....] - ETA: 0s - loss: 0.4013 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3460 - accuracy:
168/750 [====>...... - ETA: 0s - loss: 0.3430 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3467 - accuracy:
345/750 [=======>.....] - ETA: 0s - loss: 0.3473 - accuracy:
0.9274
```

```
437/750 [=========>.....] - ETA: 0s - loss: 0.3476 - accuracy:
0.9277
523/750 [===========>.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9266
0.9263
0.9261
0.9256 - val loss: 0.4821 - val accuracy: 0.8842
Epoch 160/220
1/750 [.....] - ETA: 0s - loss: 0.3872 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3377 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3483 - accuracy:
268/750 [======>.....] - ETA: 0s - loss: 0.3505 - accuracy:
355/750 [========>.....] - ETA: 0s - loss: 0.3506 - accuracy:
0.9277
444/750 [=========>.....] - ETA: 0s - loss: 0.3520 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9278
0.9267
750/750 [=============== ] - 1s 698us/step - loss: 0.3533 - accuracy:
0.9261 - val_loss: 0.4780 - val_accuracy: 0.8860
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.4899 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3514 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3494 - accuracy:
0.9256
266/750 [=======>.....] - ETA: 0s - loss: 0.3496 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3512 - accuracy:
445/750 [========>...... - ETA: 0s - loss: 0.3527 - accuracy:
0.9251
536/750 [=========>.....] - ETA: 0s - loss: 0.3556 - accuracy:
0.9241
622/750 [===========>.....] - ETA: 0s - loss: 0.3539 - accuracy:
0.9246
```

```
0.9242
0.9242 - val loss: 0.4786 - val accuracy: 0.8835
Epoch 162/220
1/750 [.....] - ETA: 0s - loss: 0.2668 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9292
178/750 [=====>.....] - ETA: 0s - loss: 0.3445 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.3474 - accuracy:
0.9299
361/750 [=======>.....] - ETA: 0s - loss: 0.3484 - accuracy:
0.9279
451/750 [==========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.3494 - accuracy:
625/750 [============>....] - ETA: 0s - loss: 0.3505 - accuracy:
750/750 [=============== ] - 1s 713us/step - loss: 0.3522 - accuracy:
0.9255 - val loss: 0.4774 - val accuracy: 0.8848
Epoch 163/220
1/750 [.................] - ETA: 0s - loss: 0.2924 - accuracy:
0.9531
85/750 [==>.....] - ETA: 0s - loss: 0.3523 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.3474 - accuracy:
0.9293
236/750 [======>.....] - ETA: 0s - loss: 0.3483 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9285
394/750 [========>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9267
470/750 [=========>...... - ETA: 0s - loss: 0.3531 - accuracy:
0.9267
552/750 [==========>.....] - ETA: 0s - loss: 0.3535 - accuracy:
0.9261
0.9267
0.9264 - val_loss: 0.4851 - val_accuracy: 0.8827
```

```
1/750 [.....] - ETA: 0s - loss: 0.3431 - accuracy:
0.9219
86/750 [==>.....] - ETA: 0s - loss: 0.3341 - accuracy:
167/750 [=====>.....] - ETA: 0s - loss: 0.3416 - accuracy:
0.9304
246/750 [======>...... - ETA: 0s - loss: 0.3430 - accuracy:
0.9289
336/750 [========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.3465 - accuracy:
0.9272
508/750 [============>.....] - ETA: 0s - loss: 0.3516 - accuracy:
593/750 [============>.....] - ETA: 0s - loss: 0.3530 - accuracy:
0.9242 - val_loss: 0.4815 - val_accuracy: 0.8827
Epoch 165/220
1/750 [.....] - ETA: 0s - loss: 0.3329 - accuracy:
0.9375
90/750 [==>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9276
177/750 [=====>.....] - ETA: 0s - loss: 0.3499 - accuracy:
0.9273
266/750 [=======>.....] - ETA: 0s - loss: 0.3503 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3505 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.3510 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9279
611/750 [===========>.....] - ETA: 0s - loss: 0.3517 - accuracy:
0.9269
0.9271
0.9270 - val loss: 0.5157 - val accuracy: 0.8758
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.5518 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3477 - accuracy:
0.9265
```

```
174/750 [====>...... - ETA: 0s - loss: 0.3514 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.3547 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3557 - accuracy:
438/750 [========>...... - ETA: 0s - loss: 0.3538 - accuracy:
0.9257
521/750 [=========>.....] - ETA: 0s - loss: 0.3536 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.3518 - accuracy:
0.9261
691/750 [============>...] - ETA: 0s - loss: 0.3516 - accuracy:
750/750 [================ ] - 1s 705us/step - loss: 0.3510 - accuracy:
0.9264 - val loss: 0.4843 - val accuracy: 0.8815
Epoch 167/220
 1/750 [.....] - ETA: 0s - loss: 0.3717 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3470 - accuracy:
0.9304
176/750 [=====>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9295
265/750 [=======>.....] - ETA: 0s - loss: 0.3463 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.3450 - accuracy:
0.9298
442/750 [=========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
0.9279
531/750 [==========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9265
619/750 [===========>.....] - ETA: 0s - loss: 0.3513 - accuracy:
705/750 [==============>..] - ETA: 0s - loss: 0.3528 - accuracy:
750/750 [============= ] - 1s 701us/step - loss: 0.3516 - accuracy:
0.9262 - val_loss: 0.4938 - val_accuracy: 0.8815
Epoch 168/220
 1/750 [.....] - ETA: 0s - loss: 0.4319 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3420 - accuracy:
0.9299
173/750 [====>...... - ETA: 0s - loss: 0.3472 - accuracy:
0.9286
265/750 [=======>.....] - ETA: 0s - loss: 0.3488 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3477 - accuracy:
```

```
441/750 [=========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9267
529/750 [=========>:....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9266
669/750 [==============>....] - ETA: 0s - loss: 0.3515 - accuracy:
0.9256
750/750 [============== ] - 1s 733us/step - loss: 0.3532 - accuracy:
0.9249 - val loss: 0.4808 - val accuracy: 0.8840
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.3702 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.3348 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3387 - accuracy:
263/750 [======>.....] - ETA: 0s - loss: 0.3464 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3484 - accuracy:
0.9261
437/750 [=========>.....] - ETA: 0s - loss: 0.3513 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3515 - accuracy:
0.9261
0.9264
750/750 [=============== ] - 1s 696us/step - loss: 0.3512 - accuracy:
0.9263 - val_loss: 0.4840 - val_accuracy: 0.8792
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.2742 - accuracy:
0.9688
93/750 [==>.....] - ETA: 0s - loss: 0.3428 - accuracy:
0.9281
179/750 [=====>.....] - ETA: 0s - loss: 0.3496 - accuracy:
0.9278
267/750 [=======>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9281
356/750 [=======>.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9269
440/750 [=========>..... - ETA: 0s - loss: 0.3515 - accuracy:
0.9270
529/750 [=========>.....] - ETA: 0s - loss: 0.3520 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.3504 - accuracy:
0.9271
```

```
0.9270
750/750 [=============== ] - 1s 704us/step - loss: 0.3518 - accuracy:
0.9267 - val loss: 0.4827 - val accuracy: 0.8840
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.2694 - accuracy:
0.9688
93/750 [==>.....] - ETA: 0s - loss: 0.3506 - accuracy:
0.9283
182/750 [=====>.....] - ETA: 0s - loss: 0.3517 - accuracy:
274/750 [======>.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9281
364/750 [=======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9276
451/750 [==========>.....] - ETA: 0s - loss: 0.3528 - accuracy:
0.9277
539/750 [==========>.....] - ETA: 0s - loss: 0.3518 - accuracy:
632/750 [============>....] - ETA: 0s - loss: 0.3503 - accuracy:
0.9274 - val loss: 0.5214 - val accuracy: 0.8719
Epoch 172/220
1/750 [................] - ETA: 0s - loss: 0.4349 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.3514 - accuracy:
185/750 [=====>.....] - ETA: 0s - loss: 0.3497 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.3497 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.3515 - accuracy:
0.9278
452/750 [=========>.....] - ETA: 0s - loss: 0.3506 - accuracy:
0.9279
542/750 [=========>.....] - ETA: 0s - loss: 0.3492 - accuracy:
633/750 [============>....] - ETA: 0s - loss: 0.3497 - accuracy:
724/750 [===============>..] - ETA: 0s - loss: 0.3503 - accuracy:
0.9274 - val_loss: 0.4985 - val_accuracy: 0.8758
Epoch 173/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3012 - accuracy:
0.9688
89/750 [==>.....] - ETA: 0s - loss: 0.3440 - accuracy:
0.9291
180/750 [=====>.....] - ETA: 0s - loss: 0.3517 - accuracy:
271/750 [======>..... - ETA: 0s - loss: 0.3481 - accuracy:
0.9271
359/750 [========>.....] - ETA: 0s - loss: 0.3492 - accuracy:
0.9271
450/750 [==========>.....] - ETA: 0s - loss: 0.3490 - accuracy:
0.9277
541/750 [=========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9270
720/750 [===============>..] - ETA: 0s - loss: 0.3519 - accuracy:
0.9265 - val loss: 0.4930 - val accuracy: 0.8819
Epoch 174/220
1/750 [.....] - ETA: 0s - loss: 0.4102 - accuracy:
0.8906
93/750 [==>.....] - ETA: 0s - loss: 0.3372 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.3485 - accuracy:
0.9281
273/750 [=======>.....] - ETA: 0s - loss: 0.3512 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.3531 - accuracy:
0.9261
448/750 [========>.....] - ETA: 0s - loss: 0.3538 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.3519 - accuracy:
625/750 [============>....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9269
713/750 [==============>..] - ETA: 0s - loss: 0.3496 - accuracy:
0.9274
750/750 [================ ] - 1s 697us/step - loss: 0.3500 - accuracy:
0.9271 - val loss: 0.4892 - val accuracy: 0.8802
Epoch 175/220
1/750 [.....] - ETA: 0s - loss: 0.2607 - accuracy:
0.9688
92/750 [==>....... - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3527 - accuracy:
```

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269/750 [=======>.....] - ETA: 0s - loss: 0.3482 - accuracy:
0.9274
362/750 [=======>.....] - ETA: 0s - loss: 0.3447 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9288
540/750 [=========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9290
630/750 [============>....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9281
720/750 [==============>..] - ETA: 0s - loss: 0.3493 - accuracy:
0.9282 - val loss: 0.4818 - val accuracy: 0.8848
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.4024 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.3463 - accuracy:
183/750 [=====>...... - ETA: 0s - loss: 0.3503 - accuracy:
0.9299
273/750 [=======>.....] - ETA: 0s - loss: 0.3534 - accuracy:
0.9289
363/750 [=========>.....] - ETA: 0s - loss: 0.3486 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3490 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9289
0.9282 - val_loss: 0.4760 - val_accuracy: 0.8860
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.3806 - accuracy:
0.9219
85/750 [==>.....] - ETA: 0s - loss: 0.3535 - accuracy:
0.9261
172/750 [====>.....] - ETA: 0s - loss: 0.3523 - accuracy:
254/750 [======>..... - ETA: 0s - loss: 0.3543 - accuracy:
0.9254
338/750 [=======>.....] - ETA: 0s - loss: 0.3508 - accuracy:
0.9267
428/750 [=========>..... - ETA: 0s - loss: 0.3482 - accuracy:
0.9279
```

```
514/750 [===========>.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9266
0.9270 - val_loss: 0.4923 - val_accuracy: 0.8781
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.3615 - accuracy:
0.8750
87/750 [==>.....] - ETA: 0s - loss: 0.3448 - accuracy:
0.9283
176/750 [=====>.....] - ETA: 0s - loss: 0.3514 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.3519 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.3487 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9278
526/750 [=========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
611/750 [============>.....] - ETA: 0s - loss: 0.3490 - accuracy:
0.9271 - val_loss: 0.4805 - val_accuracy: 0.8838
Epoch 179/220
1/750 [...... 0.6662 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3649 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3530 - accuracy:
0.9267
264/750 [======>.....] - ETA: 0s - loss: 0.3525 - accuracy:
0.9263
336/750 [========>.....] - ETA: 0s - loss: 0.3508 - accuracy:
0.9277
426/750 [========>.....] - ETA: 0s - loss: 0.3495 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.3512 - accuracy:
0.9271
0.9276
0.9278
```

```
750/750 [================ ] - 1s 710us/step - loss: 0.3487 - accuracy:
0.9282 - val loss: 0.4769 - val accuracy: 0.8844
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.3555 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3462 - accuracy:
0.9284
179/750 [=====>.....] - ETA: 0s - loss: 0.3496 - accuracy:
0.9279
271/750 [=======>.....] - ETA: 0s - loss: 0.3454 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9298
447/750 [=========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3467 - accuracy:
625/750 [===============>.....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9275 - val_loss: 0.5011 - val_accuracy: 0.8806
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.2741 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3401 - accuracy:
179/750 [=====>...... - ETA: 0s - loss: 0.3464 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3442 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3465 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.3470 - accuracy:
534/750 [=========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
0.9280
0.9281
0.9276 - val loss: 0.4857 - val accuracy: 0.8842
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.3029 - accuracy:
0.9531
```

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91/750 [==>...... - ETA: 0s - loss: 0.3502 - accuracy:
0.9257
182/750 [=====>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9264
268/750 [======>.....] - ETA: 0s - loss: 0.3398 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3431 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9289
0.9293
750/750 [================ ] - 1s 702us/step - loss: 0.3483 - accuracy:
0.9285 - val loss: 0.4928 - val_accuracy: 0.8818
Epoch 183/220
1/750 [...... - ETA: 0s - loss: 0.3594 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.3471 - accuracy:
0.9284
178/750 [=====>.....] - ETA: 0s - loss: 0.3492 - accuracy:
0.9281
265/750 [======>.....] - ETA: 0s - loss: 0.3451 - accuracy:
0.9294
355/750 [=======>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9290
445/750 [=========>.....] - ETA: 0s - loss: 0.3478 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3470 - accuracy:
622/750 [===========>.....] - ETA: 0s - loss: 0.3482 - accuracy:
0.9278
750/750 [============= ] - 1s 693us/step - loss: 0.3487 - accuracy:
0.9278 - val loss: 0.4774 - val accuracy: 0.8884
Epoch 184/220
1/750 [...... os. 3.3437 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3422 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3419 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3421 - accuracy:
0.9297
```

```
341/750 [========>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9288
430/750 [=========>.....] - ETA: 0s - loss: 0.3467 - accuracy:
0.9289
520/750 [=========>.....] - ETA: 0s - loss: 0.3490 - accuracy:
0.9283
610/750 [===========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
0.9286
698/750 [============>...] - ETA: 0s - loss: 0.3480 - accuracy:
0.9284
750/750 [============= ] - 1s 705us/step - loss: 0.3492 - accuracy:
0.9281 - val_loss: 0.4916 - val_accuracy: 0.8810
Epoch 185/220
 1/750 [.....] - ETA: 0s - loss: 0.3922 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.3291 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3349 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.3400 - accuracy:
0.9334
358/750 [=======>.....] - ETA: 0s - loss: 0.3403 - accuracy:
448/750 [=========>...... - ETA: 0s - loss: 0.3396 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.3412 - accuracy:
629/750 [===============>....] - ETA: 0s - loss: 0.3436 - accuracy:
0.9297 - val loss: 0.4821 - val accuracy: 0.8824
Epoch 186/220
 1/750 [.....] - ETA: 0s - loss: 0.2521 - accuracy:
0.9844
91/750 [==>.....] - ETA: 0s - loss: 0.3498 - accuracy:
0.9282
181/750 [=====>.....] - ETA: 0s - loss: 0.3461 - accuracy:
0.9301
269/750 [======>..... - ETA: 0s - loss: 0.3502 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3495 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.3508 - accuracy:
0.9261
538/750 [==========>.....] - ETA: 0s - loss: 0.3494 - accuracy:
0.9279
```

```
0.9284
750/750 [================ ] - 1s 690us/step - loss: 0.3492 - accuracy:
0.9282 - val_loss: 0.5045 - val_accuracy: 0.8762
Epoch 187/220
1/750 [.....] - ETA: 0s - loss: 0.2842 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3443 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3436 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3463 - accuracy:
0.9308
356/750 [========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3451 - accuracy:
0.9296
533/750 [=========>.....] - ETA: 0s - loss: 0.3452 - accuracy:
0.9296
0.9297
0.9291 - val loss: 0.5013 - val accuracy: 0.8781
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.2905 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3446 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9301
255/750 [======>.....] - ETA: 0s - loss: 0.3463 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9301
437/750 [=========>..... - ETA: 0s - loss: 0.3451 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3456 - accuracy:
0.9293
702/750 [===============>..] - ETA: 0s - loss: 0.3473 - accuracy:
0.9282 - val_loss: 0.4772 - val_accuracy: 0.8872
```

```
1/750 [.....] - ETA: 0s - loss: 0.3232 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.3461 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3400 - accuracy:
0.9323
267/750 [======>..... - ETA: 0s - loss: 0.3452 - accuracy:
0.9305
356/750 [=======>.....] - ETA: 0s - loss: 0.3466 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.3481 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
750/750 [================ ] - 1s 693us/step - loss: 0.3477 - accuracy:
0.9283 - val_loss: 0.4768 - val_accuracy: 0.8884
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.3197 - accuracy:
0.9375
93/750 [==>.....] - ETA: 0s - loss: 0.3418 - accuracy:
0.9301
178/750 [=====>.....] - ETA: 0s - loss: 0.3449 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.3448 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9289
445/750 [=========>.....] - ETA: 0s - loss: 0.3457 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
0.9288
624/750 [===========>.....] - ETA: 0s - loss: 0.3465 - accuracy:
0.9289
0.9286
0.9279 - val loss: 0.4863 - val accuracy: 0.8848
Epoch 191/220
1/750 [...... 0.3078 - accuracy:
90/750 [==>...... - ETA: 0s - loss: 0.3481 - accuracy:
0.9295
```

```
181/750 [=====>.....] - ETA: 0s - loss: 0.3440 - accuracy:
0.9301
269/750 [=======>.....] - ETA: 0s - loss: 0.3448 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3473 - accuracy:
0.9293
449/750 [=========>.....] - ETA: 0s - loss: 0.3454 - accuracy:
0.9297
537/750 [=========>.....] - ETA: 0s - loss: 0.3478 - accuracy:
0.9293
627/750 [============>....] - ETA: 0s - loss: 0.3474 - accuracy:
0.9298 - val loss: 0.4860 - val accuracy: 0.8861
Epoch 192/220
1/750 [.....] - ETA: 0s - loss: 0.3808 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3312 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3411 - accuracy:
0.9316
265/750 [=======>.....] - ETA: 0s - loss: 0.3484 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3522 - accuracy:
0.9276
445/750 [=========>.....] - ETA: 0s - loss: 0.3487 - accuracy:
0.9284
534/750 [==========>.....] - ETA: 0s - loss: 0.3494 - accuracy:
0.9283
0.9290
0.9292 - val_loss: 0.4983 - val_accuracy: 0.8773
Epoch 193/220
1/750 [.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9062
91/750 [==>.....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9293
180/750 [=====>...... - ETA: 0s - loss: 0.3462 - accuracy:
272/750 [=======>.....] - ETA: 0s - loss: 0.3430 - accuracy:
0.9296
361/750 [=======>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9297
```

```
450/750 [==========>.....] - ETA: 0s - loss: 0.3441 - accuracy:
0.9301
539/750 [==========>.....] - ETA: 0s - loss: 0.3447 - accuracy:
0.9297
0.9296
750/750 [============== ] - 1s 689us/step - loss: 0.3468 - accuracy:
0.9293 - val loss: 0.5218 - val accuracy: 0.8718
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.3519 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3438 - accuracy:
163/750 [====>.....] - ETA: 0s - loss: 0.3469 - accuracy:
250/750 [======>.....] - ETA: 0s - loss: 0.3450 - accuracy:
341/750 [=======>..... - ETA: 0s - loss: 0.3418 - accuracy:
0.9293
431/750 [=========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9286
520/750 [=========>.....] - ETA: 0s - loss: 0.3440 - accuracy:
0.9294
0.9286
0.9287 - val_loss: 0.4784 - val_accuracy: 0.8875
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.3245 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.3401 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.3463 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.3450 - accuracy:
0.9311
362/750 [=======>.....] - ETA: 0s - loss: 0.3441 - accuracy:
0.9309
448/750 [=========>..... - ETA: 0s - loss: 0.3460 - accuracy:
0.9299
539/750 [=========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
629/750 [============>.....] - ETA: 0s - loss: 0.3457 - accuracy:
```

```
0.9294 - val loss: 0.4905 - val accuracy: 0.8827
Epoch 196/220
 1/750 [.....] - ETA: 0s - loss: 0.2518 - accuracy:
0.9688
89/750 [==>.....] - ETA: 0s - loss: 0.3333 - accuracy:
0.9335
178/750 [=====>.....] - ETA: 0s - loss: 0.3376 - accuracy:
0.9324
267/750 [======>.....] - ETA: 0s - loss: 0.3423 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9284
444/750 [=========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9291
533/750 [==========>.....] - ETA: 0s - loss: 0.3464 - accuracy:
624/750 [============>.....] - ETA: 0s - loss: 0.3461 - accuracy:
0.9291
750/750 [============= ] - 1s 697us/step - loss: 0.3459 - accuracy:
0.9291 - val loss: 0.5549 - val accuracy: 0.8600
Epoch 197/220
 1/750 [................] - ETA: 0s - loss: 0.3081 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3514 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3499 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3425 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9319
444/750 [=========>.....] - ETA: 0s - loss: 0.3445 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3439 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.3451 - accuracy:
708/750 [==============>..] - ETA: 0s - loss: 0.3458 - accuracy:
750/750 [================ ] - 1s 701us/step - loss: 0.3465 - accuracy:
0.9301 - val_loss: 0.4845 - val_accuracy: 0.8844
Epoch 198/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9375
87/750 [==>.....] - ETA: 0s - loss: 0.3550 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3528 - accuracy:
0.9269
269/750 [======>..... - ETA: 0s - loss: 0.3515 - accuracy:
0.9276
357/750 [========>.....] - ETA: 0s - loss: 0.3467 - accuracy:
0.9284
446/750 [=========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9277
528/750 [==========>.....] - ETA: 0s - loss: 0.3467 - accuracy:
706/750 [===============>..] - ETA: 0s - loss: 0.3463 - accuracy:
0.9286 - val loss: 0.4866 - val accuracy: 0.8852
Epoch 199/220
1/750 [.....] - ETA: 0s - loss: 0.3120 - accuracy:
0.9375
92/750 [==>.....] - ETA: 0s - loss: 0.3455 - accuracy:
0.9276
181/750 [=====>.....] - ETA: 0s - loss: 0.3384 - accuracy:
0.9314
268/750 [=======>.....] - ETA: 0s - loss: 0.3420 - accuracy:
0.9319
359/750 [=======>.....] - ETA: 0s - loss: 0.3434 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3444 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3442 - accuracy:
629/750 [============>....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9299
719/750 [==============>..] - ETA: 0s - loss: 0.3452 - accuracy:
0.9298
750/750 [=============== ] - 1s 692us/step - loss: 0.3451 - accuracy:
0.9299 - val loss: 0.4830 - val accuracy: 0.8876
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.4470 - accuracy:
93/750 [==>....... - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3396 - accuracy:
```

```
269/750 [======>.....] - ETA: 0s - loss: 0.3410 - accuracy:
0.9319
361/750 [========>.....] - ETA: 0s - loss: 0.3414 - accuracy:
449/750 [=========>..... - ETA: 0s - loss: 0.3412 - accuracy:
536/750 [==========>......] - ETA: 0s - loss: 0.3424 - accuracy:
625/750 [============>....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9306
0.9298
0.9294 - val loss: 0.4957 - val accuracy: 0.8823
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.2920 - accuracy:
0.9375
92/750 [==>.....] - ETA: 0s - loss: 0.3337 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.3373 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.3466 - accuracy:
0.9301
358/750 [=======>.....] - ETA: 0s - loss: 0.3428 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3437 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3450 - accuracy:
0.9305 - val_loss: 0.5032 - val_accuracy: 0.8780
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.4340 - accuracy:
91/750 [==>....... - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3412 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3423 - accuracy:
360/750 [========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9287
450/750 [=========>.....] - ETA: 0s - loss: 0.3475 - accuracy:
```

```
539/750 [=========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9297
0.9296 - val_loss: 0.5307 - val_accuracy: 0.8670
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.3510 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3430 - accuracy:
0.9321
181/750 [=====>...... - ETA: 0s - loss: 0.3389 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.3386 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3404 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3449 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3449 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.3456 - accuracy:
0.9301
0.9295 - val_loss: 0.4857 - val_accuracy: 0.8849
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.4666 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3378 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.3358 - accuracy:
0.9323
273/750 [======>.....] - ETA: 0s - loss: 0.3386 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.3395 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.3412 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9304
```

```
0.9310 - val loss: 0.5010 - val accuracy: 0.8784
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.2617 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3317 - accuracy:
0.9356
179/750 [=====>...... - ETA: 0s - loss: 0.3299 - accuracy:
0.9372
268/750 [=======>.....] - ETA: 0s - loss: 0.3325 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3373 - accuracy:
0.9341
449/750 [=========>.....] - ETA: 0s - loss: 0.3386 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.3404 - accuracy:
0.9314
0.9314 - val_loss: 0.4808 - val_accuracy: 0.8880
Epoch 206/220
1/750 [.....] - ETA: 0s - loss: 0.3427 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3358 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.3390 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.3394 - accuracy:
359/750 [========>.....] - ETA: 0s - loss: 0.3406 - accuracy:
0.9331
447/750 [========>.....] - ETA: 0s - loss: 0.3425 - accuracy:
0.9331
537/750 [=========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9328
0.9314 - val loss: 0.5308 - val accuracy: 0.8722
Epoch 207/220
1/750 [.....] - ETA: 0s - loss: 0.3292 - accuracy:
```

```
89/750 [==>...... - ETA: 0s - loss: 0.3383 - accuracy:
0.9331
176/750 [=====>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9317
267/750 [======>..... - ETA: 0s - loss: 0.3471 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 0.3437 - accuracy:
0.9311
447/750 [=========>..... - ETA: 0s - loss: 0.3439 - accuracy:
0.9309
538/750 [=========>.....] - ETA: 0s - loss: 0.3458 - accuracy:
750/750 [=============== ] - 1s 692us/step - loss: 0.3460 - accuracy:
0.9301 - val loss: 0.4919 - val_accuracy: 0.8846
Epoch 208/220
1/750 [...... - ETA: 0s - loss: 0.2746 - accuracy:
0.9531
92/750 [==>.....] - ETA: 0s - loss: 0.3330 - accuracy:
0.9351
180/750 [=====>.....] - ETA: 0s - loss: 0.3418 - accuracy:
269/750 [======>.....] - ETA: 0s - loss: 0.3430 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.3442 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3441 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
627/750 [===========>....] - ETA: 0s - loss: 0.3444 - accuracy:
716/750 [===============>..] - ETA: 0s - loss: 0.3449 - accuracy:
750/750 [============== ] - 1s 693us/step - loss: 0.3445 - accuracy:
0.9303 - val_loss: 0.4917 - val_accuracy: 0.8840
Epoch 209/220
1/750 [...... 0.4555 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9301
180/750 [=====>.....] - ETA: 0s - loss: 0.3457 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3471 - accuracy:
0.9294
```

```
359/750 [========>.....] - ETA: 0s - loss: 0.3451 - accuracy:
0.9308
450/750 [==========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
626/750 [===========>....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9317
750/750 [============= ] - 1s 692us/step - loss: 0.3433 - accuracy:
0.9306 - val_loss: 0.4856 - val_accuracy: 0.8870
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.3203 - accuracy:
0.9531
88/750 [==>...... - ETA: 0s - loss: 0.3400 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3378 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.3377 - accuracy:
0.9341
357/750 [=======>.....] - ETA: 0s - loss: 0.3374 - accuracy:
446/750 [========>.....] - ETA: 0s - loss: 0.3378 - accuracy:
0.9336
536/750 [=========>.....] - ETA: 0s - loss: 0.3400 - accuracy:
0.9324
626/750 [===============>....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9316 - val loss: 0.5779 - val accuracy: 0.8524
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.2267 - accuracy:
0.9844
86/750 [==>.....] - ETA: 0s - loss: 0.3276 - accuracy:
0.9384
162/750 [====>.....] - ETA: 0s - loss: 0.3332 - accuracy:
253/750 [======>..... - ETA: 0s - loss: 0.3390 - accuracy:
0.9339
343/750 [=======>.....] - ETA: 0s - loss: 0.3416 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.3444 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.3433 - accuracy:
0.9311
```

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608/750 [============>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9309
750/750 [=============== ] - 1s 709us/step - loss: 0.3453 - accuracy:
0.9305 - val_loss: 0.5145 - val_accuracy: 0.8809
Epoch 212/220
1/750 [.....] - ETA: 0s - loss: 0.3338 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3445 - accuracy:
179/750 [=====>...... - ETA: 0s - loss: 0.3352 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.3411 - accuracy:
360/750 [========>.....] - ETA: 0s - loss: 0.3400 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3413 - accuracy:
0.9319
540/750 [=========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
0.9317
0.9309 - val loss: 0.4962 - val accuracy: 0.8800
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.3892 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3304 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.3287 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.3349 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 0.3401 - accuracy:
0.9334
448/750 [=========>..... - ETA: 0s - loss: 0.3403 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3420 - accuracy:
0.9319
0.9313 - val_loss: 0.4936 - val_accuracy: 0.8827
```

```
1/750 [.....] - ETA: 0s - loss: 0.3063 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3383 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.3378 - accuracy:
271/750 [======>..... - ETA: 0s - loss: 0.3410 - accuracy:
0.9296
360/750 [=======>.....] - ETA: 0s - loss: 0.3397 - accuracy:
0.9309
449/750 [=========>.....] - ETA: 0s - loss: 0.3420 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.3416 - accuracy:
0.9317
0.9317
0.9320 - val_loss: 0.5027 - val_accuracy: 0.8754
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.3406 - accuracy:
0.9531
91/750 [==>.....] - ETA: 0s - loss: 0.3323 - accuracy:
0.9337
181/750 [=====>.....] - ETA: 0s - loss: 0.3428 - accuracy:
0.9291
272/750 [=======>.....] - ETA: 0s - loss: 0.3409 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.3427 - accuracy:
0.9293
450/750 [==========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9299
627/750 [============>....] - ETA: 0s - loss: 0.3447 - accuracy:
0.9296
0.9294 - val loss: 0.4996 - val accuracy: 0.8825
Epoch 216/220
1/750 [...... 0.5029 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3385 - accuracy:
```

```
177/750 [=====>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9316
267/750 [=======>.....] - ETA: 0s - loss: 0.3425 - accuracy:
0.9311
357/750 [=======>.....] - ETA: 0s - loss: 0.3448 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
0.9311
534/750 [=========>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9319
624/750 [===========>.....] - ETA: 0s - loss: 0.3416 - accuracy:
0.9315
0.9314 - val loss: 0.5029 - val accuracy: 0.8793
Epoch 217/220
1/750 [.....] - ETA: 0s - loss: 0.3507 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3363 - accuracy:
0.9373
177/750 [=====>.....] - ETA: 0s - loss: 0.3376 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.3415 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.3405 - accuracy:
0.9337
435/750 [==========>.....] - ETA: 0s - loss: 0.3412 - accuracy:
0.9327
522/750 [==========>.....] - ETA: 0s - loss: 0.3450 - accuracy:
697/750 [===========>...] - ETA: 0s - loss: 0.3449 - accuracy:
0.9308 - val_loss: 0.5135 - val_accuracy: 0.8750
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.2768 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3440 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 0.3422 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.3467 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3433 - accuracy:
```

```
441/750 [=========>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9321
531/750 [==========>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9315 - val loss: 0.4977 - val_accuracy: 0.8816
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.4011 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3451 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3381 - accuracy:
256/750 [======>.....] - ETA: 0s - loss: 0.3417 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.3446 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9316
518/750 [=========>.....] - ETA: 0s - loss: 0.3441 - accuracy:
0.9313
0.9317
0.9321
750/750 [=============== ] - 1s 710us/step - loss: 0.3431 - accuracy:
0.9319 - val_loss: 0.4881 - val_accuracy: 0.8884
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.3265 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.3480 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.3458 - accuracy:
273/750 [=======>.....] - ETA: 0s - loss: 0.3454 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.3438 - accuracy:
0.9318
450/750 [==========>.....] - ETA: 0s - loss: 0.3442 - accuracy:
0.9316
537/750 [=========>.....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9316
628/750 [============>....] - ETA: 0s - loss: 0.3423 - accuracy:
```

```
0.9323
0.9317 - val loss: 0.4885 - val accuracy: 0.8848
 1/313 [...... 0.6507 - accuracy:
94/313 [======>.....] - ETA: 0s - loss: 0.4969 - accuracy:
0.8807
214/313 [==============>.....] - ETA: 0s - loss: 0.5244 - accuracy:
0.8770
Testing loss: 0.5169496536254883
Testing accuracy: 87.69999742507935%
Running for Model 2/12
Model: "sequential 2"
Layer (type)
              Output Shape
                            Param #
______
               (None, 50)
input layer (Dense)
                            39250
hidden1 (Dense)
               (None, 50)
                            2550
hidden2 (Dense)
               (None, 50)
                            2550
hidden3 (Dense)
               (None, 50)
                            2550
output layer (Dense)
               (None, 10)
                            510
Total params: 47,410
Trainable params: 47,410
Non-trainable params: 0
```

```
136/750 [====>.....] - ETA: 0s - loss: 2.4505 - accuracy:
208/750 [======>.....] - ETA: 0s - loss: 2.3356 - accuracy:
0.2889
282/750 [=======>..... - ETA: 0s - loss: 2.1788 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 2.0250 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 1.8872 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 1.7734 - accuracy:
571/750 [===========>.....] - ETA: 0s - loss: 1.6826 - accuracy:
0.5479
0.5681
0.5760 - val_loss: 0.9475 - val_accuracy: 0.7577
Epoch 2/220
1/750 [...... - ETA: 0s - loss: 0.8700 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.9544 - accuracy:
0.7614
145/750 [====>.....] - ETA: 0s - loss: 0.9432 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.9315 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.9242 - accuracy:
0.7665
362/750 [========>.....] - ETA: 0s - loss: 0.9164 - accuracy:
0.7693
435/750 [=========>..... - ETA: 0s - loss: 0.9072 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.9014 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.8956 - accuracy:
0.7807 - val_loss: 0.8356 - val_accuracy: 0.7953
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 0.7779 - accuracy:
```

```
0.8125
68/750 [=>.....] - ETA: 0s - loss: 0.8268 - accuracy:
0.8051
138/750 [====>.....] - ETA: 0s - loss: 0.8277 - accuracy:
0.8021
211/750 [======>.....] - ETA: 0s - loss: 0.8210 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.8119 - accuracy:
0.8074
359/750 [=======>.....] - ETA: 0s - loss: 0.8143 - accuracy:
433/750 [=========>...... - ETA: 0s - loss: 0.8084 - accuracy:
509/750 [==========>.....] - ETA: 0s - loss: 0.8028 - accuracy:
0.8091
586/750 [============>.....] - ETA: 0s - loss: 0.8013 - accuracy:
0.8098
0.8117
0.8118 - val loss: 0.7688 - val accuracy: 0.8217
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 0.7466 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.7678 - accuracy:
0.8209
153/750 [=====>.....] - ETA: 0s - loss: 0.7726 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.7719 - accuracy:
0.8189
305/750 [=======>.....] - ETA: 0s - loss: 0.7683 - accuracy:
0.8299
382/750 [=======>>.....] - ETA: 0s - loss: 0.7644 - accuracy:
0.8219
459/750 [==========>.....] - ETA: 0s - loss: 0.7617 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.7629 - accuracy:
0.8221
0.8236
0.8258 - val_loss: 0.7499 - val_accuracy: 0.8275
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 0.7147 - accuracy:
```

```
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.7279 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.7335 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.7334 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.7333 - accuracy:
0.8351
380/750 [========>.....] - ETA: 0s - loss: 0.7290 - accuracy:
456/750 [=========>...... - ETA: 0s - loss: 0.7251 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.7258 - accuracy:
609/750 [============>.....] - ETA: 0s - loss: 0.7248 - accuracy:
0.8351
686/750 [============>...] - ETA: 0s - loss: 0.7252 - accuracy:
0.8349 - val_loss: 0.7083 - val_accuracy: 0.8436
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 0.5600 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.7058 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.6970 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.7051 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.7001 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.7020 - accuracy:
0.8428
463/750 [=========>...... - ETA: 0s - loss: 0.7015 - accuracy:
0.8421
537/750 [==========>.....] - ETA: 0s - loss: 0.7013 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.7037 - accuracy:
0.8496
0.8417 - val loss: 0.6980 - val accuracy: 0.8454
Epoch 7/220
1/750 [.....] - ETA: 0s - loss: 0.6609 - accuracy:
0.8281
76/750 [==>.....] - ETA: 0s - loss: 0.6909 - accuracy:
```

```
0.8446
153/750 [=====>.....] - ETA: 0s - loss: 0.6956 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.6853 - accuracy:
306/750 [======>.....] - ETA: 0s - loss: 0.6873 - accuracy:
0.8449
385/750 [=======>>.....] - ETA: 0s - loss: 0.6931 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.6898 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.6886 - accuracy:
0.8454
0.8456
0.8470 - val loss: 0.6777 - val accuracy: 0.8503
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 0.6942 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.6872 - accuracy:
0.8468
156/750 [====>.....] - ETA: 0s - loss: 0.6765 - accuracy:
234/750 [======>.....] - ETA: 0s - loss: 0.6735 - accuracy:
0.8519
311/750 [========>.....] - ETA: 0s - loss: 0.6745 - accuracy:
388/750 [========>.....] - ETA: 0s - loss: 0.6734 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.6721 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.6709 - accuracy:
0.8509
690/750 [============>...] - ETA: 0s - loss: 0.6685 - accuracy:
0.8509 - val loss: 0.6651 - val accuracy: 0.8547
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 0.6152 - accuracy:
0.8750
78/750 [==>.....] - ETA: 0s - loss: 0.6482 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.6568 - accuracy:
```

```
0.8576
231/750 [======>.....] - ETA: 0s - loss: 0.6564 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.6547 - accuracy:
382/750 [=======>.....] - ETA: 0s - loss: 0.6563 - accuracy:
459/750 [=========>.....] - ETA: 0s - loss: 0.6564 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.6546 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.6532 - accuracy:
750/750 [============= ] - 1s 812us/step - loss: 0.6543 - accuracy:
0.8551 - val_loss: 0.6647 - val_accuracy: 0.8504
Epoch 10/220
1/750 [...... 0.6020 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.6478 - accuracy:
155/750 [====>...... - ETA: 0s - loss: 0.6440 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.6482 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.6506 - accuracy:
0.8549
384/750 [=========>.....] - ETA: 0s - loss: 0.6428 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.6394 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.6415 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.6401 - accuracy:
0.8589
0.8585 - val_loss: 0.6543 - val_accuracy: 0.8517
Epoch 11/220
1/750 [...... 0.5931 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6379 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.6368 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.6390 - accuracy:
```

```
0.8589
303/750 [========>.....] - ETA: 0s - loss: 0.6334 - accuracy:
380/750 [========>.....] - ETA: 0s - loss: 0.6340 - accuracy:
0.8699
458/750 [=========>.....] - ETA: 0s - loss: 0.6318 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.6299 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.6290 - accuracy:
0.8614
750/750 [============= ] - 1s 818us/step - loss: 0.6299 - accuracy:
0.8611 - val_loss: 0.6368 - val_accuracy: 0.8606
Epoch 12/220
1/750 [...... - ETA: 0s - loss: 0.7487 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6069 - accuracy:
0.8709
153/750 [====>.....] - ETA: 0s - loss: 0.6148 - accuracy:
0.8673
226/750 [======>.....] - ETA: 0s - loss: 0.6191 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.6199 - accuracy:
380/750 [=======>:....] - ETA: 0s - loss: 0.6212 - accuracy:
0.8648
454/750 [==========>.....] - ETA: 0s - loss: 0.6237 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.6228 - accuracy:
0.8639 - val_loss: 0.6317 - val_accuracy: 0.8580
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 0.6517 - accuracy:
0.8125
77/750 [==>.....] - ETA: 0s - loss: 0.6131 - accuracy:
0.8661
153/750 [=====>.....] - ETA: 0s - loss: 0.6135 - accuracy:
0.8667
231/750 [======>..... - ETA: 0s - loss: 0.6123 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.6130 - accuracy:
```

```
384/750 [==========>.....] - ETA: 0s - loss: 0.6108 - accuracy:
0.8656
460/750 [==========>.....] - ETA: 0s - loss: 0.6109 - accuracy:
0.8649
537/750 [==========>.....] - ETA: 0s - loss: 0.6096 - accuracy:
610/750 [============>.....] - ETA: 0s - loss: 0.6105 - accuracy:
750/750 [============= ] - 1s 804us/step - loss: 0.6109 - accuracy:
0.8643 - val loss: 0.6194 - val accuracy: 0.8629
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 0.4994 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5907 - accuracy:
0.8726
154/750 [====>.....] - ETA: 0s - loss: 0.5940 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.5953 - accuracy:
0.8694
304/750 [=======>.....] - ETA: 0s - loss: 0.5985 - accuracy:
0.8681
381/750 [========>.....] - ETA: 0s - loss: 0.5947 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 0.5999 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.6012 - accuracy:
0.8669
0.8670
0.8676 - val loss: 0.6194 - val accuracy: 0.8603
Epoch 15/220
1/750 [.....] - ETA: 0s - loss: 0.5929 - accuracy:
0.8281
78/750 [==>.....] - ETA: 0s - loss: 0.6005 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.5882 - accuracy:
304/750 [=======>..... - ETA: 0s - loss: 0.5870 - accuracy:
382/750 [==========>.....] - ETA: 0s - loss: 0.5888 - accuracy:
```

```
0.8701
460/750 [==========>.....] - ETA: 0s - loss: 0.5903 - accuracy:
0.8704
538/750 [==========>.....] - ETA: 0s - loss: 0.5903 - accuracy:
692/750 [=============>...] - ETA: 0s - loss: 0.5920 - accuracy:
750/750 [=============== ] - 1s 800us/step - loss: 0.5931 - accuracy:
0.8695 - val loss: 0.6044 - val accuracy: 0.8668
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 0.4995 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5841 - accuracy:
0.8777
149/750 [====>...... - ETA: 0s - loss: 0.5921 - accuracy:
0.8721
225/750 [======>.....] - ETA: 0s - loss: 0.5883 - accuracy:
0.8716
301/750 [=======>.....] - ETA: 0s - loss: 0.5852 - accuracy:
0.8729
377/750 [=======>.....] - ETA: 0s - loss: 0.5860 - accuracy:
0.8723
452/750 [==========>.....] - ETA: 0s - loss: 0.5873 - accuracy:
0.8713
528/750 [==========>.....] - ETA: 0s - loss: 0.5853 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.5838 - accuracy:
0.8711
0.8710 - val loss: 0.5972 - val accuracy: 0.8668
Epoch 17/220
1/750 [...... - ETA: 0s - loss: 0.7635 - accuracy:
0.7969
77/750 [==>.....] - ETA: 0s - loss: 0.5817 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.5778 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.5765 - accuracy:
0.8721
308/750 [=======>..... - ETA: 0s - loss: 0.5790 - accuracy:
0.8726
384/750 [========>.....] - ETA: 0s - loss: 0.5800 - accuracy:
```

```
0.8727
459/750 [==========>.....] - ETA: 0s - loss: 0.5792 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5786 - accuracy:
0.8736
690/750 [============>...] - ETA: 0s - loss: 0.5772 - accuracy:
750/750 [================ ] - 1s 801us/step - loss: 0.5783 - accuracy:
0.8733 - val_loss: 0.5959 - val_accuracy: 0.8662
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.6458 - accuracy:
0.8281
75/750 [==>.....] - ETA: 0s - loss: 0.5553 - accuracy:
0.8767
151/750 [=====>.....] - ETA: 0s - loss: 0.5682 - accuracy:
0.8731
230/750 [======>.....] - ETA: 0s - loss: 0.5647 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.5642 - accuracy:
0.8764
378/750 [=========>.....] - ETA: 0s - loss: 0.5675 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.5682 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.5691 - accuracy:
0.8743
599/750 [===========>.....] - ETA: 0s - loss: 0.5692 - accuracy:
750/750 [=============== ] - 1s 814us/step - loss: 0.5710 - accuracy:
0.8736 - val loss: 0.5936 - val accuracy: 0.8667
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 0.5517 - accuracy:
0.8906
76/750 [==>....... - accuracy:
0.8818
152/750 [====>.....] - ETA: 0s - loss: 0.5557 - accuracy:
0.8803
230/750 [======>.....] - ETA: 0s - loss: 0.5533 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.5553 - accuracy:
383/750 [========>..... - ETA: 0s - loss: 0.5584 - accuracy:
0.8776
458/750 [==========>.....] - ETA: 0s - loss: 0.5586 - accuracy:
```

```
0.8768
539/750 [==========>.....] - ETA: 0s - loss: 0.5635 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.5637 - accuracy:
0.8756
0.8756
0.8756 - val loss: 0.5772 - val accuracy: 0.8712
Epoch 20/220
1/750 [...... - ETA: 0s - loss: 0.4168 - accuracy:
81/750 [==>.....] - ETA: 0s - loss: 0.5580 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.5521 - accuracy:
0.8786
232/750 [======>.....] - ETA: 0s - loss: 0.5568 - accuracy:
0.8769
309/750 [=======>.....] - ETA: 0s - loss: 0.5594 - accuracy:
386/750 [=======>.....] - ETA: 0s - loss: 0.5588 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.5588 - accuracy:
0.8756
539/750 [==========>.....] - ETA: 0s - loss: 0.5589 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.5585 - accuracy:
0.8761
0.8763 - val loss: 0.5998 - val accuracy: 0.8596
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 0.6530 - accuracy:
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.5583 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.5577 - accuracy:
0.8758
228/750 [======>.....] - ETA: 0s - loss: 0.5497 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.5487 - accuracy:
0.8789
381/750 [========>>.....] - ETA: 0s - loss: 0.5476 - accuracy:
457/750 [=========>...... - ETA: 0s - loss: 0.5494 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.5499 - accuracy:
```

```
0.8781
0.8767
750/750 [================ ] - 1s 806us/step - loss: 0.5512 - accuracy:
0.8767 - val loss: 0.5721 - val accuracy: 0.8695
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.5749 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.5404 - accuracy:
0.8797
157/750 [=====>.....] - ETA: 0s - loss: 0.5500 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.5491 - accuracy:
0.8782
311/750 [=======>.....] - ETA: 0s - loss: 0.5456 - accuracy:
0.8779
386/750 [========>.....] - ETA: 0s - loss: 0.5477 - accuracy:
0.8774
462/750 [=========>.....] - ETA: 0s - loss: 0.5466 - accuracy:
0.8770
542/750 [==========>.....] - ETA: 0s - loss: 0.5457 - accuracy:
0.8777 - val loss: 0.5873 - val accuracy: 0.8631
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.7026 - accuracy:
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.5507 - accuracy:
0.8774
155/750 [====>.....] - ETA: 0s - loss: 0.5408 - accuracy:
0.8839
232/750 [======>.....] - ETA: 0s - loss: 0.5364 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.5392 - accuracy:
0.8827
387/750 [========>.....] - ETA: 0s - loss: 0.5434 - accuracy:
465/750 [=========>.....] - ETA: 0s - loss: 0.5422 - accuracy:
0.8801
541/750 [=========>.....] - ETA: 0s - loss: 0.5417 - accuracy:
```

```
0.8801 - val_loss: 0.5639 - val_accuracy: 0.8721
Epoch 24/220
1/750 [.....] - ETA: 0s - loss: 0.4790 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5257 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.5242 - accuracy:
0.8890
230/750 [======>.....] - ETA: 0s - loss: 0.5291 - accuracy:
0.8846
307/750 [========>.....] - ETA: 0s - loss: 0.5340 - accuracy:
0.8831
383/750 [========>.....] - ETA: 0s - loss: 0.5364 - accuracy:
0.8809
459/750 [==========>.....] - ETA: 0s - loss: 0.5354 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.5348 - accuracy:
0.8815
688/750 [============>...] - ETA: 0s - loss: 0.5345 - accuracy:
0.8817
750/750 [============= ] - 1s 804us/step - loss: 0.5343 - accuracy:
0.8817 - val_loss: 0.5649 - val_accuracy: 0.8694
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.5882 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.5180 - accuracy:
0.8874
153/750 [====>.....] - ETA: 0s - loss: 0.5293 - accuracy:
0.8836
229/750 [======>.....] - ETA: 0s - loss: 0.5322 - accuracy:
0.8814
307/750 [=======>.....] - ETA: 0s - loss: 0.5325 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.5317 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8796
539/750 [=========>.....] - ETA: 0s - loss: 0.5301 - accuracy:
0.8811
617/750 [===========>.....] - ETA: 0s - loss: 0.5294 - accuracy:
```

```
0.8816
0.8815 - val_loss: 0.5534 - val_accuracy: 0.8731
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.5452 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5128 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.5262 - accuracy:
0.8826
231/750 [======>..... - ETA: 0s - loss: 0.5219 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.5231 - accuracy:
0.8839
385/750 [=========>.....] - ETA: 0s - loss: 0.5264 - accuracy:
0.8825
460/750 [=========>...... - ETA: 0s - loss: 0.5281 - accuracy:
0.8819
537/750 [==========>.....] - ETA: 0s - loss: 0.5266 - accuracy:
0.8816
616/750 [===========>.....] - ETA: 0s - loss: 0.5254 - accuracy:
0.8819
750/750 [============= ] - 1s 806us/step - loss: 0.5239 - accuracy:
0.8826 - val_loss: 0.5769 - val_accuracy: 0.8635
Epoch 27/220
 1/750 [...... o.6112 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5292 - accuracy:
0.8862
154/750 [====>.....] - ETA: 0s - loss: 0.5169 - accuracy:
0.8867
232/750 [======>..... - ETA: 0s - loss: 0.5213 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.5228 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.5232 - accuracy:
0.8824
460/750 [=========>.....] - ETA: 0s - loss: 0.5224 - accuracy:
0.8824
539/750 [=========>.....] - ETA: 0s - loss: 0.5200 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.5182 - accuracy:
0.8839
693/750 [============>...] - ETA: 0s - loss: 0.5186 - accuracy:
750/750 [============= ] - 1s 798us/step - loss: 0.5190 - accuracy:
```

```
0.8832 - val_loss: 0.5570 - val_accuracy: 0.8708 Epoch 28/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4692 - accuracy:
0.8594
80/750 [==>.....] - ETA: 0s - loss: 0.5040 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.5054 - accuracy:
0.8834
233/750 [======>.....] - ETA: 0s - loss: 0.5078 - accuracy:
310/750 [=======>..... - ETA: 0s - loss: 0.5149 - accuracy:
0.8839
387/750 [=======>>.....] - ETA: 0s - loss: 0.5139 - accuracy:
0.8843
463/750 [=========>.....] - ETA: 0s - loss: 0.5121 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.5141 - accuracy:
0.8844
693/750 [============>...] - ETA: 0s - loss: 0.5107 - accuracy:
0.8856
750/750 [================ ] - 1s 798us/step - loss: 0.5136 - accuracy:
0.8845 - val loss: 0.5775 - val accuracy: 0.8561
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.4818 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4895 - accuracy:
0.8941
154/750 [====>.....] - ETA: 0s - loss: 0.5016 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.5034 - accuracy:
308/750 [=======>..... - ETA: 0s - loss: 0.5077 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.5076 - accuracy:
0.8873
460/750 [==========>.....] - ETA: 0s - loss: 0.5087 - accuracy:
0.8861
537/750 [==========>.....] - ETA: 0s - loss: 0.5094 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.5099 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 0.5093 - accuracy:
0.8851 - val_loss: 0.5465 - val_accuracy: 0.8737
Epoch 30/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4892 - accuracy:
0.8906
79/750 [==>....... - accuracy:
157/750 [====>.....] - ETA: 0s - loss: 0.5138 - accuracy:
0.8838
232/750 [======>.....] - ETA: 0s - loss: 0.5094 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.5124 - accuracy:
0.8844
388/750 [========>..... - ETA: 0s - loss: 0.5100 - accuracy:
467/750 [==========>.....] - ETA: 0s - loss: 0.5105 - accuracy:
0.8845
543/750 [==========>.....] - ETA: 0s - loss: 0.5096 - accuracy:
0.8844
620/750 [============>.....] - ETA: 0s - loss: 0.5078 - accuracy:
0.8863
0.8860 - val loss: 0.5607 - val accuracy: 0.8682
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.4721 - accuracy:
0.9219
75/750 [==>.....] - ETA: 0s - loss: 0.5103 - accuracy:
0.8844
151/750 [=====>.....] - ETA: 0s - loss: 0.4966 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.4936 - accuracy:
0.8912
307/750 [=======>.....] - ETA: 0s - loss: 0.4921 - accuracy:
0.8909
369/750 [=======>.....] - ETA: 0s - loss: 0.4923 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.4953 - accuracy:
0.8898
523/750 [=========>.....] - ETA: 0s - loss: 0.4967 - accuracy:
0.8894
0.8874
0.8869 - val_loss: 0.5399 - val_accuracy: 0.8763
Epoch 32/220
1/750 [.....] - ETA: 0s - loss: 0.4603 - accuracy:
```

```
78/750 [==>.....] - ETA: 0s - loss: 0.5061 - accuracy:
0.8878
154/750 [=====>.....] - ETA: 0s - loss: 0.4891 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4946 - accuracy:
0.8894
307/750 [=======>.....] - ETA: 0s - loss: 0.4953 - accuracy:
0.8891
384/750 [========>.....] - ETA: 0s - loss: 0.4973 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.4962 - accuracy:
0.8884
537/750 [==========>.....] - ETA: 0s - loss: 0.4954 - accuracy:
0.8891
0.8890
690/750 [============>...] - ETA: 0s - loss: 0.4972 - accuracy:
0.8886 - val_loss: 0.5292 - val_accuracy: 0.8786
Epoch 33/220
1/750 [...... - ETA: 0s - loss: 0.4081 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.4993 - accuracy:
0.8851
155/750 [====>.....] - ETA: 0s - loss: 0.4996 - accuracy:
0.8859
232/750 [======>.....] - ETA: 0s - loss: 0.4929 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.4916 - accuracy:
0.8887
383/750 [========>.....] - ETA: 0s - loss: 0.4933 - accuracy:
0.8876
453/750 [=========>.....] - ETA: 0s - loss: 0.4923 - accuracy:
0.8877
531/750 [==========>.....] - ETA: 0s - loss: 0.4925 - accuracy:
0.8881
607/750 [===========>.....] - ETA: 0s - loss: 0.4928 - accuracy:
0.8886
0.8887
750/750 [============= ] - 1s 809us/step - loss: 0.4920 - accuracy:
0.8894 - val loss: 0.5384 - val accuracy: 0.8716
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.4134 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.4965 - accuracy:
```

```
0.8805
153/750 [=====>.....] - ETA: 0s - loss: 0.4933 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4954 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.4949 - accuracy:
386/750 [========>>.....] - ETA: 0s - loss: 0.4969 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.4970 - accuracy:
0.8864
540/750 [=========>.....] - ETA: 0s - loss: 0.4921 - accuracy:
0.8885
0.8893 - val loss: 0.5247 - val accuracy: 0.8782
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.4637 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.4886 - accuracy:
157/750 [====>.....] - ETA: 0s - loss: 0.4919 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.4864 - accuracy:
0.8895
311/750 [========>.....] - ETA: 0s - loss: 0.4841 - accuracy:
0.8919
389/750 [========>.....] - ETA: 0s - loss: 0.4824 - accuracy:
0.8916
467/750 [==========>.....] - ETA: 0s - loss: 0.4811 - accuracy:
0.8917
544/750 [==========>.....] - ETA: 0s - loss: 0.4821 - accuracy:
0.8907
696/750 [============>...] - ETA: 0s - loss: 0.4853 - accuracy:
0.8903 - val loss: 0.5243 - val accuracy: 0.8771
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.4359 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.4654 - accuracy:
0.8946
153/750 [====>.....] - ETA: 0s - loss: 0.4816 - accuracy:
```

```
0.8913
230/750 [======>.....] - ETA: 0s - loss: 0.4827 - accuracy:
310/750 [========>.....] - ETA: 0s - loss: 0.4821 - accuracy:
0.8901
386/750 [=======>.....] - ETA: 0s - loss: 0.4841 - accuracy:
0.8896
463/750 [=========>.....] - ETA: 0s - loss: 0.4837 - accuracy:
0.8891
542/750 [==========>.....] - ETA: 0s - loss: 0.4814 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.4826 - accuracy:
0.8893
0.8903
750/750 [============= ] - 1s 797us/step - loss: 0.4812 - accuracy:
0.8902 - val_loss: 0.5537 - val_accuracy: 0.8613
Epoch 37/220
1/750 [...... 0.5506 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.4839 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.4765 - accuracy:
0.8940
231/750 [======>.....] - ETA: 0s - loss: 0.4770 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.4771 - accuracy:
0.8929
385/750 [=========>.....] - ETA: 0s - loss: 0.4749 - accuracy:
0.8934
464/750 [==========>.....] - ETA: 0s - loss: 0.4767 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.4763 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.4762 - accuracy:
0.8928
0.8923 - val_loss: 0.5178 - val_accuracy: 0.8777
Epoch 38/220
1/750 [...... 0.5094 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4642 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.4798 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.4733 - accuracy:
```

```
0.8932
309/750 [========>.....] - ETA: 0s - loss: 0.4754 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.4719 - accuracy:
0.8943
462/750 [=========>.....] - ETA: 0s - loss: 0.4728 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.4750 - accuracy:
689/750 [===========>...] - ETA: 0s - loss: 0.4754 - accuracy:
0.8925
750/750 [============= ] - 1s 805us/step - loss: 0.4741 - accuracy:
0.8931 - val_loss: 0.5134 - val_accuracy: 0.8794
Epoch 39/220
1/750 [...... - ETA: 0s - loss: 0.4786 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4614 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.4683 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4741 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.4733 - accuracy:
386/750 [=======>>.....] - ETA: 0s - loss: 0.4724 - accuracy:
465/750 [==========>.....] - ETA: 0s - loss: 0.4732 - accuracy:
0.8916
541/750 [==========>.....] - ETA: 0s - loss: 0.4749 - accuracy:
0.8913
0.8913
0.8923
0.8929 - val_loss: 0.5097 - val_accuracy: 0.8792
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.6166 - accuracy:
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.4612 - accuracy:
157/750 [=====>.....] - ETA: 0s - loss: 0.4678 - accuracy:
0.8950
236/750 [======>...... - ETA: 0s - loss: 0.4679 - accuracy:
0.8943
310/750 [=======>.....] - ETA: 0s - loss: 0.4703 - accuracy:
```

```
0.8933
388/750 [=========>:....] - ETA: 0s - loss: 0.4662 - accuracy:
0.8945
467/750 [==========>.....] - ETA: 0s - loss: 0.4652 - accuracy:
0.8948
543/750 [==========>.....] - ETA: 0s - loss: 0.4658 - accuracy:
621/750 [============>.....] - ETA: 0s - loss: 0.4653 - accuracy:
750/750 [============= ] - 1s 797us/step - loss: 0.4669 - accuracy:
0.8942 - val_loss: 0.5222 - val_accuracy: 0.8771
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.4922 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.4589 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.4641 - accuracy:
0.8983
231/750 [======>.....] - ETA: 0s - loss: 0.4571 - accuracy:
0.8991
307/750 [=======>.....] - ETA: 0s - loss: 0.4623 - accuracy:
387/750 [========>.....] - ETA: 0s - loss: 0.4610 - accuracy:
0.8974
463/750 [=========>.....] - ETA: 0s - loss: 0.4651 - accuracy:
0.8954
539/750 [=========>.....] - ETA: 0s - loss: 0.4649 - accuracy:
0.8959
0.8951
0.8949 - val loss: 0.5207 - val accuracy: 0.8767
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.5228 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.4626 - accuracy:
0.8924
154/750 [=====>......] - ETA: 0s - loss: 0.4606 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.4607 - accuracy:
0.8948
311/750 [=======>..... - ETA: 0s - loss: 0.4649 - accuracy:
0.8944
385/750 [========>.....] - ETA: 0s - loss: 0.4623 - accuracy:
```

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463/750 [==========>.....] - ETA: 0s - loss: 0.4632 - accuracy:
0.8947
542/750 [==========>.....] - ETA: 0s - loss: 0.4649 - accuracy:
0.8938
693/750 [============>...] - ETA: 0s - loss: 0.4620 - accuracy:
0.8949 - val_loss: 0.5117 - val_accuracy: 0.8764
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.4395 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4486 - accuracy:
0.9028
150/750 [=====>.....] - ETA: 0s - loss: 0.4514 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.4522 - accuracy:
297/750 [======>..... - ETA: 0s - loss: 0.4536 - accuracy:
0.8977
373/750 [=======>.....] - ETA: 0s - loss: 0.4618 - accuracy:
0.8941
452/750 [==========>.....] - ETA: 0s - loss: 0.4596 - accuracy:
0.8956
530/750 [==========>.....] - ETA: 0s - loss: 0.4595 - accuracy:
0.8959
606/750 [===========>.....] - ETA: 0s - loss: 0.4588 - accuracy:
750/750 [=============== ] - 1s 809us/step - loss: 0.4581 - accuracy:
0.8965 - val loss: 0.5038 - val accuracy: 0.8820
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.5205 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4537 - accuracy:
157/750 [====>.....] - ETA: 0s - loss: 0.4498 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.4497 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.4584 - accuracy:
385/750 [=======>>.....] - ETA: 0s - loss: 0.4589 - accuracy:
0.8963
457/750 [=========>.....] - ETA: 0s - loss: 0.4572 - accuracy:
```

```
0.8962
531/750 [==========>.....] - ETA: 0s - loss: 0.4574 - accuracy:
607/750 [============>.....] - ETA: 0s - loss: 0.4563 - accuracy:
0.8968
0.8971 - val loss: 0.5247 - val accuracy: 0.8737
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.5663 - accuracy:
0.8281
76/750 [==>.....] - ETA: 0s - loss: 0.4623 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.4535 - accuracy:
0.8982
232/750 [======>...... - ETA: 0s - loss: 0.4470 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.4460 - accuracy:
381/750 [=======>>.....] - ETA: 0s - loss: 0.4468 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.4516 - accuracy:
0.8978
521/750 [===========>.....] - ETA: 0s - loss: 0.4532 - accuracy:
596/750 [==============>.....] - ETA: 0s - loss: 0.4513 - accuracy:
0.8983
673/750 [=============>....] - ETA: 0s - loss: 0.4522 - accuracy:
0.8976
750/750 [================ ] - 1s 817us/step - loss: 0.4525 - accuracy:
0.8972 - val loss: 0.4980 - val accuracy: 0.8811
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.3959 - accuracy:
0.9219
77/750 [==>.....] - ETA: 0s - loss: 0.4357 - accuracy:
0.9036
153/750 [====>.....] - ETA: 0s - loss: 0.4420 - accuracy:
0.9009
231/750 [======>.....] - ETA: 0s - loss: 0.4492 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.4468 - accuracy:
0.8988
378/750 [========>..... - ETA: 0s - loss: 0.4478 - accuracy:
0.8983
451/750 [==========>.....] - ETA: 0s - loss: 0.4472 - accuracy:
```

```
0.8993
528/750 [=========>:....] - ETA: 0s - loss: 0.4496 - accuracy:
0.8981
604/750 [============>.....] - ETA: 0s - loss: 0.4499 - accuracy:
0.8981
0.8982
750/750 [================ ] - 1s 808us/step - loss: 0.4489 - accuracy:
0.8984 - val loss: 0.4993 - val accuracy: 0.8786
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.6884 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4313 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.4388 - accuracy:
0.9006
235/750 [======>.....] - ETA: 0s - loss: 0.4486 - accuracy:
312/750 [=======>.....] - ETA: 0s - loss: 0.4437 - accuracy:
389/750 [========>.....] - ETA: 0s - loss: 0.4448 - accuracy:
0.8997
466/750 [==========>.....] - ETA: 0s - loss: 0.4422 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.4474 - accuracy:
697/750 [============>...] - ETA: 0s - loss: 0.4474 - accuracy:
750/750 [=============== ] - 1s 796us/step - loss: 0.4471 - accuracy:
0.8988 - val loss: 0.5141 - val accuracy: 0.8766
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.4161 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4495 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.4558 - accuracy:
0.8977
229/750 [======>.....] - ETA: 0s - loss: 0.4431 - accuracy:
0.9003
303/750 [========>.....] - ETA: 0s - loss: 0.4445 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.4443 - accuracy:
0.9008
448/750 [=========>..... - ETA: 0s - loss: 0.4452 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.4451 - accuracy:
```

```
598/750 [============>.....] - ETA: 0s - loss: 0.4445 - accuracy:
0.8997
750/750 [=============== ] - 1s 818us/step - loss: 0.4441 - accuracy:
0.8995 - val loss: 0.4930 - val accuracy: 0.8834
Epoch 49/220
1/750 [...... - ETA: 0s - loss: 0.4389 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.4284 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.4340 - accuracy:
0.9026
223/750 [======>...... - ETA: 0s - loss: 0.4413 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.4395 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.4421 - accuracy:
0.8998
448/750 [=========>.....] - ETA: 0s - loss: 0.4418 - accuracy:
0.8998
522/750 [===========>.....] - ETA: 0s - loss: 0.4392 - accuracy:
677/750 [============>...] - ETA: 0s - loss: 0.4408 - accuracy:
0.8997 - val loss: 0.4900 - val accuracy: 0.8819
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.4429 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.4430 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.4420 - accuracy:
216/750 [=====>..... - ETA: 0s - loss: 0.4417 - accuracy:
0.8974
288/750 [=======>.....] - ETA: 0s - loss: 0.4441 - accuracy:
365/750 [========>.....] - ETA: 0s - loss: 0.4435 - accuracy:
0.8983
440/750 [=========>..... - ETA: 0s - loss: 0.4459 - accuracy:
0.8979
518/750 [===========>.....] - ETA: 0s - loss: 0.4445 - accuracy:
```

```
0.8981
596/750 [============>.....] - ETA: 0s - loss: 0.4436 - accuracy:
673/750 [=============>....] - ETA: 0s - loss: 0.4419 - accuracy:
0.8988
0.8997
750/750 [=============== ] - 1s 821us/step - loss: 0.4406 - accuracy:
0.8997 - val loss: 0.4919 - val accuracy: 0.8841
Epoch 51/220
1/750 [...... - ETA: 0s - loss: 0.4648 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4389 - accuracy:
0.9006
156/750 [=====>.....] - ETA: 0s - loss: 0.4308 - accuracy:
0.9034
232/750 [======>..... - ETA: 0s - loss: 0.4311 - accuracy:
0.9034
309/750 [=======>.....] - ETA: 0s - loss: 0.4325 - accuracy:
386/750 [========>>.....] - ETA: 0s - loss: 0.4318 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.4344 - accuracy:
0.9028
540/750 [==========>.....] - ETA: 0s - loss: 0.4353 - accuracy:
615/750 [=============>.....] - ETA: 0s - loss: 0.4354 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.4360 - accuracy:
0.9012 - val loss: 0.4861 - val accuracy: 0.8836
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.4631 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.4232 - accuracy:
0.9008
157/750 [=====>.....] - ETA: 0s - loss: 0.4296 - accuracy:
0.9018
235/750 [======>.....] - ETA: 0s - loss: 0.4344 - accuracy:
311/750 [========>.....] - ETA: 0s - loss: 0.4333 - accuracy:
387/750 [========>>.....] - ETA: 0s - loss: 0.4330 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.4354 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.4362 - accuracy:
```

```
0.9004
0.9014
750/750 [================ ] - 1s 804us/step - loss: 0.4352 - accuracy:
0.9010 - val loss: 0.4937 - val accuracy: 0.8800
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.4109 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.4338 - accuracy:
0.9044
155/750 [=====>.....] - ETA: 0s - loss: 0.4324 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4345 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.4336 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.4313 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.4308 - accuracy:
0.9041
536/750 [==========>.....] - ETA: 0s - loss: 0.4311 - accuracy:
750/750 [============ ] - 1s 806us/step - loss: 0.4327 - accuracy:
0.9021 - val loss: 0.4881 - val accuracy: 0.8825
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9219
77/750 [==>.....] - ETA: 0s - loss: 0.4437 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.4264 - accuracy:
0.9029
230/750 [======>.....] - ETA: 0s - loss: 0.4264 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.4267 - accuracy:
384/750 [========>>.....] - ETA: 0s - loss: 0.4261 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.4258 - accuracy:
0.9043
536/750 [=========>.....] - ETA: 0s - loss: 0.4256 - accuracy:
```

```
0.9033
0.9023 - val loss: 0.4928 - val accuracy: 0.8829
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.3509 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4232 - accuracy:
158/750 [====>...... - ETA: 0s - loss: 0.4203 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.4191 - accuracy:
0.9079
309/750 [========>.....] - ETA: 0s - loss: 0.4195 - accuracy:
0.9073
386/750 [=========>.....] - ETA: 0s - loss: 0.4214 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.4235 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.4234 - accuracy:
0.9051
694/750 [============>...] - ETA: 0s - loss: 0.4277 - accuracy:
750/750 [============= ] - 1s 797us/step - loss: 0.4276 - accuracy:
0.9028 - val_loss: 0.5109 - val_accuracy: 0.8744
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.5038 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.4282 - accuracy:
0.9051
156/750 [====>.....] - ETA: 0s - loss: 0.4221 - accuracy:
234/750 [======>.....] - ETA: 0s - loss: 0.4233 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.4232 - accuracy:
389/750 [========>.....] - ETA: 0s - loss: 0.4235 - accuracy:
466/750 [=========>.....] - ETA: 0s - loss: 0.4268 - accuracy:
544/750 [=========>.....] - ETA: 0s - loss: 0.4261 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.4266 - accuracy:
699/750 [===========>...] - ETA: 0s - loss: 0.4253 - accuracy:
```

```
0.9046
750/750 [=============== ] - 1s 794us/step - loss: 0.4261 - accuracy:
0.9040 - val_loss: 0.4827 - val_accuracy: 0.8838
Epoch 57/220
1/750 [.....] - ETA: 0s - loss: 0.3580 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4258 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.4294 - accuracy:
232/750 [======>..... - ETA: 0s - loss: 0.4230 - accuracy:
0.9041
308/750 [========>.....] - ETA: 0s - loss: 0.4232 - accuracy:
0.9037
384/750 [=========>.....] - ETA: 0s - loss: 0.4242 - accuracy:
0.9039
462/750 [=========>.....] - ETA: 0s - loss: 0.4258 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.4227 - accuracy:
0.9036
0.9043
750/750 [============== ] - 1s 800us/step - loss: 0.4245 - accuracy:
0.9037 - val_loss: 0.4751 - val_accuracy: 0.8857
Epoch 58/220
 1/750 [...... 0.3496 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.4157 - accuracy:
0.9038
155/750 [=====>.....] - ETA: 0s - loss: 0.4188 - accuracy:
0.9053
231/750 [======>.....] - ETA: 0s - loss: 0.4179 - accuracy:
0.9073
309/750 [=======>.....] - ETA: 0s - loss: 0.4172 - accuracy:
0.9074
385/750 [========>.....] - ETA: 0s - loss: 0.4203 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.4221 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.4232 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.4246 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.4238 - accuracy:
750/750 [============= ] - 1s 800us/step - loss: 0.4226 - accuracy:
```

```
0.9046 - val_loss: 0.4766 - val_accuracy: 0.8850 Epoch 59/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3888 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.4032 - accuracy:
0.9119
154/750 [====>.....] - ETA: 0s - loss: 0.4194 - accuracy:
0.9051
230/750 [======>.....] - ETA: 0s - loss: 0.4203 - accuracy:
0.9051
307/750 [=======>..... - ETA: 0s - loss: 0.4193 - accuracy:
385/750 [=======>>.....] - ETA: 0s - loss: 0.4183 - accuracy:
0.9058
463/750 [=========>.....] - ETA: 0s - loss: 0.4195 - accuracy:
0.9051
538/750 [==========>.....] - ETA: 0s - loss: 0.4192 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.4198 - accuracy:
0.9051
750/750 [=============== ] - 1s 800us/step - loss: 0.4196 - accuracy:
0.9053 - val loss: 0.4949 - val accuracy: 0.8789
Epoch 60/220
 1/750 [........................] - ETA: 0s - loss: 0.4051 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4239 - accuracy:
0.9004
153/750 [=====>.....] - ETA: 0s - loss: 0.4134 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.4169 - accuracy:
0.9056
306/750 [=======>..... - ETA: 0s - loss: 0.4166 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.4185 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.4181 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.4202 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.4196 - accuracy:
750/750 [============= ] - 1s 797us/step - loss: 0.4183 - accuracy:
0.9054 - val loss: 0.4752 - val accuracy: 0.8869
Epoch 61/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3437 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4060 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.4080 - accuracy:
216/750 [=====>.....] - ETA: 0s - loss: 0.4118 - accuracy:
0.9076
292/750 [=======>..... - ETA: 0s - loss: 0.4132 - accuracy:
368/750 [========>...... - ETA: 0s - loss: 0.4121 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.4141 - accuracy:
0.9075
523/750 [==========>.....] - ETA: 0s - loss: 0.4172 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.4186 - accuracy:
0.9065 - val loss: 0.4743 - val accuracy: 0.8864
Epoch 62/220
1/750 [.....] - ETA: 0s - loss: 0.3210 - accuracy:
0.9375
77/750 [==>.....] - ETA: 0s - loss: 0.4155 - accuracy:
0.9071
155/750 [=====>.....] - ETA: 0s - loss: 0.4163 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4205 - accuracy:
0.9053
308/750 [=======>.....] - ETA: 0s - loss: 0.4155 - accuracy:
0.9064
385/750 [=======>>.....] - ETA: 0s - loss: 0.4120 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.4126 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.4150 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.4162 - accuracy:
0.9050 - val_loss: 0.4951 - val_accuracy: 0.8797
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.5685 - accuracy:
```

```
0.8438
79/750 [==>.....] - ETA: 0s - loss: 0.4180 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.4143 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.4098 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.4122 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.4102 - accuracy:
463/750 [=========>...... - ETA: 0s - loss: 0.4106 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.4121 - accuracy:
0.9076
0.9064
692/750 [=============>...] - ETA: 0s - loss: 0.4142 - accuracy:
750/750 [================ ] - 1s 801us/step - loss: 0.4133 - accuracy:
0.9066 - val_loss: 0.5251 - val_accuracy: 0.8698
Epoch 64/220
1/750 [...... - ETA: 0s - loss: 0.4110 - accuracy:
0.8996
78/750 [==>.....] - ETA: 0s - loss: 0.4328 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.4194 - accuracy:
0.9041
234/750 [======>.....] - ETA: 0s - loss: 0.4117 - accuracy:
0.9081
311/750 [=======>.....] - ETA: 0s - loss: 0.4138 - accuracy:
389/750 [========>.....] - ETA: 0s - loss: 0.4121 - accuracy:
466/750 [=========>...... - ETA: 0s - loss: 0.4119 - accuracy:
0.9068
544/750 [==========>.....] - ETA: 0s - loss: 0.4117 - accuracy:
622/750 [============>.....] - ETA: 0s - loss: 0.4131 - accuracy:
0.9070
750/750 [================ ] - 1s 800us/step - loss: 0.4119 - accuracy:
0.9073 - val loss: 0.4689 - val accuracy: 0.8851
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.3079 - accuracy:
0.9375
79/750 [==>.....] - ETA: 0s - loss: 0.4131 - accuracy:
```

```
154/750 [====>...... - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4176 - accuracy:
309/750 [=======>..... - ETA: 0s - loss: 0.4149 - accuracy:
384/750 [=======>>.....] - ETA: 0s - loss: 0.4126 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.4144 - accuracy:
0.9064
537/750 [=========>.....] - ETA: 0s - loss: 0.4144 - accuracy:
0.9067
0.9071
750/750 [============= ] - 1s 804us/step - loss: 0.4103 - accuracy:
0.9071 - val loss: 0.4969 - val accuracy: 0.8758
Epoch 66/220
1/750 [.....] - ETA: 0s - loss: 0.3722 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3995 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.4001 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3998 - accuracy:
0.9109
307/750 [========>.....] - ETA: 0s - loss: 0.4032 - accuracy:
381/750 [========>.....] - ETA: 0s - loss: 0.4037 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.4063 - accuracy:
0.9091
537/750 [==========>.....] - ETA: 0s - loss: 0.4044 - accuracy:
0.9091
693/750 [============>...] - ETA: 0s - loss: 0.4076 - accuracy:
0.9082 - val loss: 0.4673 - val accuracy: 0.8882
Epoch 67/220
1/750 [.....] - ETA: 0s - loss: 0.5517 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.4003 - accuracy:
0.9085
153/750 [====>.....] - ETA: 0s - loss: 0.4056 - accuracy:
```

```
0.9096
231/750 [======>.....] - ETA: 0s - loss: 0.4078 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.4059 - accuracy:
0.9077
385/750 [=======>.....] - ETA: 0s - loss: 0.4070 - accuracy:
0.9081
460/750 [=========>.....] - ETA: 0s - loss: 0.4075 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.4073 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.4075 - accuracy:
0.9077
0.9077
750/750 [============= ] - 1s 802us/step - loss: 0.4075 - accuracy:
0.9076 - val_loss: 0.4677 - val_accuracy: 0.8880
Epoch 68/220
1/750 [.....] - ETA: 0s - loss: 0.3852 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3973 - accuracy:
0.9146
157/750 [====>...... - ETA: 0s - loss: 0.4061 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.4045 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.4027 - accuracy:
0.9101
387/750 [=========>.....] - ETA: 0s - loss: 0.4023 - accuracy:
0.9098
464/750 [==========>.....] - ETA: 0s - loss: 0.4055 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.4070 - accuracy:
0.9083
617/750 [============>.....] - ETA: 0s - loss: 0.4068 - accuracy:
0.9084
0.9084 - val_loss: 0.4882 - val_accuracy: 0.8791
Epoch 69/220
1/750 [...... 0.4215 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3968 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.4010 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4045 - accuracy:
```

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0.9085
308/750 [========>.....] - ETA: 0s - loss: 0.4070 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.4079 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.4070 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.4040 - accuracy:
615/750 [=============>.....] - ETA: 0s - loss: 0.4036 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.4025 - accuracy:
750/750 [============= ] - 1s 801us/step - loss: 0.4040 - accuracy:
0.9093 - val_loss: 0.4902 - val_accuracy: 0.8776
Epoch 70/220
1/750 [...... - ETA: 0s - loss: 0.4479 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3873 - accuracy:
0.9123
152/750 [====>.....] - ETA: 0s - loss: 0.3960 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.3984 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3960 - accuracy:
385/750 [========>>.....] - ETA: 0s - loss: 0.4022 - accuracy:
0.9107
461/750 [==========>.....] - ETA: 0s - loss: 0.4020 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.4017 - accuracy:
0.9106
0.9103 - val_loss: 0.4668 - val_accuracy: 0.8887
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.4045 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3962 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.4058 - accuracy:
0.9106
230/750 [======>.....] - ETA: 0s - loss: 0.4017 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.4040 - accuracy:
```

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386/750 [==========>.....] - ETA: 0s - loss: 0.4017 - accuracy:
0.9094
463/750 [==========>.....] - ETA: 0s - loss: 0.4011 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.4010 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.3992 - accuracy:
750/750 [============= ] - 1s 798us/step - loss: 0.4006 - accuracy:
0.9110 - val loss: 0.4740 - val accuracy: 0.8837
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.3595 - accuracy:
0.9219
78/750 [==>.....] - ETA: 0s - loss: 0.4040 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.4018 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.4060 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3971 - accuracy:
0.9108
385/750 [========>.....] - ETA: 0s - loss: 0.3980 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.3996 - accuracy:
0.9093
538/750 [==========>.....] - ETA: 0s - loss: 0.4003 - accuracy:
0.9094
0.9099
0.9095 - val loss: 0.4808 - val accuracy: 0.8811
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.3554 - accuracy:
0.9219
76/750 [==>.....] - ETA: 0s - loss: 0.3991 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3967 - accuracy:
300/750 [=======>..... - ETA: 0s - loss: 0.3951 - accuracy:
0.9127
374/750 [========>.....] - ETA: 0s - loss: 0.3985 - accuracy:
```

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0.9107
449/750 [=========>.....] - ETA: 0s - loss: 0.3970 - accuracy:
523/750 [==========>.....] - ETA: 0s - loss: 0.3979 - accuracy:
0.9106
598/750 [============>.....] - ETA: 0s - loss: 0.4008 - accuracy:
750/750 [============= ] - 1s 829us/step - loss: 0.3985 - accuracy:
0.9112 - val loss: 0.4633 - val accuracy: 0.8888
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.2560 - accuracy:
0.9688
77/750 [==>.....] - ETA: 0s - loss: 0.3834 - accuracy:
0.9134
149/750 [====>...... - ETA: 0s - loss: 0.3864 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3869 - accuracy:
0.9153
299/750 [=======>..... - ETA: 0s - loss: 0.3928 - accuracy:
0.9138
374/750 [========>.....] - ETA: 0s - loss: 0.3932 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3941 - accuracy:
0.9126
523/750 [==========>.....] - ETA: 0s - loss: 0.3954 - accuracy:
0.9119
597/750 [===========>.....] - ETA: 0s - loss: 0.3969 - accuracy:
0.9111 - val_loss: 0.4708 - val_accuracy: 0.8876
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.3492 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3938 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.3867 - accuracy:
0.9157
223/750 [======>.....] - ETA: 0s - loss: 0.3891 - accuracy:
0.9146
299/750 [======>..... - ETA: 0s - loss: 0.3912 - accuracy:
```

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0.9131
370/750 [=========>.....] - ETA: 0s - loss: 0.3927 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.3908 - accuracy:
0.9136
520/750 [========>:....] - ETA: 0s - loss: 0.3937 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.3936 - accuracy:
740/750 [===============>.] - ETA: 0s - loss: 0.3951 - accuracy:
750/750 [============= ] - 1s 829us/step - loss: 0.3954 - accuracy:
0.9125 - val_loss: 0.4831 - val_accuracy: 0.8773
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.4299 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3989 - accuracy:
0.9071
148/750 [====>...... - ETA: 0s - loss: 0.4011 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.3931 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.3922 - accuracy:
0.9117
372/750 [=======>.....] - ETA: 0s - loss: 0.3938 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3951 - accuracy:
0.9114
521/750 [==========>.....] - ETA: 0s - loss: 0.3936 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.3935 - accuracy:
671/750 [=============>....] - ETA: 0s - loss: 0.3948 - accuracy:
0.9116
750/750 [============= ] - 1s 830us/step - loss: 0.3956 - accuracy:
0.9115 - val_loss: 0.4855 - val_accuracy: 0.8816
Epoch 77/220
 1/750 [...... 0.5612 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4152 - accuracy:
0.9034
151/750 [====>.....] - ETA: 0s - loss: 0.4056 - accuracy:
220/750 [=====>>.....] - ETA: 0s - loss: 0.4002 - accuracy:
```

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0.9075
293/750 [=======>.....] - ETA: 0s - loss: 0.3996 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.3949 - accuracy:
0.9091
440/750 [========>.....] - ETA: 0s - loss: 0.3967 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.3956 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.3947 - accuracy:
663/750 [============>....] - ETA: 0s - loss: 0.3945 - accuracy:
0.9117
750/750 [============= ] - 1s 837us/step - loss: 0.3934 - accuracy:
0.9117 - val loss: 0.4658 - val accuracy: 0.8864
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.3250 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3848 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.3880 - accuracy:
0.9126
224/750 [======>.....] - ETA: 0s - loss: 0.3923 - accuracy:
299/750 [======>.....] - ETA: 0s - loss: 0.3893 - accuracy:
374/750 [=========>.....] - ETA: 0s - loss: 0.3898 - accuracy:
0.9119
449/750 [=========>.....] - ETA: 0s - loss: 0.3923 - accuracy:
0.9119
522/750 [===========>.....] - ETA: 0s - loss: 0.3931 - accuracy:
0.9123
598/750 [===========>.....] - ETA: 0s - loss: 0.3917 - accuracy:
0.9129
670/750 [==============>....] - ETA: 0s - loss: 0.3904 - accuracy:
0.9134
0.9129
0.9130 - val loss: 0.4619 - val accuracy: 0.8853
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.4204 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3852 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3831 - accuracy:
```

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222/750 [======>.....] - ETA: 0s - loss: 0.3850 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3857 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.3867 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.3880 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.3894 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.3907 - accuracy:
673/750 [=============>....] - ETA: 0s - loss: 0.3914 - accuracy:
0.9121
0.9124 - val loss: 0.4780 - val accuracy: 0.8827
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.4085 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3954 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.3958 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3930 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.3901 - accuracy:
0.9148
378/750 [=========>.....] - ETA: 0s - loss: 0.3891 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.3897 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3894 - accuracy:
0.9144
682/750 [============>...] - ETA: 0s - loss: 0.3895 - accuracy:
0.9139 - val loss: 0.4761 - val accuracy: 0.8798
Epoch 81/220
1/750 [.....] - ETA: 1s - loss: 0.3430 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.3773 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.3884 - accuracy:
```

```
0.9127
221/750 [======>.....] - ETA: 0s - loss: 0.3883 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.3844 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.3845 - accuracy:
0.9134
452/750 [=========>.....] - ETA: 0s - loss: 0.3853 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.3875 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3852 - accuracy:
750/750 [============== ] - 1s 810us/step - loss: 0.3882 - accuracy:
0.9127 - val loss: 0.4711 - val accuracy: 0.8847
Epoch 82/220
1/750 [...... os. - loss: 0.2617 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3687 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.3783 - accuracy:
0.9179
229/750 [======>.....] - ETA: 0s - loss: 0.3867 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3824 - accuracy:
0.9168
384/750 [=========>.....] - ETA: 0s - loss: 0.3834 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.3853 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3892 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.3880 - accuracy:
0.9134
0.9135 - val_loss: 0.4947 - val_accuracy: 0.8783
Epoch 83/220
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.3845 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3863 - accuracy:
0.9125
226/750 [======>.....] - ETA: 0s - loss: 0.3836 - accuracy:
```

```
0.9157
303/750 [========>.....] - ETA: 0s - loss: 0.3803 - accuracy:
379/750 [========>.....] - ETA: 0s - loss: 0.3814 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.3819 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.3842 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.3863 - accuracy:
0.9131
750/750 [============= ] - 1s 806us/step - loss: 0.3862 - accuracy:
0.9135 - val_loss: 0.4583 - val_accuracy: 0.8874
Epoch 84/220
1/750 [...... - ETA: 0s - loss: 0.3489 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3952 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.3865 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3845 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3823 - accuracy:
385/750 [=======>>.....] - ETA: 0s - loss: 0.3840 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.3829 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3843 - accuracy:
0.9151
0.9151 - val_loss: 0.4726 - val_accuracy: 0.8876
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.3644 - accuracy:
0.9375
80/750 [==>.....] - ETA: 0s - loss: 0.3764 - accuracy:
0.9217
158/750 [=====>.....] - ETA: 0s - loss: 0.3801 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3774 - accuracy:
0.9183
308/750 [========>.....] - ETA: 0s - loss: 0.3804 - accuracy:
```

```
0.9168
387/750 [==========>.....] - ETA: 0s - loss: 0.3792 - accuracy:
0.9180
463/750 [==========>.....] - ETA: 0s - loss: 0.3790 - accuracy:
0.9178
538/750 [==========>.....] - ETA: 0s - loss: 0.3801 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.3816 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 0.3841 - accuracy:
0.9159 - val loss: 0.4655 - val accuracy: 0.8873
Epoch 86/220
1/750 [.....] - ETA: 0s - loss: 0.4113 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.3944 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.3818 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.3822 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.3816 - accuracy:
0.9148
383/750 [========>.....] - ETA: 0s - loss: 0.3809 - accuracy:
459/750 [=========>.....] - ETA: 0s - loss: 0.3826 - accuracy:
0.9154
536/750 [=========>.....] - ETA: 0s - loss: 0.3820 - accuracy:
0.9154
0.9149 - val loss: 0.4666 - val accuracy: 0.8864
Epoch 87/220
1/750 [...... - ETA: 0s - loss: 0.3431 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.3907 - accuracy:
0.9126
0.9151
228/750 [======>.....] - ETA: 0s - loss: 0.3879 - accuracy:
303/750 [=======>.....] - ETA: 0s - loss: 0.3868 - accuracy:
0.9126
380/750 [==========>.....] - ETA: 0s - loss: 0.3863 - accuracy:
```

```
0.9136
456/750 [==========>.....] - ETA: 0s - loss: 0.3842 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.3850 - accuracy:
0.9139
686/750 [============>...] - ETA: 0s - loss: 0.3847 - accuracy:
0.9142 - val_loss: 0.4667 - val_accuracy: 0.8866
Epoch 88/220
1/750 [.....] - ETA: 0s - loss: 0.3625 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3895 - accuracy:
154/750 [====>...... - accuracy:
231/750 [======>..... - ETA: 0s - loss: 0.3829 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3814 - accuracy:
0.9144
385/750 [========>.....] - ETA: 0s - loss: 0.3797 - accuracy:
0.9149
461/750 [==========>.....] - ETA: 0s - loss: 0.3798 - accuracy:
0.9151
536/750 [==========>.....] - ETA: 0s - loss: 0.3799 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.3808 - accuracy:
750/750 [================ ] - 1s 810us/step - loss: 0.3823 - accuracy:
0.9149 - val loss: 0.4730 - val accuracy: 0.8828
Epoch 89/220
1/750 [.....] - ETA: 0s - loss: 0.3614 - accuracy:
0.9219
78/750 [==>.....] - ETA: 0s - loss: 0.3840 - accuracy:
0.9167
155/750 [====>.....] - ETA: 0s - loss: 0.3830 - accuracy:
233/750 [======>>......] - ETA: 0s - loss: 0.3828 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.3801 - accuracy:
0.9173
387/750 [=======>..... - ETA: 0s - loss: 0.3796 - accuracy:
0.9169
463/750 [==========>.....] - ETA: 0s - loss: 0.3808 - accuracy:
```

```
0.9162
539/750 [==========>.....] - ETA: 0s - loss: 0.3791 - accuracy:
616/750 [============>.....] - ETA: 0s - loss: 0.3795 - accuracy:
750/750 [================ ] - 1s 802us/step - loss: 0.3800 - accuracy:
0.9161 - val loss: 0.4592 - val accuracy: 0.8881
Epoch 90/220
1/750 [...... - ETA: 0s - loss: 0.3328 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3644 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3724 - accuracy:
0.9197
227/750 [======>.....] - ETA: 0s - loss: 0.3782 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3752 - accuracy:
379/750 [=======>.....] - ETA: 0s - loss: 0.3770 - accuracy:
0.9168
454/750 [=========>.....] - ETA: 0s - loss: 0.3787 - accuracy:
0.9161
531/750 [==========>.....] - ETA: 0s - loss: 0.3801 - accuracy:
0.9161
681/750 [============>...] - ETA: 0s - loss: 0.3798 - accuracy:
0.9165 - val loss: 0.4848 - val accuracy: 0.8780
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.4069 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3627 - accuracy:
0.9217
153/750 [=====>.....] - ETA: 0s - loss: 0.3626 - accuracy:
0.9221
230/750 [======>.....] - ETA: 0s - loss: 0.3680 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3695 - accuracy:
385/750 [========>>.....] - ETA: 0s - loss: 0.3716 - accuracy:
0.9199
461/750 [=========>.....] - ETA: 0s - loss: 0.3756 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.3772 - accuracy:
```

```
0.9184
0.9168
0.9165 - val loss: 0.4638 - val accuracy: 0.8864
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.5084 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3864 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3767 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3779 - accuracy:
0.9187
303/750 [=======>>.....] - ETA: 0s - loss: 0.3793 - accuracy:
378/750 [========>.....] - ETA: 0s - loss: 0.3796 - accuracy:
0.9184
455/750 [=========>.....] - ETA: 0s - loss: 0.3792 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.3766 - accuracy:
0.9184
0.9179
0.9176
0.9172 - val loss: 0.4630 - val accuracy: 0.8880
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.3487 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3653 - accuracy:
0.9211
156/750 [====>.....] - ETA: 0s - loss: 0.3718 - accuracy:
0.9196
229/750 [======>.....] - ETA: 0s - loss: 0.3723 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.3725 - accuracy:
383/750 [========>>.....] - ETA: 0s - loss: 0.3755 - accuracy:
0.9177
460/750 [=========>.....] - ETA: 0s - loss: 0.3749 - accuracy:
0.9183
535/750 [=========>.....] - ETA: 0s - loss: 0.3790 - accuracy:
```

```
0.9161
0.9168 - val loss: 0.4853 - val accuracy: 0.8805
Epoch 94/220
 1/750 [.....] - ETA: 0s - loss: 0.4039 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3778 - accuracy:
0.9179
153/750 [====>...... - ETA: 0s - loss: 0.3760 - accuracy:
0.9179
231/750 [======>.....] - ETA: 0s - loss: 0.3767 - accuracy:
0.9185
306/750 [========>.....] - ETA: 0s - loss: 0.3751 - accuracy:
0.9189
383/750 [========>.....] - ETA: 0s - loss: 0.3748 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.3758 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3757 - accuracy:
0.9187
613/750 [===========>.....] - ETA: 0s - loss: 0.3764 - accuracy:
688/750 [============>...] - ETA: 0s - loss: 0.3760 - accuracy:
750/750 [============= ] - 1s 806us/step - loss: 0.3757 - accuracy:
0.9184 - val_loss: 0.4719 - val_accuracy: 0.8847
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.3971 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.3708 - accuracy:
0.9221
154/750 [====>.....] - ETA: 0s - loss: 0.3712 - accuracy:
0.9189
225/750 [======>.....] - ETA: 0s - loss: 0.3713 - accuracy:
0.9183
297/750 [=======>.....] - ETA: 0s - loss: 0.3699 - accuracy:
375/750 [========>.....] - ETA: 0s - loss: 0.3731 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.3750 - accuracy:
0.9186
525/750 [=========>.....] - ETA: 0s - loss: 0.3759 - accuracy:
0.9179
601/750 [===========>.....] - ETA: 0s - loss: 0.3747 - accuracy:
0.9177
677/750 [============>...] - ETA: 0s - loss: 0.3753 - accuracy:
```

```
0.9180
0.9181 - val_loss: 0.4690 - val_accuracy: 0.8851
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.3139 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.3717 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.3728 - accuracy:
232/750 [======>..... - ETA: 0s - loss: 0.3725 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.3740 - accuracy:
0.9180
386/750 [=========>.....] - ETA: 0s - loss: 0.3744 - accuracy:
0.9177
463/750 [=========>...........] - ETA: 0s - loss: 0.3741 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.3748 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.3757 - accuracy:
0.9170
750/750 [============= ] - 1s 806us/step - loss: 0.3748 - accuracy:
0.9175 - val_loss: 0.4803 - val_accuracy: 0.8822
Epoch 97/220
 1/750 [...... os. - loss: 0.4239 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3720 - accuracy:
0.9172
154/750 [====>.....] - ETA: 0s - loss: 0.3765 - accuracy:
0.9172
229/750 [======>.....] - ETA: 0s - loss: 0.3746 - accuracy:
0.9189
305/750 [=======>.....] - ETA: 0s - loss: 0.3756 - accuracy:
0.9190
381/750 [========>.....] - ETA: 0s - loss: 0.3762 - accuracy:
0.9189
457/750 [==========>.....] - ETA: 0s - loss: 0.3733 - accuracy:
0.9198
533/750 [=========>.....] - ETA: 0s - loss: 0.3746 - accuracy:
610/750 [============>.....] - ETA: 0s - loss: 0.3749 - accuracy:
0.9186
686/750 [============>...] - ETA: 0s - loss: 0.3752 - accuracy:
750/750 [============= ] - 1s 822us/step - loss: 0.3751 - accuracy:
```

```
0.9177 - val_loss: 0.4680 - val_accuracy: 0.8852
Epoch 98/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4208 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3757 - accuracy:
0.9164
152/750 [====>...... - ETA: 0s - loss: 0.3775 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3717 - accuracy:
304/750 [=======>..... - ETA: 0s - loss: 0.3741 - accuracy:
0.9179
380/750 [=========>.....] - ETA: 0s - loss: 0.3741 - accuracy:
0.9187
458/750 [=========>.....] - ETA: 0s - loss: 0.3724 - accuracy:
0.9189
531/750 [=========>.....] - ETA: 0s - loss: 0.3717 - accuracy:
0.9189
684/750 [============>...] - ETA: 0s - loss: 0.3739 - accuracy:
0.9186
750/750 [================ ] - 1s 810us/step - loss: 0.3742 - accuracy:
0.9183 - val loss: 0.4624 - val accuracy: 0.8870
Epoch 99/220
1/750 [.....] - ETA: 0s - loss: 0.3147 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3624 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3619 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3675 - accuracy:
0.9208
303/750 [=======>.....] - ETA: 0s - loss: 0.3686 - accuracy:
0.9196
380/750 [========>.....] - ETA: 0s - loss: 0.3733 - accuracy:
0.9182
455/750 [=========>.....] - ETA: 0s - loss: 0.3710 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.3712 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.3710 - accuracy:
0.9194
750/750 [============= ] - 1s 817us/step - loss: 0.3717 - accuracy:
0.9196 - val_loss: 0.4815 - val_accuracy: 0.8805
Epoch 100/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3332 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3769 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3787 - accuracy:
0.9181
228/750 [======>.....] - ETA: 0s - loss: 0.3753 - accuracy:
0.9176
306/750 [=======>.....] - ETA: 0s - loss: 0.3768 - accuracy:
0.9183
382/750 [========>..... - ETA: 0s - loss: 0.3733 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.3725 - accuracy:
0.9190
535/750 [=========>.....] - ETA: 0s - loss: 0.3727 - accuracy:
0.9186
612/750 [============>.....] - ETA: 0s - loss: 0.3708 - accuracy:
0.9198
0.9195 - val loss: 0.4667 - val accuracy: 0.8852
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.3577 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.3672 - accuracy:
0.9183
151/750 [=====>.....] - ETA: 0s - loss: 0.3708 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3705 - accuracy:
0.9179
305/750 [=======>.....] - ETA: 0s - loss: 0.3710 - accuracy:
0.9180
382/750 [=======>>.....] - ETA: 0s - loss: 0.3706 - accuracy:
0.9188
457/750 [==========>.....] - ETA: 0s - loss: 0.3733 - accuracy:
0.9182
533/750 [=========>.....] - ETA: 0s - loss: 0.3744 - accuracy:
0.9181
0.9180 - val_loss: 0.4634 - val_accuracy: 0.8867
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.3688 - accuracy:
```

```
0.9375
78/750 [==>.....] - ETA: 0s - loss: 0.3599 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.3609 - accuracy:
0.9231
229/750 [======>.....] - ETA: 0s - loss: 0.3633 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.3672 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.3662 - accuracy:
461/750 [=========>...... - ETA: 0s - loss: 0.3673 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3691 - accuracy:
0.9218
0.9214
689/750 [============>...] - ETA: 0s - loss: 0.3687 - accuracy:
0.9214
0.9209 - val_loss: 0.4681 - val_accuracy: 0.8823
Epoch 103/220
1/750 [...... - ETA: 0s - loss: 0.3782 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3595 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3643 - accuracy:
0.9217
228/750 [======>.....] - ETA: 0s - loss: 0.3656 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.3695 - accuracy:
380/750 [========>.....] - ETA: 0s - loss: 0.3674 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 0.3694 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3710 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.3691 - accuracy:
0.9203 - val loss: 0.4898 - val accuracy: 0.8773
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.3868 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.3661 - accuracy:
```

```
0.9225
154/750 [====>.....] - ETA: 0s - loss: 0.3631 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3624 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.3655 - accuracy:
0.9207
385/750 [=======>>.....] - ETA: 0s - loss: 0.3681 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.3683 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.3696 - accuracy:
0.9194
0.9193
750/750 [============== ] - 1s 801us/step - loss: 0.3701 - accuracy:
0.9194 - val loss: 0.4696 - val accuracy: 0.8859
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.1938 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.3650 - accuracy:
0.9201
155/750 [====>.....] - ETA: 0s - loss: 0.3654 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3674 - accuracy:
0.9213
309/750 [========>.....] - ETA: 0s - loss: 0.3706 - accuracy:
0.9196
388/750 [=========>.....] - ETA: 0s - loss: 0.3727 - accuracy:
0.9187
464/750 [==========>.....] - ETA: 0s - loss: 0.3709 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.3702 - accuracy:
0.9196
0.9190
696/750 [============>...] - ETA: 0s - loss: 0.3698 - accuracy:
0.9196
0.9200 - val loss: 0.4663 - val accuracy: 0.8870
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.3139 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9281
152/750 [====>.....] - ETA: 0s - loss: 0.3554 - accuracy:
```

```
229/750 [======>.....] - ETA: 0s - loss: 0.3603 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3650 - accuracy:
0.9226
382/750 [=======>.....] - ETA: 0s - loss: 0.3673 - accuracy:
0.9216
461/750 [=========>.....] - ETA: 0s - loss: 0.3703 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.3705 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.3713 - accuracy:
0.9201
750/750 [============= ] - 1s 802us/step - loss: 0.3680 - accuracy:
0.9214 - val loss: 0.4752 - val accuracy: 0.8817
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.3852 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3626 - accuracy:
156/750 [====>...... - ETA: 0s - loss: 0.3628 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3650 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.3664 - accuracy:
387/750 [=========>.....] - ETA: 0s - loss: 0.3675 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.3657 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.3664 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.3645 - accuracy:
0.9234
0.9226
0.9228 - val_loss: 0.4809 - val_accuracy: 0.8788
Epoch 108/220
1/750 [...... 0.3504 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3615 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3597 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.3584 - accuracy:
```

```
0.9253
308/750 [========>.....] - ETA: 0s - loss: 0.3597 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.3593 - accuracy:
0.9246
462/750 [=========>.....] - ETA: 0s - loss: 0.3633 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3645 - accuracy:
615/750 [=============>.....] - ETA: 0s - loss: 0.3654 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.3656 - accuracy:
0.9217
750/750 [============= ] - 1s 801us/step - loss: 0.3657 - accuracy:
0.9222 - val_loss: 0.4637 - val_accuracy: 0.8881
Epoch 109/220
1/750 [...... - ETA: 0s - loss: 0.4368 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3680 - accuracy:
0.9217
155/750 [====>.....] - ETA: 0s - loss: 0.3725 - accuracy:
0.9186
231/750 [======>.....] - ETA: 0s - loss: 0.3709 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3722 - accuracy:
386/750 [========>>.....] - ETA: 0s - loss: 0.3681 - accuracy:
0.9198
463/750 [==========>.....] - ETA: 0s - loss: 0.3684 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3670 - accuracy:
0.9216 - val_loss: 0.4787 - val_accuracy: 0.8838
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.3953 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3484 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.3538 - accuracy:
0.9283
231/750 [======>.....] - ETA: 0s - loss: 0.3572 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3572 - accuracy:
```

```
0.9257
384/750 [==========>.....] - ETA: 0s - loss: 0.3608 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.3615 - accuracy:
0.9236
541/750 [==========>.....] - ETA: 0s - loss: 0.3634 - accuracy:
616/750 [============>.....] - ETA: 0s - loss: 0.3630 - accuracy:
750/750 [============= ] - 1s 804us/step - loss: 0.3649 - accuracy:
0.9228 - val loss: 0.4692 - val accuracy: 0.8848
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.3521 - accuracy:
0.9219
80/750 [==>.....] - ETA: 0s - loss: 0.3671 - accuracy:
0.9189
157/750 [====>.....] - ETA: 0s - loss: 0.3685 - accuracy:
0.9187
235/750 [======>.....] - ETA: 0s - loss: 0.3611 - accuracy:
313/750 [=======>.....] - ETA: 0s - loss: 0.3602 - accuracy:
0.9236
388/750 [========>.....] - ETA: 0s - loss: 0.3626 - accuracy:
466/750 [=========>.....] - ETA: 0s - loss: 0.3628 - accuracy:
0.9231
541/750 [=========>.....] - ETA: 0s - loss: 0.3649 - accuracy:
0.9227
0.9221
0.9225 - val loss: 0.4841 - val accuracy: 0.8817
Epoch 112/220
1/750 [...... - ETA: 0s - loss: 0.3951 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3573 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3608 - accuracy:
0.9244
306/750 [=======>.....] - ETA: 0s - loss: 0.3623 - accuracy:
384/750 [==========>.....] - ETA: 0s - loss: 0.3617 - accuracy:
```

```
458/750 [==========>.....] - ETA: 0s - loss: 0.3629 - accuracy:
0.9241
535/750 [=========>.....] - ETA: 0s - loss: 0.3636 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.3642 - accuracy:
0.9220 - val_loss: 0.4632 - val_accuracy: 0.8852
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.4229 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3570 - accuracy:
0.9244
154/750 [====>...... - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3682 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.3670 - accuracy:
386/750 [=======>.....] - ETA: 0s - loss: 0.3662 - accuracy:
0.9224
459/750 [==========>.....] - ETA: 0s - loss: 0.3668 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9228
607/750 [===========>.....] - ETA: 0s - loss: 0.3633 - accuracy:
0.9234 - val loss: 0.5177 - val accuracy: 0.8639
Epoch 114/220
1/750 [.....] - ETA: 0s - loss: 0.3787 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9321
149/750 [====>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9276
227/750 [======>......] - ETA: 0s - loss: 0.3579 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.3625 - accuracy:
380/750 [=======>>..... - ETA: 0s - loss: 0.3610 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.3614 - accuracy:
```

```
0.9235
534/750 [==========>.....] - ETA: 0s - loss: 0.3627 - accuracy:
0.9236
0.9236 - val loss: 0.4833 - val accuracy: 0.8842
Epoch 115/220
1/750 [...... - ETA: 0s - loss: 0.3157 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3571 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.3532 - accuracy:
0.9267
229/750 [======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9271
307/750 [=======>.....] - ETA: 0s - loss: 0.3567 - accuracy:
0.9244
384/750 [========>>.....] - ETA: 0s - loss: 0.3562 - accuracy:
0.9247
459/750 [==========>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9238
537/750 [==========>.....] - ETA: 0s - loss: 0.3601 - accuracy:
689/750 [===========>...] - ETA: 0s - loss: 0.3612 - accuracy:
0.9218 - val_loss: 0.4710 - val_accuracy: 0.8858
Epoch 116/220
1/750 [.....] - ETA: 0s - loss: 0.3433 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9291
152/750 [=====>.....] - ETA: 0s - loss: 0.3503 - accuracy:
0.9276
232/750 [======>.....] - ETA: 0s - loss: 0.3543 - accuracy:
0.9270
307/750 [=======>.....] - ETA: 0s - loss: 0.3570 - accuracy:
381/750 [========>>.....] - ETA: 0s - loss: 0.3582 - accuracy:
453/750 [=========>...... - ETA: 0s - loss: 0.3592 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.3601 - accuracy:
```

```
685/750 [============>...] - ETA: 0s - loss: 0.3603 - accuracy:
750/750 [================ ] - 1s 808us/step - loss: 0.3605 - accuracy:
0.9243 - val loss: 0.4673 - val accuracy: 0.8848
Epoch 117/220
1/750 [.....] - ETA: 0s - loss: 0.3819 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3596 - accuracy:
0.9241
155/750 [=====>.....] - ETA: 0s - loss: 0.3674 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3643 - accuracy:
0.9231
307/750 [=======>.....] - ETA: 0s - loss: 0.3587 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.3611 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.3619 - accuracy:
0.9243
537/750 [==========>.....] - ETA: 0s - loss: 0.3613 - accuracy:
0.9236
750/750 [============ ] - 1s 802us/step - loss: 0.3605 - accuracy:
0.9243 - val loss: 0.4625 - val accuracy: 0.8873
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.4151 - accuracy:
0.8906
79/750 [==>.....] - ETA: 0s - loss: 0.3667 - accuracy:
0.9189
155/750 [====>.....] - ETA: 0s - loss: 0.3524 - accuracy:
0.9241
233/750 [======>.....] - ETA: 0s - loss: 0.3550 - accuracy:
312/750 [=======>.....] - ETA: 0s - loss: 0.3564 - accuracy:
390/750 [========>>.....] - ETA: 0s - loss: 0.3554 - accuracy:
466/750 [=========>.....] - ETA: 0s - loss: 0.3571 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.3596 - accuracy:
```

```
0.9241
750/750 [=============== ] - 1s 798us/step - loss: 0.3603 - accuracy:
0.9238 - val loss: 0.4683 - val accuracy: 0.8872
Epoch 119/220
 1/750 [.....] - ETA: 0s - loss: 0.4816 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3625 - accuracy:
153/750 [====>...... - ETA: 0s - loss: 0.3593 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3649 - accuracy:
305/750 [========>.....] - ETA: 0s - loss: 0.3583 - accuracy:
0.9270
382/750 [========>.....] - ETA: 0s - loss: 0.3580 - accuracy:
0.9269
459/750 [==========>.....] - ETA: 0s - loss: 0.3569 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3580 - accuracy:
689/750 [===========>...] - ETA: 0s - loss: 0.3599 - accuracy:
750/750 [============= ] - 1s 804us/step - loss: 0.3590 - accuracy:
0.9248 - val_loss: 0.4655 - val_accuracy: 0.8862
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.3768 - accuracy:
0.9219
78/750 [==>.....] - ETA: 0s - loss: 0.3579 - accuracy:
157/750 [====>.....] - ETA: 0s - loss: 0.3577 - accuracy:
0.9244
233/750 [======>.....] - ETA: 0s - loss: 0.3574 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3600 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.3610 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.3617 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.3616 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.3609 - accuracy:
0.9224
689/750 [===========>...] - ETA: 0s - loss: 0.3615 - accuracy:
```

```
0.9223
0.9227 - val_loss: 0.4778 - val_accuracy: 0.8832
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.4168 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3635 - accuracy:
0.9231
155/750 [====>.....] - ETA: 0s - loss: 0.3561 - accuracy:
0.9280
232/750 [======>...... - ETA: 0s - loss: 0.3574 - accuracy:
0.9271
310/750 [=======>.....] - ETA: 0s - loss: 0.3586 - accuracy:
0.9264
387/750 [=========>.....] - ETA: 0s - loss: 0.3607 - accuracy:
0.9244
464/750 [=========>.....] - ETA: 0s - loss: 0.3601 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.3606 - accuracy:
0.9243
750/750 [============= ] - 1s 798us/step - loss: 0.3597 - accuracy:
0.9237 - val_loss: 0.4660 - val_accuracy: 0.8844
Epoch 122/220
1/750 [...... 0.4464 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3913 - accuracy:
0.9167
155/750 [====>.....] - ETA: 0s - loss: 0.3725 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.3674 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.3646 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.3634 - accuracy:
0.9231
461/750 [==========>.....] - ETA: 0s - loss: 0.3621 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.3614 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.3592 - accuracy:
0.9246
693/750 [============>...] - ETA: 0s - loss: 0.3589 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 0.3597 - accuracy:
```

```
0.9243 - val_loss: 0.4928 - val_accuracy: 0.8777 Epoch 123/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2795 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3718 - accuracy:
0.9204
154/750 [====>.....] - ETA: 0s - loss: 0.3587 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.3579 - accuracy:
308/750 [=======>..... - ETA: 0s - loss: 0.3571 - accuracy:
0.9277
385/750 [=========>.....] - ETA: 0s - loss: 0.3590 - accuracy:
0.9264
462/750 [=========>.....] - ETA: 0s - loss: 0.3566 - accuracy:
0.9272
540/750 [=========>.....] - ETA: 0s - loss: 0.3576 - accuracy:
0.9267
615/750 [===============>.....] - ETA: 0s - loss: 0.3583 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.3585 - accuracy:
750/750 [================ ] - 1s 805us/step - loss: 0.3574 - accuracy:
0.9265 - val loss: 0.5037 - val accuracy: 0.8749
Epoch 124/220
 1/750 [.....] - ETA: 0s - loss: 0.2995 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3440 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.3454 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3514 - accuracy:
0.9256
305/750 [=======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9246
459/750 [=========>.....] - ETA: 0s - loss: 0.3586 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3593 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.3587 - accuracy:
0.9246
750/750 [============= ] - 1s 801us/step - loss: 0.3573 - accuracy:
0.9249 - val_loss: 0.4799 - val_accuracy: 0.8820
Epoch 125/220
```

```
1/750 [...... - 6.6013 - accuracy:
0.8594
76/750 [==>...... - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3651 - accuracy:
0.9251
230/750 [======>.....] - ETA: 0s - loss: 0.3642 - accuracy:
0.9251
303/750 [=======>.....] - ETA: 0s - loss: 0.3643 - accuracy:
380/750 [=======>>.....] - ETA: 0s - loss: 0.3630 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.3620 - accuracy:
0.9239
532/750 [==========>.....] - ETA: 0s - loss: 0.3616 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 0.3589 - accuracy:
0.9251 - val loss: 0.5227 - val accuracy: 0.8735
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.3565 - accuracy:
0.9375
78/750 [==>.....] - ETA: 0s - loss: 0.3530 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.3573 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.3547 - accuracy:
0.9289
308/750 [=======>.....] - ETA: 0s - loss: 0.3538 - accuracy:
0.9278
384/750 [=======>>.....] - ETA: 0s - loss: 0.3565 - accuracy:
0.9264
460/750 [==========>.....] - ETA: 0s - loss: 0.3583 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.3575 - accuracy:
0.9256 - val_loss: 0.5060 - val_accuracy: 0.8682
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.3421 - accuracy:
```

```
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9207
152/750 [=====>.....] - ETA: 0s - loss: 0.3658 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3631 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.3604 - accuracy:
380/750 [========>.....] - ETA: 0s - loss: 0.3610 - accuracy:
457/750 [=========>...... - ETA: 0s - loss: 0.3578 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3591 - accuracy:
609/750 [============>.....] - ETA: 0s - loss: 0.3578 - accuracy:
0.9246
686/750 [============>...] - ETA: 0s - loss: 0.3572 - accuracy:
0.9253 - val_loss: 0.4675 - val_accuracy: 0.8878
Epoch 128/220
1/750 [...... - ETA: 0s - loss: 0.3493 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3474 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3488 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3620 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3598 - accuracy:
0.9247
388/750 [========>.....] - ETA: 0s - loss: 0.3580 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.3577 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.3567 - accuracy:
0.9256
617/750 [============>.....] - ETA: 0s - loss: 0.3548 - accuracy:
0.9253 - val loss: 0.4646 - val accuracy: 0.8878
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.3102 - accuracy:
0.9375
78/750 [==>.....] - ETA: 0s - loss: 0.3454 - accuracy:
```

```
0.9303
156/750 [=====>.....] - ETA: 0s - loss: 0.3524 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3529 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3507 - accuracy:
382/750 [=======>>.....] - ETA: 0s - loss: 0.3511 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.3525 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9254 - val loss: 0.4705 - val accuracy: 0.8869
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.3125 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3676 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3630 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3623 - accuracy:
0.9234
304/750 [========>.....] - ETA: 0s - loss: 0.3617 - accuracy:
0.9229
381/750 [=========>:....] - ETA: 0s - loss: 0.3601 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3571 - accuracy:
0.9254
0.9264
685/750 [============>...] - ETA: 0s - loss: 0.3539 - accuracy:
0.9261 - val loss: 0.4679 - val accuracy: 0.8891
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.2532 - accuracy:
0.9688
77/750 [==>.....] - ETA: 0s - loss: 0.3455 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3524 - accuracy:
```

```
0.9265
231/750 [======>.....] - ETA: 0s - loss: 0.3532 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3512 - accuracy:
0.9278
384/750 [=======>....] - ETA: 0s - loss: 0.3522 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.3519 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.3541 - accuracy:
613/750 [===========>.....] - ETA: 0s - loss: 0.3541 - accuracy:
0.9271
750/750 [============= ] - 1s 804us/step - loss: 0.3550 - accuracy:
0.9264 - val loss: 0.5072 - val accuracy: 0.8754
Epoch 132/220
1/750 [...... os - loss: 0.4175 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3549 - accuracy:
152/750 [====>...... - ETA: 0s - loss: 0.3607 - accuracy:
0.9261
230/750 [======>.....] - ETA: 0s - loss: 0.3580 - accuracy:
0.9273
306/750 [=======>.....] - ETA: 0s - loss: 0.3524 - accuracy:
0.9286
381/750 [=========>.....] - ETA: 0s - loss: 0.3527 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.3524 - accuracy:
0.9276
533/750 [==========>.....] - ETA: 0s - loss: 0.3540 - accuracy:
0.9270
611/750 [============>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9263 - val_loss: 0.4763 - val_accuracy: 0.8873
Epoch 133/220
1/750 [...... 0.4917 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9298
148/750 [====>.....] - ETA: 0s - loss: 0.3585 - accuracy:
0.9291
224/750 [=====>.....] - ETA: 0s - loss: 0.3605 - accuracy:
```

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0.9272
300/750 [========>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9273
379/750 [========>.....] - ETA: 0s - loss: 0.3541 - accuracy:
0.9286
456/750 [=========>.....] - ETA: 0s - loss: 0.3548 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3542 - accuracy:
685/750 [============>...] - ETA: 0s - loss: 0.3521 - accuracy:
750/750 [============= ] - 1s 809us/step - loss: 0.3525 - accuracy:
0.9279 - val_loss: 0.4770 - val_accuracy: 0.8862
Epoch 134/220
1/750 [...... - ETA: 0s - loss: 0.4350 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9317
152/750 [====>.....] - ETA: 0s - loss: 0.3550 - accuracy:
0.9270
231/750 [======>.....] - ETA: 0s - loss: 0.3519 - accuracy:
0.9283
305/750 [=======>.....] - ETA: 0s - loss: 0.3511 - accuracy:
0.9283
381/750 [=======>>.....] - ETA: 0s - loss: 0.3530 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.3504 - accuracy:
0.9284
535/750 [=========>.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9277
0.9273
0.9273 - val_loss: 0.4679 - val_accuracy: 0.8851
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.4038 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3528 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9280
231/750 [======>...... - ETA: 0s - loss: 0.3470 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3475 - accuracy:
```

```
0.9306
386/750 [==========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9293
539/750 [==========>.....] - ETA: 0s - loss: 0.3471 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.3484 - accuracy:
750/750 [============= ] - 1s 798us/step - loss: 0.3501 - accuracy:
0.9285 - val loss: 0.4763 - val accuracy: 0.8835
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.2248 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9319
144/750 [====>...... - ETA: 0s - loss: 0.3462 - accuracy:
0.9334
219/750 [=====>>.....] - ETA: 0s - loss: 0.3526 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.3537 - accuracy:
0.9274
371/750 [========>.....] - ETA: 0s - loss: 0.3541 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9279
527/750 [=========>.....] - ETA: 0s - loss: 0.3537 - accuracy:
0.9277
0.9279
0.9278 - val loss: 0.4622 - val accuracy: 0.8882
Epoch 137/220
1/750 [.....] - ETA: 0s - loss: 0.4149 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.3529 - accuracy:
152/750 [=====>......] - ETA: 0s - loss: 0.3499 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9285
305/750 [=======>..... - ETA: 0s - loss: 0.3509 - accuracy:
383/750 [==========>.....] - ETA: 0s - loss: 0.3522 - accuracy:
```

```
0.9278
437/750 [=========>.....] - ETA: 0s - loss: 0.3515 - accuracy:
492/750 [=========>.....] - ETA: 0s - loss: 0.3510 - accuracy:
0.9278
569/750 [============>.....] - ETA: 0s - loss: 0.3533 - accuracy:
644/750 [============>....] - ETA: 0s - loss: 0.3538 - accuracy:
0.9267
750/750 [============= ] - 1s 846us/step - loss: 0.3535 - accuracy:
0.9262 - val loss: 0.4723 - val accuracy: 0.8885
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.3309 - accuracy:
0.9375
76/750 [==>.....] - ETA: 0s - loss: 0.3586 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9267
229/750 [======>.....] - ETA: 0s - loss: 0.3468 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9281
382/750 [========>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9274
459/750 [=========>.....] - ETA: 0s - loss: 0.3511 - accuracy:
0.9271
536/750 [=========>.....] - ETA: 0s - loss: 0.3520 - accuracy:
0.9269 - val loss: 0.4894 - val accuracy: 0.8845
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.3221 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9277
231/750 [======>.....] - ETA: 0s - loss: 0.3419 - accuracy:
0.9309
306/750 [=======>..... - ETA: 0s - loss: 0.3474 - accuracy:
383/750 [==========>.....] - ETA: 0s - loss: 0.3500 - accuracy:
```

```
0.9278
461/750 [==========>.....] - ETA: 0s - loss: 0.3517 - accuracy:
0.9276
537/750 [=========>.....] - ETA: 0s - loss: 0.3535 - accuracy:
0.9270
693/750 [============>...] - ETA: 0s - loss: 0.3537 - accuracy:
750/750 [=============== ] - 1s 800us/step - loss: 0.3539 - accuracy:
0.9272 - val_loss: 0.4807 - val_accuracy: 0.8834
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.4661 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3415 - accuracy:
0.9324
156/750 [=====>.....] - ETA: 0s - loss: 0.3438 - accuracy:
231/750 [======>..... - ETA: 0s - loss: 0.3471 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3469 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9294
460/750 [==========>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9292
537/750 [==========>.....] - ETA: 0s - loss: 0.3482 - accuracy:
0.9289
0.9283
750/750 [================ ] - 1s 804us/step - loss: 0.3509 - accuracy:
0.9276 - val loss: 0.4831 - val accuracy: 0.8828
Epoch 141/220
1/750 [.....] - ETA: 0s - loss: 0.4973 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3498 - accuracy:
0.9282
156/750 [====>.....] - ETA: 0s - loss: 0.3461 - accuracy:
232/750 [======>>......] - ETA: 0s - loss: 0.3454 - accuracy:
0.9311
310/750 [=======>.....] - ETA: 0s - loss: 0.3454 - accuracy:
387/750 [=======>..... - ETA: 0s - loss: 0.3473 - accuracy:
465/750 [==========>.....] - ETA: 0s - loss: 0.3490 - accuracy:
```

```
0.9298
541/750 [==========>.....] - ETA: 0s - loss: 0.3499 - accuracy:
0.9298
0.9300
0.9299 - val loss: 0.4818 - val accuracy: 0.8849
Epoch 142/220
1/750 [...... - ETA: 0s - loss: 0.3331 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3341 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3396 - accuracy:
0.9334
231/750 [======>.....] - ETA: 0s - loss: 0.3423 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3447 - accuracy:
382/750 [=======>>.....] - ETA: 0s - loss: 0.3469 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.3471 - accuracy:
0.9294
537/750 [==========>.....] - ETA: 0s - loss: 0.3489 - accuracy:
0.9283
691/750 [============>...] - ETA: 0s - loss: 0.3503 - accuracy:
750/750 [================ ] - 1s 802us/step - loss: 0.3514 - accuracy:
0.9272 - val loss: 0.4752 - val accuracy: 0.8841
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.2700 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3498 - accuracy:
0.9247
157/750 [=====>.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9261
231/750 [======>.....] - ETA: 0s - loss: 0.3506 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3490 - accuracy:
0.9281
387/750 [========>>.....] - ETA: 0s - loss: 0.3495 - accuracy:
0.9283
463/750 [=========>...... - ETA: 0s - loss: 0.3512 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.3507 - accuracy:
```

```
0.9277
694/750 [=============>...] - ETA: 0s - loss: 0.3516 - accuracy:
0.9269
750/750 [================ ] - 1s 801us/step - loss: 0.3506 - accuracy:
0.9271 - val loss: 0.4716 - val accuracy: 0.8882
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.4178 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3512 - accuracy:
0.9298
154/750 [=====>.....] - ETA: 0s - loss: 0.3470 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9288
307/750 [=======>.....] - ETA: 0s - loss: 0.3459 - accuracy:
0.9298
384/750 [========>.....] - ETA: 0s - loss: 0.3464 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.3470 - accuracy:
0.9297
539/750 [==========>.....] - ETA: 0s - loss: 0.3476 - accuracy:
615/750 [=============>.....] - ETA: 0s - loss: 0.3490 - accuracy:
0.9288
750/750 [============== ] - 1s 801us/step - loss: 0.3501 - accuracy:
0.9283 - val loss: 0.4705 - val accuracy: 0.8878
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9375
77/750 [==>.....] - ETA: 0s - loss: 0.3420 - accuracy:
0.9306
153/750 [====>.....] - ETA: 0s - loss: 0.3388 - accuracy:
0.9316
229/750 [======>.....] - ETA: 0s - loss: 0.3414 - accuracy:
0.9317
307/750 [========>.....] - ETA: 0s - loss: 0.3437 - accuracy:
383/750 [========>>.....] - ETA: 0s - loss: 0.3503 - accuracy:
458/750 [=========>.....] - ETA: 0s - loss: 0.3528 - accuracy:
0.9271
535/750 [=========>.....] - ETA: 0s - loss: 0.3538 - accuracy:
```

```
0.9268
750/750 [=============== ] - 1s 808us/step - loss: 0.3504 - accuracy:
0.9279 - val loss: 0.4801 - val accuracy: 0.8837
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.3163 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3498 - accuracy:
0.9316
155/750 [====>...... - ETA: 0s - loss: 0.3425 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9318
309/750 [========>.....] - ETA: 0s - loss: 0.3478 - accuracy:
0.9311
387/750 [========>.....] - ETA: 0s - loss: 0.3498 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.3522 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3521 - accuracy:
0.9296
691/750 [============>...] - ETA: 0s - loss: 0.3513 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 0.3507 - accuracy:
0.9293 - val_loss: 0.4908 - val_accuracy: 0.8828
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.3792 - accuracy:
0.9375
76/750 [==>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9301
151/750 [====>.....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9287
229/750 [======>.....] - ETA: 0s - loss: 0.3469 - accuracy:
0.9301
304/750 [=======>.....] - ETA: 0s - loss: 0.3461 - accuracy:
381/750 [========>.....] - ETA: 0s - loss: 0.3455 - accuracy:
458/750 [=========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3473 - accuracy:
0.9299
607/750 [===========>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9295
```

```
0.9289
750/750 [================ ] - 1s 810us/step - loss: 0.3493 - accuracy:
0.9288 - val_loss: 0.5021 - val_accuracy: 0.8813
Epoch 148/220
 1/750 [.....] - ETA: 0s - loss: 0.2358 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3319 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.3378 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9321
307/750 [========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9315
381/750 [=========>.....] - ETA: 0s - loss: 0.3428 - accuracy:
0.9317
458/750 [=========>...........] - ETA: 0s - loss: 0.3459 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3465 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9296
750/750 [============= ] - 1s 808us/step - loss: 0.3488 - accuracy:
0.9294 - val_loss: 0.4711 - val_accuracy: 0.8867
Epoch 149/220
 1/750 [...... - 0.3252 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3562 - accuracy:
0.9278
154/750 [====>.....] - ETA: 0s - loss: 0.3462 - accuracy:
0.9314
231/750 [======>.....] - ETA: 0s - loss: 0.3440 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3448 - accuracy:
0.9324
385/750 [========>.....] - ETA: 0s - loss: 0.3451 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.3451 - accuracy:
0.9316
538/750 [=========>.....] - ETA: 0s - loss: 0.3464 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.3471 - accuracy:
0.9293
684/750 [============>...] - ETA: 0s - loss: 0.3475 - accuracy:
750/750 [============= ] - 1s 808us/step - loss: 0.3485 - accuracy:
```

```
0.9294 - val_loss: 0.4695 - val_accuracy: 0.8876 Epoch 150/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4205 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3378 - accuracy:
158/750 [====>.....] - ETA: 0s - loss: 0.3461 - accuracy:
235/750 [======>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9296
309/750 [=======>.....] - ETA: 0s - loss: 0.3434 - accuracy:
387/750 [=======>>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9297
461/750 [==========>.....] - ETA: 0s - loss: 0.3460 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9291
692/750 [============>...] - ETA: 0s - loss: 0.3473 - accuracy:
0.9296
750/750 [================ ] - 1s 802us/step - loss: 0.3476 - accuracy:
0.9294 - val loss: 0.5327 - val accuracy: 0.8684
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.3122 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3474 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.3491 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3476 - accuracy:
0.9313
307/750 [=======>.....] - ETA: 0s - loss: 0.3477 - accuracy:
379/750 [========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
453/750 [=========>.....] - ETA: 0s - loss: 0.3481 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9301
604/750 [===========>.....] - ETA: 0s - loss: 0.3473 - accuracy:
0.9298
750/750 [============= ] - 1s 812us/step - loss: 0.3484 - accuracy:
0.9293 - val loss: 0.4853 - val accuracy: 0.8800
Epoch 152/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3147 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3487 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3507 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3472 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.3482 - accuracy:
382/750 [========>..... - ETA: 0s - loss: 0.3458 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.3469 - accuracy:
0.9299
530/750 [==========>.....] - ETA: 0s - loss: 0.3470 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3461 - accuracy:
0.9304 - val loss: 0.4809 - val accuracy: 0.8873
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.4132 - accuracy:
0.9219
79/750 [==>.....] - ETA: 0s - loss: 0.3365 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.3450 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9277
307/750 [=======>.....] - ETA: 0s - loss: 0.3487 - accuracy:
0.9280
383/750 [========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9291
537/750 [=========>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9297
0.9298 - val_loss: 0.4761 - val_accuracy: 0.8880
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.2360 - accuracy:
```

```
0.9688
78/750 [==>.....] - ETA: 0s - loss: 0.3282 - accuracy:
0.9391
156/750 [=====>.....] - ETA: 0s - loss: 0.3375 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.3430 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.3429 - accuracy:
387/750 [========>.....] - ETA: 0s - loss: 0.3467 - accuracy:
461/750 [=========>...... - ETA: 0s - loss: 0.3450 - accuracy:
0.9314
533/750 [==========>.....] - ETA: 0s - loss: 0.3434 - accuracy:
0.9314
609/750 [============>.....] - ETA: 0s - loss: 0.3446 - accuracy:
684/750 [=============>...] - ETA: 0s - loss: 0.3442 - accuracy:
0.9316
0.9312 - val_loss: 0.4993 - val_accuracy: 0.8820
Epoch 155/220
1/750 [...... - ETA: 0s - loss: 0.3742 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3408 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3449 - accuracy:
0.9319
232/750 [======>.....] - ETA: 0s - loss: 0.3444 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.3454 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9328
462/750 [=========>.....] - ETA: 0s - loss: 0.3405 - accuracy:
0.9329
538/750 [==========>.....] - ETA: 0s - loss: 0.3417 - accuracy:
0.9317
616/750 [============>.....] - ETA: 0s - loss: 0.3434 - accuracy:
750/750 [============= ] - 1s 800us/step - loss: 0.3455 - accuracy:
0.9305 - val loss: 0.4756 - val accuracy: 0.8854
Epoch 156/220
1/750 [.....] - ETA: 0s - loss: 0.2726 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3437 - accuracy:
```

```
0.9328
152/750 [====>.....] - ETA: 0s - loss: 0.3478 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3413 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3435 - accuracy:
379/750 [=======>>.....] - ETA: 0s - loss: 0.3457 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.3456 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9317
750/750 [============== ] - 1s 813us/step - loss: 0.3465 - accuracy:
0.9314 - val loss: 0.4656 - val accuracy: 0.8889
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.3079 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3447 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3399 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3427 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.3441 - accuracy:
383/750 [==========>.....] - ETA: 0s - loss: 0.3450 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.3473 - accuracy:
0.9297
605/750 [=============>.....] - ETA: 0s - loss: 0.3482 - accuracy:
0.9296
680/750 [============>...] - ETA: 0s - loss: 0.3469 - accuracy:
0.9306 - val loss: 0.4821 - val accuracy: 0.8847
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.2253 - accuracy:
0.9844
76/750 [==>.....] - ETA: 0s - loss: 0.3386 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3403 - accuracy:
```

```
0.9327
231/750 [======>.....] - ETA: 0s - loss: 0.3408 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3405 - accuracy:
0.9331
384/750 [========>....] - ETA: 0s - loss: 0.3438 - accuracy:
0.9317
463/750 [=========>.....] - ETA: 0s - loss: 0.3438 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.3457 - accuracy:
618/750 [===========>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9317
0.9319
0.9320 - val loss: 0.4946 - val accuracy: 0.8813
Epoch 159/220
1/750 [.....] - ETA: 0s - loss: 0.3747 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3442 - accuracy:
0.9317
157/750 [====>...... - ETA: 0s - loss: 0.3381 - accuracy:
0.9323
232/750 [======>.....] - ETA: 0s - loss: 0.3394 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9337
385/750 [=========>.....] - ETA: 0s - loss: 0.3423 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.3406 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3417 - accuracy:
0.9331
608/750 [===========>.....] - ETA: 0s - loss: 0.3447 - accuracy:
0.9316
0.9305 - val_loss: 0.4735 - val_accuracy: 0.8861
Epoch 160/220
1/750 [...... 0.3361 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3284 - accuracy:
0.9373
152/750 [====>.....] - ETA: 0s - loss: 0.3324 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3375 - accuracy:
```

```
0.9337
303/750 [========>.....] - ETA: 0s - loss: 0.3431 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.3444 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 0.3449 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.3448 - accuracy:
681/750 [============>...] - ETA: 0s - loss: 0.3456 - accuracy:
0.9311
750/750 [============= ] - 1s 817us/step - loss: 0.3463 - accuracy:
0.9309 - val_loss: 0.4934 - val_accuracy: 0.8807
Epoch 161/220
1/750 [...... - ETA: 0s - loss: 0.3638 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3529 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.3466 - accuracy:
0.9326
225/750 [======>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9330
300/750 [=======>.....] - ETA: 0s - loss: 0.3436 - accuracy:
375/750 [=======>.....] - ETA: 0s - loss: 0.3462 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3471 - accuracy:
0.9299
523/750 [==========>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9301
0.9302 - val_loss: 0.4727 - val_accuracy: 0.8870
Epoch 162/220
1/750 [...... 0.3890 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3424 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3437 - accuracy:
0.9318
231/750 [======>.....] - ETA: 0s - loss: 0.3379 - accuracy:
```

```
0.9344
308/750 [========>.....] - ETA: 0s - loss: 0.3382 - accuracy:
0.9337
384/750 [========>.....] - ETA: 0s - loss: 0.3382 - accuracy:
0.9344
460/750 [=========>.....] - ETA: 0s - loss: 0.3389 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.3419 - accuracy:
750/750 [============= ] - 1s 812us/step - loss: 0.3429 - accuracy:
0.9329 - val_loss: 0.4759 - val_accuracy: 0.8903
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.2399 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3389 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3353 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3373 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9331
382/750 [=======>>.....] - ETA: 0s - loss: 0.3384 - accuracy:
0.9329
458/750 [==========>.....] - ETA: 0s - loss: 0.3400 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3421 - accuracy:
0.9313
0.9305 - val_loss: 0.4829 - val_accuracy: 0.8840
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.2370 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3277 - accuracy:
0.9371
150/750 [=====>.....] - ETA: 0s - loss: 0.3345 - accuracy:
226/750 [======>...... - ETA: 0s - loss: 0.3394 - accuracy:
0.9329
303/750 [========>.....] - ETA: 0s - loss: 0.3374 - accuracy:
```

```
0.9339
376/750 [==========>.....] - ETA: 0s - loss: 0.3398 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
0.9317
529/750 [==========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.3452 - accuracy:
750/750 [============= ] - 1s 814us/step - loss: 0.3449 - accuracy:
0.9311 - val loss: 0.4799 - val accuracy: 0.8859
Epoch 165/220
1/750 [.....] - ETA: 0s - loss: 0.2741 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3383 - accuracy:
0.9319
151/750 [====>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9337
225/750 [======>.....] - ETA: 0s - loss: 0.3397 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3396 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3398 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3421 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9319
0.9321
0.9319 - val loss: 0.4716 - val accuracy: 0.8880
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.2866 - accuracy:
0.9688
76/750 [==>.....] - ETA: 0s - loss: 0.3361 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3375 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.3417 - accuracy:
0.9329
368/750 [=========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
```

```
443/750 [=========>.....] - ETA: 0s - loss: 0.3408 - accuracy:
521/750 [==========>.....] - ETA: 0s - loss: 0.3438 - accuracy:
0.9317
594/750 [=============>.....] - ETA: 0s - loss: 0.3456 - accuracy:
750/750 [============= ] - 1s 824us/step - loss: 0.3446 - accuracy:
0.9315 - val loss: 0.4781 - val accuracy: 0.8852
Epoch 167/220
1/750 [.....] - ETA: 0s - loss: 0.3584 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3322 - accuracy:
0.9359
152/750 [====>.....] - ETA: 0s - loss: 0.3323 - accuracy:
0.9349
228/750 [======>.....] - ETA: 0s - loss: 0.3335 - accuracy:
303/750 [=======>..... - ETA: 0s - loss: 0.3361 - accuracy:
380/750 [========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
455/750 [=========>.....] - ETA: 0s - loss: 0.3399 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9334
0.9325 - val loss: 0.4785 - val accuracy: 0.8873
Epoch 168/220
1/750 [...... - ETA: 0s - loss: 0.3496 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3367 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3368 - accuracy:
0.9341
303/750 [=======>..... - ETA: 0s - loss: 0.3379 - accuracy:
378/750 [========>.....] - ETA: 0s - loss: 0.3419 - accuracy:
```

```
0.9318
452/750 [==========>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9319
526/750 [=========>.....] - ETA: 0s - loss: 0.3397 - accuracy:
677/750 [============>...] - ETA: 0s - loss: 0.3409 - accuracy:
750/750 [================ ] - 1s 816us/step - loss: 0.3415 - accuracy:
0.9322 - val loss: 0.4780 - val accuracy: 0.8857
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.3759 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9371
152/750 [====>...... - ETA: 0s - loss: 0.3343 - accuracy:
0.9364
227/750 [======>.....] - ETA: 0s - loss: 0.3308 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3341 - accuracy:
0.9364
379/750 [=======>.....] - ETA: 0s - loss: 0.3344 - accuracy:
0.9358
444/750 [=========>.....] - ETA: 0s - loss: 0.3356 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.3395 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.3404 - accuracy:
0.9336
671/750 [==============>....] - ETA: 0s - loss: 0.3424 - accuracy:
0.9324 - val loss: 0.5136 - val accuracy: 0.8753
Epoch 170/220
1/750 [...... - ETA: 0s - loss: 0.3708 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9351
151/750 [=====>...... - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3345 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.3394 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
```

```
0.9316
451/750 [==========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
0.9301
528/750 [=========>.....] - ETA: 0s - loss: 0.3425 - accuracy:
679/750 [============>...] - ETA: 0s - loss: 0.3447 - accuracy:
0.9315 - val_loss: 0.5073 - val_accuracy: 0.8758
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.2449 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3411 - accuracy:
0.9326
150/750 [=====>.....] - ETA: 0s - loss: 0.3352 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9314
302/750 [=======>.....] - ETA: 0s - loss: 0.3446 - accuracy:
377/750 [=======>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9322
454/750 [==========>.....] - ETA: 0s - loss: 0.3448 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9321
607/750 [===========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9313
0.9323 - val loss: 0.4790 - val accuracy: 0.8863
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.3393 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9337
157/750 [====>.....] - ETA: 0s - loss: 0.3512 - accuracy:
234/750 [======>......] - ETA: 0s - loss: 0.3416 - accuracy:
312/750 [=======>.....] - ETA: 0s - loss: 0.3409 - accuracy:
387/750 [=======>..... - ETA: 0s - loss: 0.3434 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
```

```
0.9316
542/750 [==========>.....] - ETA: 0s - loss: 0.3430 - accuracy:
620/750 [============>.....] - ETA: 0s - loss: 0.3441 - accuracy:
0.9317
0.9319
750/750 [================ ] - 1s 801us/step - loss: 0.3435 - accuracy:
0.9320 - val loss: 0.4726 - val accuracy: 0.8860
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.2689 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3523 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.3461 - accuracy:
0.9294
232/750 [======>.....] - ETA: 0s - loss: 0.3474 - accuracy:
0.9291
308/750 [=======>.....] - ETA: 0s - loss: 0.3430 - accuracy:
384/750 [========>>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9319
462/750 [==========>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9316
536/750 [=========>:....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9319
689/750 [============>...] - ETA: 0s - loss: 0.3419 - accuracy:
0.9320 - val loss: 0.4734 - val accuracy: 0.8864
Epoch 174/220
1/750 [.....] - ETA: 0s - loss: 0.2493 - accuracy:
0.9844
77/750 [==>.....] - ETA: 0s - loss: 0.3415 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.3340 - accuracy:
0.9343
230/750 [======>.....] - ETA: 0s - loss: 0.3380 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3383 - accuracy:
383/750 [========>>.....] - ETA: 0s - loss: 0.3368 - accuracy:
459/750 [=========>...... - ETA: 0s - loss: 0.3389 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3389 - accuracy:
```

```
0.9347
0.9343
750/750 [=============== ] - 1s 801us/step - loss: 0.3407 - accuracy:
0.9338 - val loss: 0.4853 - val accuracy: 0.8832
Epoch 175/220
1/750 [.....] - ETA: 0s - loss: 0.3719 - accuracy:
78/750 [==>....... - ETA: 0s - loss: 0.3386 - accuracy:
0.9341
153/750 [=====>.....] - ETA: 0s - loss: 0.3351 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3365 - accuracy:
0.9374
306/750 [========>.....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9338
381/750 [========>.....] - ETA: 0s - loss: 0.3411 - accuracy:
458/750 [=========>.....] - ETA: 0s - loss: 0.3430 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3414 - accuracy:
0.9331
0.9334
750/750 [============ ] - 1s 805us/step - loss: 0.3420 - accuracy:
0.9329 - val loss: 0.4956 - val accuracy: 0.8800
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.3564 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3417 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.3446 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.3402 - accuracy:
309/750 [========>.....] - ETA: 0s - loss: 0.3415 - accuracy:
384/750 [========>>.....] - ETA: 0s - loss: 0.3416 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.3433 - accuracy:
0.9326
537/750 [=========>.....] - ETA: 0s - loss: 0.3423 - accuracy:
```

```
0.9324
750/750 [=============== ] - 1s 802us/step - loss: 0.3420 - accuracy:
0.9329 - val loss: 0.4847 - val accuracy: 0.8866
Epoch 177/220
 1/750 [.....] - ETA: 0s - loss: 0.2964 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3195 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.3270 - accuracy:
0.9381
231/750 [======>.....] - ETA: 0s - loss: 0.3335 - accuracy:
305/750 [========>.....] - ETA: 0s - loss: 0.3390 - accuracy:
385/750 [=======>>.....] - ETA: 0s - loss: 0.3381 - accuracy:
459/750 [==========>.....] - ETA: 0s - loss: 0.3390 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3410 - accuracy:
0.9336
692/750 [===========>...] - ETA: 0s - loss: 0.3424 - accuracy:
750/750 [============= ] - 1s 801us/step - loss: 0.3423 - accuracy:
0.9334 - val_loss: 0.4780 - val_accuracy: 0.8870
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.2334 - accuracy:
0.9844
79/750 [==>.....] - ETA: 0s - loss: 0.3286 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3295 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3342 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.3331 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.3339 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9363
616/750 [===========>.....] - ETA: 0s - loss: 0.3360 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.3383 - accuracy:
```

```
0.9344
750/750 [=============== ] - 1s 800us/step - loss: 0.3384 - accuracy:
0.9342 - val_loss: 0.4735 - val_accuracy: 0.8887
Epoch 179/220
 1/750 [.....] - ETA: 0s - loss: 0.2652 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3320 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3313 - accuracy:
229/750 [======>..... - ETA: 0s - loss: 0.3315 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9371
382/750 [=========>.....] - ETA: 0s - loss: 0.3362 - accuracy:
0.9357
459/750 [=========>.....] - ETA: 0s - loss: 0.3369 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3384 - accuracy:
611/750 [============>.....] - ETA: 0s - loss: 0.3379 - accuracy:
0.9354
750/750 [============= ] - 1s 802us/step - loss: 0.3421 - accuracy:
0.9333 - val_loss: 0.4802 - val_accuracy: 0.8872
Epoch 180/220
 1/750 [...... 0.5403 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9326
156/750 [====>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9327
232/750 [======>.....] - ETA: 0s - loss: 0.3400 - accuracy:
0.9331
308/750 [========>.....] - ETA: 0s - loss: 0.3387 - accuracy:
0.9336
386/750 [========>.....] - ETA: 0s - loss: 0.3419 - accuracy:
456/750 [==========>.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.9341
534/750 [=========>.....] - ETA: 0s - loss: 0.3414 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3411 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.3422 - accuracy:
0.9331
750/750 [============= ] - 1s 810us/step - loss: 0.3433 - accuracy:
```

```
0.9325 - val_loss: 0.4922 - val_accuracy: 0.8849 Epoch 181/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2399 - accuracy:
0.9688
76/750 [==>.....] - ETA: 0s - loss: 0.3241 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3241 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9376
306/750 [=======>..... - ETA: 0s - loss: 0.3347 - accuracy:
0.9373
382/750 [========>.....] - ETA: 0s - loss: 0.3368 - accuracy:
0.9363
460/750 [==========>.....] - ETA: 0s - loss: 0.3387 - accuracy:
0.9353
536/750 [=========>.....] - ETA: 0s - loss: 0.3400 - accuracy:
0.9351
689/750 [============>...] - ETA: 0s - loss: 0.3402 - accuracy:
0.9349
750/750 [================ ] - 1s 805us/step - loss: 0.3401 - accuracy:
0.9348 - val loss: 0.5259 - val accuracy: 0.8705
Epoch 182/220
 1/750 [.....] - ETA: 0s - loss: 0.3953 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3245 - accuracy:
0.9385
154/750 [=====>...... - accuracy:
0.9396
230/750 [======>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9369
307/750 [=======>.....] - ETA: 0s - loss: 0.3333 - accuracy:
384/750 [=======>.....] - ETA: 0s - loss: 0.3360 - accuracy:
0.9348
460/750 [=========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.3364 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9327
750/750 [============= ] - 1s 816us/step - loss: 0.3391 - accuracy:
0.9329 - val loss: 0.4941 - val accuracy: 0.8812
Epoch 183/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2503 - accuracy:
0.9844
78/750 [==>....... - accuracy:
0.9321
153/750 [====>.....] - ETA: 0s - loss: 0.3427 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3418 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3439 - accuracy:
0.9319
385/750 [=======>>..... - ETA: 0s - loss: 0.3419 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9345
538/750 [=========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.9336 - val loss: 0.5196 - val accuracy: 0.8778
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.4416 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.3453 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.3350 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3371 - accuracy:
0.9349
305/750 [=======>.....] - ETA: 0s - loss: 0.3350 - accuracy:
0.9359
383/750 [=======>>.....] - ETA: 0s - loss: 0.3359 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.3363 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3368 - accuracy:
0.9345 - val_loss: 0.5274 - val_accuracy: 0.8719
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.4792 - accuracy:
```

```
78/750 [==>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9299
156/750 [=====>.....] - ETA: 0s - loss: 0.3409 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3408 - accuracy:
0.9337
306/750 [=======>.....] - ETA: 0s - loss: 0.3402 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.3368 - accuracy:
459/750 [=========>...... - ETA: 0s - loss: 0.3390 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9351
692/750 [============>...] - ETA: 0s - loss: 0.3398 - accuracy:
0.9346 - val_loss: 0.4949 - val_accuracy: 0.8826
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.2920 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3198 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3349 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3398 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.3380 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.3377 - accuracy:
0.9359
461/750 [=========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
0.9343
614/750 [============>.....] - ETA: 0s - loss: 0.3405 - accuracy:
750/750 [============= ] - 1s 805us/step - loss: 0.3411 - accuracy:
0.9336 - val loss: 0.5028 - val accuracy: 0.8852
Epoch 187/220
1/750 [.....] - ETA: 0s - loss: 0.2426 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3180 - accuracy:
```

```
0.9423
155/750 [=====>.....] - ETA: 0s - loss: 0.3264 - accuracy:
0.9401
232/750 [======>.....] - ETA: 0s - loss: 0.3292 - accuracy:
0.9381
311/750 [=======>.....] - ETA: 0s - loss: 0.3328 - accuracy:
0.9377
386/750 [=======>>.....] - ETA: 0s - loss: 0.3356 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.3361 - accuracy:
0.9361
541/750 [=========>.....] - ETA: 0s - loss: 0.3348 - accuracy:
0.9367
0.9352 - val loss: 0.4983 - val accuracy: 0.8810
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.3848 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3372 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3349 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.3362 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.3381 - accuracy:
385/750 [=========>:....] - ETA: 0s - loss: 0.3362 - accuracy:
0.9337
464/750 [==========>.....] - ETA: 0s - loss: 0.3374 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.3384 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.3391 - accuracy:
0.9325 - val loss: 0.4873 - val accuracy: 0.8876
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.4497 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3267 - accuracy:
0.9367
156/750 [====>.....] - ETA: 0s - loss: 0.3346 - accuracy:
```

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0.9358
232/750 [======>.....] - ETA: 0s - loss: 0.3339 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9364
386/750 [=======>.....] - ETA: 0s - loss: 0.3364 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.3366 - accuracy:
0.9351
544/750 [==========>.....] - ETA: 0s - loss: 0.3377 - accuracy:
622/750 [===========>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9343
750/750 [============== ] - 1s 796us/step - loss: 0.3392 - accuracy:
0.9343 - val loss: 0.4851 - val accuracy: 0.8855
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.2423 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3360 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.3329 - accuracy:
0.9380
231/750 [======>.....] - ETA: 0s - loss: 0.3318 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3355 - accuracy:
0.9371
381/750 [=========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3387 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9359
0.9357 - val_loss: 0.4845 - val_accuracy: 0.8870
Epoch 191/220
1/750 [...... 0.3542 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3433 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.3457 - accuracy:
234/750 [======>.....] - ETA: 0s - loss: 0.3433 - accuracy:
```

```
0.9338
309/750 [========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9361
389/750 [========>.....] - ETA: 0s - loss: 0.3392 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.3382 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.3366 - accuracy:
695/750 [===========>...] - ETA: 0s - loss: 0.3356 - accuracy:
750/750 [============= ] - 1s 794us/step - loss: 0.3366 - accuracy:
0.9359 - val_loss: 0.4854 - val_accuracy: 0.8860
Epoch 192/220
1/750 [...... - ETA: 0s - loss: 0.3231 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3297 - accuracy:
0.9377
153/750 [====>.....] - ETA: 0s - loss: 0.3346 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3367 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.3353 - accuracy:
382/750 [=======>>.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.9346
458/750 [==========>.....] - ETA: 0s - loss: 0.3364 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3349 - accuracy:
0.9367
0.9359 - val_loss: 0.4936 - val_accuracy: 0.8814
Epoch 193/220
1/750 [.....] - ETA: 0s - loss: 0.3261 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3283 - accuracy:
157/750 [=====>.....] - ETA: 0s - loss: 0.3324 - accuracy:
0.9380
234/750 [======>.....] - ETA: 0s - loss: 0.3391 - accuracy:
312/750 [=======>.....] - ETA: 0s - loss: 0.3406 - accuracy:
```

```
0.9347
387/750 [==========>.....] - ETA: 0s - loss: 0.3391 - accuracy:
466/750 [==========>.....] - ETA: 0s - loss: 0.3380 - accuracy:
0.9346
543/750 [==========>.....] - ETA: 0s - loss: 0.3383 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
750/750 [============= ] - 1s 800us/step - loss: 0.3389 - accuracy:
0.9340 - val loss: 0.5051 - val accuracy: 0.8768
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.3314 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3198 - accuracy:
0.9447
153/750 [====>.....] - ETA: 0s - loss: 0.3359 - accuracy:
0.9367
231/750 [======>.....] - ETA: 0s - loss: 0.3341 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3366 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.3383 - accuracy:
0.9345
457/750 [=========>.....] - ETA: 0s - loss: 0.3365 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3354 - accuracy:
0.9363
0.9352 - val loss: 0.4846 - val accuracy: 0.8873
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.2267 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3334 - accuracy:
0.9401
233/750 [======>.....] - ETA: 0s - loss: 0.3330 - accuracy:
0.9380
310/750 [=======>..... - ETA: 0s - loss: 0.3300 - accuracy:
0.9395
383/750 [========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
```

```
0.9373
461/750 [==========>.....] - ETA: 0s - loss: 0.3344 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3349 - accuracy:
0.9369
689/750 [============>...] - ETA: 0s - loss: 0.3382 - accuracy:
0.9357
750/750 [=============== ] - 1s 802us/step - loss: 0.3379 - accuracy:
0.9359 - val loss: 0.4805 - val accuracy: 0.8876
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.3438 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9347
156/750 [=====>.....] - ETA: 0s - loss: 0.3347 - accuracy:
0.9359
234/750 [======>.....] - ETA: 0s - loss: 0.3352 - accuracy:
0.9361
310/750 [=======>.....] - ETA: 0s - loss: 0.3368 - accuracy:
388/750 [=========>.....] - ETA: 0s - loss: 0.3356 - accuracy:
0.9365
465/750 [==========>.....] - ETA: 0s - loss: 0.3365 - accuracy:
0.9361
541/750 [==========>.....] - ETA: 0s - loss: 0.3380 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.3378 - accuracy:
750/750 [=============== ] - 1s 801us/step - loss: 0.3377 - accuracy:
0.9355 - val loss: 0.4932 - val accuracy: 0.8845
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.2188 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3256 - accuracy:
0.9428
156/750 [====>.....] - ETA: 0s - loss: 0.3208 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3286 - accuracy:
0.9411
302/750 [=======>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9391
379/750 [=======>>.....] - ETA: 0s - loss: 0.3314 - accuracy:
454/750 [==========>.....] - ETA: 0s - loss: 0.3350 - accuracy:
```

```
0.9373
533/750 [==========>.....] - ETA: 0s - loss: 0.3364 - accuracy:
608/750 [============>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9365 - val loss: 0.4808 - val accuracy: 0.8883
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.2723 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3237 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.3229 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3257 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3236 - accuracy:
386/750 [========>>.....] - ETA: 0s - loss: 0.3270 - accuracy:
0.9411
461/750 [=========>.....] - ETA: 0s - loss: 0.3303 - accuracy:
0.9395
536/750 [=========>:....] - ETA: 0s - loss: 0.3322 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.3347 - accuracy:
0.9372 - val loss: 0.5182 - val accuracy: 0.8797
Epoch 199/220
1/750 [.....] - ETA: 0s - loss: 0.3155 - accuracy:
0.9219
78/750 [==>.....] - ETA: 0s - loss: 0.3344 - accuracy:
0.9399
157/750 [=====>.....] - ETA: 0s - loss: 0.3345 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3327 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.3332 - accuracy:
387/750 [=======>.....] - ETA: 0s - loss: 0.3346 - accuracy:
463/750 [=========>...... - ETA: 0s - loss: 0.3353 - accuracy:
0.9381
534/750 [==========>.....] - ETA: 0s - loss: 0.3362 - accuracy:
```

```
0.9372
689/750 [============>...] - ETA: 0s - loss: 0.3383 - accuracy:
0.9359
750/750 [================ ] - 1s 804us/step - loss: 0.3379 - accuracy:
0.9361 - val loss: 0.4813 - val accuracy: 0.8900
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.2706 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3255 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.3329 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9395
309/750 [=======>>.....] - ETA: 0s - loss: 0.3327 - accuracy:
0.9387
386/750 [========>.....] - ETA: 0s - loss: 0.3315 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.3327 - accuracy:
0.9389
540/750 [==========>.....] - ETA: 0s - loss: 0.3348 - accuracy:
0.9363
0.9360 - val loss: 0.4779 - val accuracy: 0.8900
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.3243 - accuracy:
0.9375
69/750 [=>.....] - ETA: 0s - loss: 0.3358 - accuracy:
0.9361
139/750 [====>.....] - ETA: 0s - loss: 0.3321 - accuracy:
0.9359
211/750 [======>.....] - ETA: 0s - loss: 0.3353 - accuracy:
283/750 [=======>.....] - ETA: 0s - loss: 0.3375 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.3398 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.3369 - accuracy:
0.9341
510/750 [=========>.....] - ETA: 0s - loss: 0.3364 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.3354 - accuracy:
```

```
0.9354
750/750 [=============== ] - 1s 829us/step - loss: 0.3351 - accuracy:
0.9358 - val loss: 0.4933 - val accuracy: 0.8852
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.2828 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3197 - accuracy:
0.9451
151/750 [=====>.....] - ETA: 0s - loss: 0.3262 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3347 - accuracy:
0.9376
304/750 [=======>>.....] - ETA: 0s - loss: 0.3342 - accuracy:
0.9379
379/750 [========>.....] - ETA: 0s - loss: 0.3354 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9361
533/750 [==========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
605/750 [============>.....] - ETA: 0s - loss: 0.3383 - accuracy:
0.9348 - val loss: 0.4858 - val accuracy: 0.8888
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.3342 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3376 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.3333 - accuracy:
0.9378
234/750 [======>.....] - ETA: 0s - loss: 0.3357 - accuracy:
309/750 [========>.....] - ETA: 0s - loss: 0.3358 - accuracy:
0.9373
387/750 [========>.....] - ETA: 0s - loss: 0.3377 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.3376 - accuracy:
```

```
0.9358
750/750 [=============== ] - 1s 801us/step - loss: 0.3352 - accuracy:
0.9362 - val loss: 0.4896 - val accuracy: 0.8863
Epoch 204/220
 1/750 [.....] - ETA: 0s - loss: 0.2734 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3346 - accuracy:
0.9367
155/750 [====>...... - ETA: 0s - loss: 0.3292 - accuracy:
0.9371
232/750 [======>.....] - ETA: 0s - loss: 0.3289 - accuracy:
0.9378
308/750 [========>.....] - ETA: 0s - loss: 0.3291 - accuracy:
0.9384
388/750 [========>..... - ETA: 0s - loss: 0.3314 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.3331 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.3338 - accuracy:
0.9371
0.9373
696/750 [===========>...] - ETA: 0s - loss: 0.3356 - accuracy:
750/750 [============= ] - 1s 796us/step - loss: 0.3363 - accuracy:
0.9363 - val_loss: 0.4874 - val_accuracy: 0.8862
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.3127 - accuracy:
0.9375
80/750 [==>.....] - ETA: 0s - loss: 0.3258 - accuracy:
0.9406
153/750 [====>.....] - ETA: 0s - loss: 0.3357 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3391 - accuracy:
0.9383
309/750 [=======>.....] - ETA: 0s - loss: 0.3397 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.9371
460/750 [=========>.....] - ETA: 0s - loss: 0.3384 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3380 - accuracy:
0.9373
613/750 [===========>.....] - ETA: 0s - loss: 0.3364 - accuracy:
0.9379
```

```
0.9380
0.9381 - val_loss: 0.5035 - val_accuracy: 0.8807
Epoch 206/220
1/750 [.....] - ETA: 0s - loss: 0.3465 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3301 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.3342 - accuracy:
233/750 [======>...... - ETA: 0s - loss: 0.3386 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.3380 - accuracy:
388/750 [=========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
0.9353
464/750 [=========>.....] - ETA: 0s - loss: 0.3365 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.3360 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.3361 - accuracy:
0.9363
0.9364
750/750 [============= ] - 1s 800us/step - loss: 0.3369 - accuracy:
0.9359 - val_loss: 0.4911 - val_accuracy: 0.8854
Epoch 207/220
 1/750 [...... 0.2794 - accuracy:
0.9688
78/750 [==>.....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9325
156/750 [====>.....] - ETA: 0s - loss: 0.3331 - accuracy:
0.9366
231/750 [======>.....] - ETA: 0s - loss: 0.3363 - accuracy:
0.9363
309/750 [=======>.....] - ETA: 0s - loss: 0.3378 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.3366 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9361
616/750 [============>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9368
694/750 [============>...] - ETA: 0s - loss: 0.3373 - accuracy:
750/750 [============= ] - 1s 801us/step - loss: 0.3393 - accuracy:
```

```
0.9357 - val_loss: 0.4913 - val_accuracy: 0.8870 Epoch 208/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3383 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3333 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3293 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.3344 - accuracy:
307/750 [=======>..... - ETA: 0s - loss: 0.3331 - accuracy:
0.9396
383/750 [========>.....] - ETA: 0s - loss: 0.3349 - accuracy:
0.9382
460/750 [==========>.....] - ETA: 0s - loss: 0.3341 - accuracy:
0.9387
537/750 [=========>.....] - ETA: 0s - loss: 0.3344 - accuracy:
0.9379
615/750 [===============>.....] - ETA: 0s - loss: 0.3350 - accuracy:
0.9376
692/750 [============>...] - ETA: 0s - loss: 0.3339 - accuracy:
0.9378
0.9374 - val loss: 0.4819 - val accuracy: 0.8891
Epoch 209/220
1/750 [.....] - ETA: 0s - loss: 0.2964 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3365 - accuracy:
0.9345
155/750 [=====>.....] - ETA: 0s - loss: 0.3397 - accuracy:
0.9311
231/750 [======>.....] - ETA: 0s - loss: 0.3354 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3353 - accuracy:
0.9339
384/750 [========>.....] - ETA: 0s - loss: 0.3355 - accuracy:
0.9346
461/750 [=========>.....] - ETA: 0s - loss: 0.3371 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3378 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.3362 - accuracy:
750/750 [============= ] - 1s 801us/step - loss: 0.3357 - accuracy:
0.9356 - val loss: 0.4906 - val accuracy: 0.8874
Epoch 210/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3254 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3231 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3240 - accuracy:
0.9386
232/750 [======>.....] - ETA: 0s - loss: 0.3273 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.3296 - accuracy:
0.9384
384/750 [=======>..... - ETA: 0s - loss: 0.3317 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9378
535/750 [=========>.....] - ETA: 0s - loss: 0.3334 - accuracy:
0.9377
613/750 [============>.....] - ETA: 0s - loss: 0.3328 - accuracy:
0.9382 - val loss: 0.4810 - val accuracy: 0.8868
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.2980 - accuracy:
0.9375
76/750 [==>.....] - ETA: 0s - loss: 0.3202 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3265 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3280 - accuracy:
0.9404
305/750 [=======>.....] - ETA: 0s - loss: 0.3269 - accuracy:
0.9411
383/750 [=======>>.....] - ETA: 0s - loss: 0.3310 - accuracy:
459/750 [==========>.....] - ETA: 0s - loss: 0.3297 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9375 - val_loss: 0.4929 - val_accuracy: 0.8852
Epoch 212/220
1/750 [.....] - ETA: 0s - loss: 0.2933 - accuracy:
```

```
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3384 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.3316 - accuracy:
0.9401
229/750 [======>.....] - ETA: 0s - loss: 0.3297 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.3351 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.3344 - accuracy:
459/750 [=========>...... - ETA: 0s - loss: 0.3352 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3350 - accuracy:
0.9386
609/750 [============>.....] - ETA: 0s - loss: 0.3360 - accuracy:
0.9378
684/750 [=============>...] - ETA: 0s - loss: 0.3336 - accuracy:
0.9388
0.9390 - val_loss: 0.4959 - val_accuracy: 0.8848
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.3657 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3208 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.3237 - accuracy:
0.9419
231/750 [======>.....] - ETA: 0s - loss: 0.3296 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3304 - accuracy:
0.9382
383/750 [========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
462/750 [=========>...... - ETA: 0s - loss: 0.3318 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9377
616/750 [============>.....] - ETA: 0s - loss: 0.3355 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 0.3372 - accuracy:
0.9361 - val loss: 0.4864 - val accuracy: 0.8859
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.2910 - accuracy:
0.9375
77/750 [==>.....] - ETA: 0s - loss: 0.3342 - accuracy:
```

```
0.9347
156/750 [====>.....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9373
229/750 [======>.....] - ETA: 0s - loss: 0.3302 - accuracy:
306/750 [=======>..... - ETA: 0s - loss: 0.3311 - accuracy:
384/750 [=======>>.....] - ETA: 0s - loss: 0.3300 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3335 - accuracy:
0.9377
750/750 [============== ] - 1s 806us/step - loss: 0.3342 - accuracy:
0.9375 - val loss: 0.4878 - val accuracy: 0.8853
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.3162 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3264 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.3315 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3285 - accuracy:
0.9387
305/750 [========>.....] - ETA: 0s - loss: 0.3291 - accuracy:
0.9385
381/750 [=========>:....] - ETA: 0s - loss: 0.3297 - accuracy:
0.9387
456/750 [==========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9388
607/750 [=============>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9386
681/750 [============>...] - ETA: 0s - loss: 0.3314 - accuracy:
0.9378 - val loss: 0.4949 - val accuracy: 0.8855
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.3089 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3237 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3292 - accuracy:
```

```
0.9411
223/750 [======>.....] - ETA: 0s - loss: 0.3333 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.3326 - accuracy:
377/750 [=======>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9388
454/750 [=========>.....] - ETA: 0s - loss: 0.3320 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.3347 - accuracy:
0.9376
0.9380
750/750 [============= ] - 1s 805us/step - loss: 0.3349 - accuracy:
0.9377 - val loss: 0.4878 - val accuracy: 0.8889
Epoch 217/220
1/750 [.....] - ETA: 0s - loss: 0.4162 - accuracy:
0.9062
79/750 [==>.....] - ETA: 0s - loss: 0.3235 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.3299 - accuracy:
0.9403
230/750 [======>.....] - ETA: 0s - loss: 0.3283 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9396
384/750 [========>>.....] - ETA: 0s - loss: 0.3320 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.3326 - accuracy:
0.9391
538/750 [==========>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9391
614/750 [============>.....] - ETA: 0s - loss: 0.3354 - accuracy:
0.9371
0.9367 - val_loss: 0.4901 - val_accuracy: 0.8881
Epoch 218/220
1/750 [...... 0.4376 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3320 - accuracy:
0.9381
154/750 [====>.....] - ETA: 0s - loss: 0.3375 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.3377 - accuracy:
```

```
0.9361
310/750 [========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.3378 - accuracy:
0.9371
465/750 [=========>.....] - ETA: 0s - loss: 0.3358 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.3349 - accuracy:
0.9377
696/750 [============>...] - ETA: 0s - loss: 0.3339 - accuracy:
750/750 [============= ] - 1s 798us/step - loss: 0.3335 - accuracy:
0.9381 - val_loss: 0.4904 - val_accuracy: 0.8881
Epoch 219/220
1/750 [...... - ETA: 0s - loss: 0.4119 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3385 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.3342 - accuracy:
0.9381
231/750 [======>.....] - ETA: 0s - loss: 0.3343 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.3348 - accuracy:
387/750 [=======>.....] - ETA: 0s - loss: 0.3369 - accuracy:
0.9371
464/750 [==========>.....] - ETA: 0s - loss: 0.3358 - accuracy:
0.9379
540/750 [=========>.....] - ETA: 0s - loss: 0.3339 - accuracy:
0.9386
0.9384 - val_loss: 0.5003 - val_accuracy: 0.8813
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.2646 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.3292 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9417
232/750 [======>.....] - ETA: 0s - loss: 0.3319 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.3347 - accuracy:
```

```
0.9389
385/750 [=========>>.....] - ETA: 0s - loss: 0.3342 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.3342 - accuracy:
0.9391
536/750 [==========>.....] - ETA: 0s - loss: 0.3333 - accuracy:
0.9386
690/750 [=============>...] - ETA: 0s - loss: 0.3335 - accuracy:
750/750 [============== ] - 1s 802us/step - loss: 0.3337 - accuracy:
0.9386 - val loss: 0.4855 - val accuracy: 0.8887
 1/313 [.....] - ETA: 3s - loss: 0.5969 - accuracy:
0.8438
109/313 [=======>.....] - ETA: 0s - loss: 0.5151 - accuracy:
0.8784
220/313 [==========>.....] - ETA: 0s - loss: 0.5304 - accuracy:
0.8746
0.8791
Testing loss: 0.5179632306098938
Testing accuracy: 87.91000247001648%
```

Running for Model 3/12

Model: "sequential_3"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 40)	31400
hidden1 (Dense)	(None, 40)	1640
hidden2 (Dense)	(None, 40)	1640
hidden3 (Dense)	(None, 40)	1640
hidden4 (Dense)	(None, 40)	1640
output_layer (Dense)	(None, 10)	410

Total params: 38,370 Trainable params: 38,370 Non-trainable params: 0

```
L2 REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 40,
'activation function': 'relu', 'input shape': (784,)}, {'name': 'hidden1', 'size':
40, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 40,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation_function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 2:11 - loss: 2.5801 - accuracy:
82/750 [==>...... - ETA: 0s - loss: 2.4992 - accuracy: 0.1448
172/750 [====>...... - ETA: 0s - loss: 2.3791 - accuracy:
0.1903
259/750 [=======>.....] - ETA: 0s - loss: 2.2404 - accuracy:
0.2233
348/750 [========>.....] - ETA: 0s - loss: 2.1014 - accuracy:
437/750 [==========>.....] - ETA: 0s - loss: 1.9689 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 1.8552 - accuracy:
0.3985
0.4499
697/750 [===========>...] - ETA: 0s - loss: 1.6685 - accuracy:
0.4900 - val_loss: 1.0299 - val_accuracy: 0.7156
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 1.0865 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 1.0037 - accuracy:
0.7244
167/750 [====>.....] - ETA: 0s - loss: 0.9855 - accuracy:
0.7291
252/750 [=======>.....] - ETA: 0s - loss: 0.9766 - accuracy:
334/750 [========>.....] - ETA: 0s - loss: 0.9649 - accuracy:
0.7374
416/750 [========>.....] - ETA: 0s - loss: 0.9532 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.9409 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.9325 - accuracy:
666/750 [============>....] - ETA: 0s - loss: 0.9227 - accuracy:
750/750 [============ ] - ETA: 0s - loss: 0.9154 - accuracy:
```

```
0.7582
750/750 [=============== ] - 1s 741us/step - loss: 0.9154 - accuracy:
0.7582 - val_loss: 0.8482 - val_accuracy: 0.7850
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 0.8368 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.8422 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.8508 - accuracy:
0.7846
258/750 [=======>..... - ETA: 0s - loss: 0.8408 - accuracy:
0.7881
344/750 [========>.....] - ETA: 0s - loss: 0.8390 - accuracy:
0.7895
426/750 [=========>.....] - ETA: 0s - loss: 0.8285 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.8218 - accuracy:
598/750 [=============>.....] - ETA: 0s - loss: 0.8189 - accuracy:
0.7968
686/750 [============>...] - ETA: 0s - loss: 0.8158 - accuracy:
0.7984
750/750 [================ ] - 1s 709us/step - loss: 0.8122 - accuracy:
0.7997 - val loss: 0.8025 - val accuracy: 0.8013
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 0.6754 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.7880 - accuracy:
0.8139
179/750 [=====>.....] - ETA: 0s - loss: 0.7792 - accuracy:
0.8163
269/750 [=======>.....] - ETA: 0s - loss: 0.7718 - accuracy:
0.8170
359/750 [=======>.....] - ETA: 0s - loss: 0.7746 - accuracy:
0.8167
448/750 [=========>.....] - ETA: 0s - loss: 0.7712 - accuracy:
0.8181
539/750 [=========>.....] - ETA: 0s - loss: 0.7722 - accuracy:
0.8173
0.8189 - val_loss: 0.7815 - val_accuracy: 0.8102
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 0.6948 - accuracy:
```

```
0.8594
89/750 [==>.....] - ETA: 0s - loss: 0.7491 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.7484 - accuracy:
0.8237
268/750 [======>.....] - ETA: 0s - loss: 0.7478 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7449 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.7393 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.7363 - accuracy:
0.8267
0.8262 - val loss: 0.7316 - val accuracy: 0.8284
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 1.0442 - accuracy:
0.6496
90/750 [==>.....] - ETA: 0s - loss: 0.7182 - accuracy:
0.8337
179/750 [=====>.....] - ETA: 0s - loss: 0.7238 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.7268 - accuracy:
0.8293
357/750 [=========>.....] - ETA: 0s - loss: 0.7231 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.7192 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.7179 - accuracy:
625/750 [============>....] - ETA: 0s - loss: 0.7163 - accuracy:
0.8334 - val_loss: 0.7112 - val_accuracy: 0.8334
Epoch 7/220
89/750 [==>.....] - ETA: 0s - loss: 0.7163 - accuracy:
0.8346
177/750 [=====>.....] - ETA: 0s - loss: 0.7035 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.6991 - accuracy:
```

```
0.8390
352/750 [=========>.....] - ETA: 0s - loss: 0.6988 - accuracy:
0.8389
443/750 [=========>.....] - ETA: 0s - loss: 0.7009 - accuracy:
0.8370
532/750 [===========>.....] - ETA: 0s - loss: 0.7020 - accuracy:
0.8391
0.8395 - val_loss: 0.7037 - val_accuracy: 0.8339
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 0.6512 - accuracy:
0.8281
92/750 [==>.....] - ETA: 0s - loss: 0.6736 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.6782 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.6835 - accuracy:
0.8416
358/750 [=======>...... - ETA: 0s - loss: 0.6817 - accuracy:
0.8419
446/750 [=========>.....] - ETA: 0s - loss: 0.6820 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.6813 - accuracy:
609/750 [============:::....] - ETA: 0s - loss: 0.6793 - accuracy:
0.8431
0.8424 - val loss: 0.6913 - val accuracy: 0.8383
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 0.6870 - accuracy:
0.8594
88/750 [==>.....] - ETA: 0s - loss: 0.6787 - accuracy:
0.8359
173/750 [====>.....] - ETA: 0s - loss: 0.6643 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.6713 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.6664 - accuracy:
0.8451
430/750 [==========>.....] - ETA: 0s - loss: 0.6653 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.6634 - accuracy:
```

```
0.8469
750/750 [================ ] - 1s 713us/step - loss: 0.6660 - accuracy:
0.8456 - val loss: 0.6773 - val accuracy: 0.8422
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 0.6726 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6757 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6581 - accuracy:
0.8495
264/750 [=======>.....] - ETA: 0s - loss: 0.6528 - accuracy:
0.8497
353/750 [=======>.....] - ETA: 0s - loss: 0.6574 - accuracy:
438/750 [==========>.....] - ETA: 0s - loss: 0.6591 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.6573 - accuracy:
0.8481
0.8491
701/750 [===============>..] - ETA: 0s - loss: 0.6519 - accuracy:
0.8501
750/750 [============= ] - 1s 709us/step - loss: 0.6514 - accuracy:
0.8503 - val_loss: 0.6550 - val_accuracy: 0.8482
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 0.7946 - accuracy:
0.8594
88/750 [==>.....] - ETA: 0s - loss: 0.6555 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6510 - accuracy:
0.8489
262/750 [=======>.....] - ETA: 0s - loss: 0.6484 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6461 - accuracy:
0.8511
436/750 [=========>.....] - ETA: 0s - loss: 0.6452 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.6453 - accuracy:
611/750 [============>.....] - ETA: 0s - loss: 0.6429 - accuracy:
0.8525
750/750 [============= ] - 1s 706us/step - loss: 0.6399 - accuracy:
```

```
0.8528 - val loss: 0.6460 - val accuracy: 0.8527
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 0.6411 - accuracy:
0.8281
86/750 [==>.....] - ETA: 0s - loss: 0.6284 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.6303 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.6341 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6333 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.6355 - accuracy:
0.8531
520/750 [==========>.....] - ETA: 0s - loss: 0.6322 - accuracy:
0.8539
611/750 [============>.....] - ETA: 0s - loss: 0.6311 - accuracy:
0.8541
0.8547 - val loss: 0.6481 - val accuracy: 0.8501
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 0.5563 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.6012 - accuracy:
170/750 [=====>......] - ETA: 0s - loss: 0.6070 - accuracy:
254/750 [=======>.....] - ETA: 0s - loss: 0.6077 - accuracy:
0.8638
342/750 [=========>.....] - ETA: 0s - loss: 0.6138 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.6151 - accuracy:
0.8696
517/750 [===========>.....] - ETA: 0s - loss: 0.6165 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.6179 - accuracy:
0.8593 - val_loss: 0.6322 - val_accuracy: 0.8531
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 0.5201 - accuracy:
0.9375
```

87/750 [==>.....] - ETA: 0s - loss: 0.6139 - accuracy:

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176/750 [=====>.....] - ETA: 0s - loss: 0.6133 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.6116 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.6086 - accuracy:
0.8696
442/750 [========>.....] - ETA: 0s - loss: 0.6121 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.6106 - accuracy:
618/750 [===========>.....] - ETA: 0s - loss: 0.6108 - accuracy:
0.8594
750/750 [============== ] - 1s 704us/step - loss: 0.6111 - accuracy:
0.8595 - val loss: 0.6153 - val accuracy: 0.8581
Epoch 15/220
1/750 [...... 0.4846 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5893 - accuracy:
0.8651
172/750 [====>...... - ETA: 0s - loss: 0.6038 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.6033 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.6009 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.6051 - accuracy:
521/750 [==========>.....] - ETA: 0s - loss: 0.6044 - accuracy:
0.8617
0.8616
0.8625 - val_loss: 0.6169 - val_accuracy: 0.8582
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 0.5784 - accuracy:
0.8594
88/750 [==>.....] - ETA: 0s - loss: 0.5976 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.6018 - accuracy:
262/750 [======>..... - ETA: 0s - loss: 0.5966 - accuracy:
0.8613
349/750 [=========>.....] - ETA: 0s - loss: 0.5993 - accuracy:
```

```
0.8593
438/750 [=========>.....] - ETA: 0s - loss: 0.5979 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.5967 - accuracy:
0.8621
0.8644
750/750 [=============== ] - 1s 713us/step - loss: 0.5918 - accuracy:
0.8642 - val_loss: 0.6254 - val_accuracy: 0.8515
Epoch 17/220
1/750 [.....] - ETA: 0s - loss: 0.4994 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5837 - accuracy:
0.8626
180/750 [=====>...... - ETA: 0s - loss: 0.5864 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.5843 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.5843 - accuracy:
0.8649
448/750 [=========>..... - ETA: 0s - loss: 0.5852 - accuracy:
0.8631
538/750 [==========>.....] - ETA: 0s - loss: 0.5845 - accuracy:
716/750 [==============>..] - ETA: 0s - loss: 0.5846 - accuracy:
0.8652 - val_loss: 0.6023 - val_accuracy: 0.8602
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.6256 - accuracy:
0.8281
86/750 [==>.....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8636
167/750 [=====>.....] - ETA: 0s - loss: 0.5755 - accuracy:
0.8669
249/750 [======>.....] - ETA: 0s - loss: 0.5778 - accuracy:
336/750 [=========>.....] - ETA: 0s - loss: 0.5796 - accuracy:
420/750 [========>....] - ETA: 0s - loss: 0.5798 - accuracy:
0.8669
503/750 [=========>.....] - ETA: 0s - loss: 0.5784 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.5769 - accuracy:
```

```
0.8673
750/750 [=============== ] - 1s 728us/step - loss: 0.5775 - accuracy:
0.8670 - val loss: 0.5948 - val accuracy: 0.8646
Epoch 19/220
 1/750 [.....] - ETA: 0s - loss: 0.6452 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5737 - accuracy:
0.8676
174/750 [====>...... - ETA: 0s - loss: 0.5810 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.5777 - accuracy:
0.8674
349/750 [=========>.....] - ETA: 0s - loss: 0.5701 - accuracy:
0.8696
436/750 [=========>..... - ETA: 0s - loss: 0.5706 - accuracy:
0.8693
523/750 [===========>.....] - ETA: 0s - loss: 0.5692 - accuracy:
611/750 [============>.....] - ETA: 0s - loss: 0.5698 - accuracy:
0.8694
0.8696
750/750 [============= ] - 1s 706us/step - loss: 0.5699 - accuracy:
0.8696 - val_loss: 0.5833 - val_accuracy: 0.8637
Epoch 20/220
 1/750 [...... 0.5104 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5830 - accuracy:
0.8621
177/750 [=====>.....] - ETA: 0s - loss: 0.5661 - accuracy:
0.8693
263/750 [======>..... - ETA: 0s - loss: 0.5639 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.5613 - accuracy:
0.8721
438/750 [=========>..... - ETA: 0s - loss: 0.5618 - accuracy:
0.8715
523/750 [===========>.....] - ETA: 0s - loss: 0.5662 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.5647 - accuracy:
0.8696
694/750 [============>...] - ETA: 0s - loss: 0.5631 - accuracy:
0.8698
750/750 [============== ] - 1s 714us/step - loss: 0.5633 - accuracy:
0.8700 - val_loss: 0.5919 - val_accuracy: 0.8599
Epoch 21/220
```

```
1/750 [...... - 6.6879 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5634 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5597 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.5611 - accuracy:
0.8687
350/750 [=======>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8701
440/750 [=========>..... - ETA: 0s - loss: 0.5618 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.5624 - accuracy:
0.8695
0.8701
699/750 [============>...] - ETA: 0s - loss: 0.5584 - accuracy:
0.8714
0.8717 - val_loss: 0.5720 - val_accuracy: 0.8668
Epoch 22/220
1/750 [...... - ETA: 0s - loss: 0.5834 - accuracy:
87/750 [==>....... - ETA: 0s - loss: 0.5563 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.5606 - accuracy:
0.8729
264/750 [=======>.....] - ETA: 0s - loss: 0.5559 - accuracy:
348/750 [========>......] - ETA: 0s - loss: 0.5521 - accuracy:
0.8756
437/750 [=========>.....] - ETA: 0s - loss: 0.5516 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.5507 - accuracy:
0.8746
0.8751
696/750 [===========>...] - ETA: 0s - loss: 0.5510 - accuracy:
0.8735 - val loss: 0.5701 - val accuracy: 0.8658
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.4876 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5584 - accuracy:
0.8719
174/750 [====>.....] - ETA: 0s - loss: 0.5566 - accuracy:
```

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0.8731
264/750 [=======>.....] - ETA: 0s - loss: 0.5517 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.5520 - accuracy:
0.8731
439/750 [========>.....] - ETA: 0s - loss: 0.5525 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.5521 - accuracy:
699/750 [===========>...] - ETA: 0s - loss: 0.5468 - accuracy:
0.8741
750/750 [============= ] - 1s 717us/step - loss: 0.5459 - accuracy:
0.8746 - val_loss: 0.5697 - val_accuracy: 0.8657
Epoch 24/220
1/750 [...... - ETA: 0s - loss: 0.4877 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8824
168/750 [====>.....] - ETA: 0s - loss: 0.5399 - accuracy:
241/750 [======>.....] - ETA: 0s - loss: 0.5421 - accuracy:
0.8766
329/750 [========>.....] - ETA: 0s - loss: 0.5419 - accuracy:
0.8761
414/750 [========>..... - ETA: 0s - loss: 0.5403 - accuracy:
0.8756
505/750 [=========>.....] - ETA: 0s - loss: 0.5386 - accuracy:
594/750 [============>.....] - ETA: 0s - loss: 0.5399 - accuracy:
0.8761
0.8762 - val loss: 0.5803 - val accuracy: 0.8604
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.4829 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5435 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.5392 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.5337 - accuracy:
0.8795
352/750 [========>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8788
441/750 [=========>.....] - ETA: 0s - loss: 0.5355 - accuracy:
```

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0.8772
531/750 [==========>.....] - ETA: 0s - loss: 0.5354 - accuracy:
620/750 [============>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8767
0.8763 - val loss: 0.5754 - val accuracy: 0.8602
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.5540 - accuracy:
0.8281
90/750 [==>.....] - ETA: 0s - loss: 0.5127 - accuracy:
0.8863
177/750 [=====>.....] - ETA: 0s - loss: 0.5183 - accuracy:
0.8831
250/750 [======>..... - ETA: 0s - loss: 0.5199 - accuracy:
0.8821
338/750 [========>...... - ETA: 0s - loss: 0.5233 - accuracy:
423/750 [========>..... - ETA: 0s - loss: 0.5251 - accuracy:
0.8801
509/750 [===========>.....] - ETA: 0s - loss: 0.5257 - accuracy:
0.8795
599/750 [============>.....] - ETA: 0s - loss: 0.5258 - accuracy:
0.8788
750/750 [============= ] - 1s 722us/step - loss: 0.5294 - accuracy:
0.8781 - val_loss: 0.5543 - val_accuracy: 0.8702
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.4890 - accuracy:
0.9219
84/750 [==>.....] - ETA: 0s - loss: 0.5273 - accuracy:
169/750 [====>..... - ETA: 0s - loss: 0.5287 - accuracy:
0.8766
251/750 [=======>.....] - ETA: 0s - loss: 0.5240 - accuracy:
0.8791
336/750 [========>.....] - ETA: 0s - loss: 0.5235 - accuracy:
0.8791
419/750 [========>..... - ETA: 0s - loss: 0.5230 - accuracy:
0.8794
504/750 [=========>.....] - ETA: 0s - loss: 0.5228 - accuracy:
0.8793
590/750 [===========>.....] - ETA: 0s - loss: 0.5258 - accuracy:
0.8782
673/750 [============>....] - ETA: 0s - loss: 0.5254 - accuracy:
```

```
0.8783
0.8785 - val_loss: 0.5482 - val_accuracy: 0.8701
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.5439 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5094 - accuracy:
165/750 [====>.....] - ETA: 0s - loss: 0.5054 - accuracy:
248/750 [======>...... - ETA: 0s - loss: 0.5093 - accuracy:
334/750 [========>.....] - ETA: 0s - loss: 0.5121 - accuracy:
0.8813
412/750 [========>.....] - ETA: 0s - loss: 0.5179 - accuracy:
0.8795
498/750 [=========>.....] - ETA: 0s - loss: 0.5192 - accuracy:
0.8782
584/750 [==============>.....] - ETA: 0s - loss: 0.5177 - accuracy:
667/750 [=============>....] - ETA: 0s - loss: 0.5199 - accuracy:
750/750 [=============== ] - 1s 733us/step - loss: 0.5203 - accuracy:
0.8790 - val loss: 0.5426 - val accuracy: 0.8727
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.4846 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.5190 - accuracy:
165/750 [=====>.....] - ETA: 0s - loss: 0.5082 - accuracy:
0.8849
246/750 [======>.....] - ETA: 0s - loss: 0.5060 - accuracy:
0.8843
329/750 [=======>.....] - ETA: 0s - loss: 0.5097 - accuracy:
0.8831
413/750 [=========>.....] - ETA: 0s - loss: 0.5164 - accuracy:
0.8804
497/750 [=========>.....] - ETA: 0s - loss: 0.5145 - accuracy:
575/750 [============>.....] - ETA: 0s - loss: 0.5142 - accuracy:
653/750 [============>....] - ETA: 0s - loss: 0.5155 - accuracy:
735/750 [==============>.] - ETA: 0s - loss: 0.5154 - accuracy:
0.8804 - val_loss: 0.5439 - val_accuracy: 0.8690
Epoch 30/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4566 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.5116 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.5021 - accuracy:
253/750 [======>.....] - ETA: 0s - loss: 0.5019 - accuracy:
0.8844
344/750 [=======>.....] - ETA: 0s - loss: 0.5081 - accuracy:
425/750 [=========>..... - ETA: 0s - loss: 0.5103 - accuracy:
506/750 [==========>.....] - ETA: 0s - loss: 0.5093 - accuracy:
0.8823
586/750 [============>.....] - ETA: 0s - loss: 0.5121 - accuracy:
0.8813
0.8816
0.8825 - val loss: 0.5484 - val accuracy: 0.8670
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.6721 - accuracy:
0.8125
88/750 [==>.....] - ETA: 0s - loss: 0.5083 - accuracy:
170/750 [=====>.....] - ETA: 0s - loss: 0.5178 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.5204 - accuracy:
0.8771
344/750 [========>.....] - ETA: 0s - loss: 0.5160 - accuracy:
0.8786
422/750 [========>..... - ETA: 0s - loss: 0.5133 - accuracy:
0.8793
508/750 [===========>.....] - ETA: 0s - loss: 0.5111 - accuracy:
0.8894
598/750 [===========>.....] - ETA: 0s - loss: 0.5103 - accuracy:
0.8821
0.8825 - val loss: 0.5448 - val accuracy: 0.8658
Epoch 32/220
1/750 [.....] - ETA: 0s - loss: 0.6083 - accuracy:
0.8281
86/750 [==>.....] - ETA: 0s - loss: 0.5203 - accuracy:
```

```
172/750 [====>.....] - ETA: 0s - loss: 0.5179 - accuracy:
255/750 [=======>.....] - ETA: 0s - loss: 0.5143 - accuracy:
335/750 [=======>.....] - ETA: 0s - loss: 0.5115 - accuracy:
406/750 [========>....] - ETA: 0s - loss: 0.5064 - accuracy:
487/750 [=========>.....] - ETA: 0s - loss: 0.5056 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5028 - accuracy:
0.8841
750/750 [============== ] - 1s 769us/step - loss: 0.5029 - accuracy:
0.8842 - val loss: 0.5525 - val accuracy: 0.8662
Epoch 33/220
1/750 [.....] - ETA: 0s - loss: 0.6286 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.4886 - accuracy:
157/750 [====>.....] - ETA: 0s - loss: 0.4922 - accuracy:
237/750 [======>.....] - ETA: 0s - loss: 0.4967 - accuracy:
0.8885
320/750 [========>.....] - ETA: 0s - loss: 0.4992 - accuracy:
0.8869
402/750 [========>.....] - ETA: 0s - loss: 0.5012 - accuracy:
486/750 [==========>.....] - ETA: 0s - loss: 0.5015 - accuracy:
575/750 [===========>.....] - ETA: 0s - loss: 0.5003 - accuracy:
663/750 [=============>....] - ETA: 0s - loss: 0.4994 - accuracy:
0.8844
0.8845 - val_loss: 0.5509 - val_accuracy: 0.8649
Epoch 34/220
1/750 [...... 0.4305 - accuracy:
76/750 [==>....... - accuracy:
165/750 [====>.....] - ETA: 0s - loss: 0.4910 - accuracy:
0.8877
254/750 [======>.....] - ETA: 0s - loss: 0.4906 - accuracy:
```

```
0.8875
341/750 [========>.....] - ETA: 0s - loss: 0.4937 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.4933 - accuracy:
0.8864
510/750 [========>:....] - ETA: 0s - loss: 0.4941 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.4935 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.4938 - accuracy:
750/750 [============= ] - 1s 736us/step - loss: 0.4950 - accuracy:
0.8849 - val loss: 0.5392 - val accuracy: 0.8676
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.5204 - accuracy:
0.8906
91/750 [==>.....] - ETA: 0s - loss: 0.4823 - accuracy:
0.8899
176/750 [=====>.....] - ETA: 0s - loss: 0.4870 - accuracy:
0.8894
259/750 [======>..... - ETA: 0s - loss: 0.4870 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 0.4863 - accuracy:
0.8885
410/750 [========>.....] - ETA: 0s - loss: 0.4889 - accuracy:
0.8874
481/750 [==========>.....] - ETA: 0s - loss: 0.4895 - accuracy:
0.8875
563/750 [==========>.....] - ETA: 0s - loss: 0.4904 - accuracy:
650/750 [==============>....] - ETA: 0s - loss: 0.4896 - accuracy:
0.8874
0.8867 - val loss: 0.5199 - val accuracy: 0.8739
Epoch 36/220
1/750 [...... - ETA: 0s - loss: 0.3713 - accuracy:
0.9219
85/750 [==>.....] - ETA: 0s - loss: 0.4865 - accuracy:
0.8879
167/750 [=====>......] - ETA: 0s - loss: 0.4826 - accuracy:
257/750 [=======>.....] - ETA: 0s - loss: 0.4910 - accuracy:
0.8859
349/750 [=======>..... - ETA: 0s - loss: 0.4918 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.4863 - accuracy:
```

```
0.8869
517/750 [===========>.....] - ETA: 0s - loss: 0.4865 - accuracy:
600/750 [============>.....] - ETA: 0s - loss: 0.4866 - accuracy:
0.8867
0.8860 - val loss: 0.5791 - val accuracy: 0.8514
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.4748 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4873 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.4854 - accuracy:
0.8870
265/750 [======>...... - ETA: 0s - loss: 0.4809 - accuracy:
0.8879
442/750 [========>.....] - ETA: 0s - loss: 0.4798 - accuracy:
0.8886
531/750 [==========>.....] - ETA: 0s - loss: 0.4830 - accuracy:
0.8876
0.8866
0.8872
750/750 [============= ] - 1s 700us/step - loss: 0.4852 - accuracy:
0.8867 - val_loss: 0.5230 - val_accuracy: 0.8728
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.4031 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.4761 - accuracy:
0.8899
178/750 [=====>.....] - ETA: 0s - loss: 0.4797 - accuracy:
0.8854
268/750 [=======>.....] - ETA: 0s - loss: 0.4844 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.4813 - accuracy:
0.8887
445/750 [========>.....] - ETA: 0s - loss: 0.4825 - accuracy:
0.8887
531/750 [=========>.....] - ETA: 0s - loss: 0.4804 - accuracy:
0.8899
622/750 [===========>.....] - ETA: 0s - loss: 0.4829 - accuracy:
708/750 [==============>..] - ETA: 0s - loss: 0.4823 - accuracy:
```

```
0.8878
750/750 [=============== ] - 1s 697us/step - loss: 0.4813 - accuracy:
0.8878 - val_loss: 0.5231 - val_accuracy: 0.8710
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.3775 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.4646 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.4736 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.4753 - accuracy:
0.8891
347/750 [========>.....] - ETA: 0s - loss: 0.4776 - accuracy:
0.8885
438/750 [=========>.....] - ETA: 0s - loss: 0.4787 - accuracy:
0.8872
526/750 [==========>.....] - ETA: 0s - loss: 0.4800 - accuracy:
0.8866
703/750 [==============>..] - ETA: 0s - loss: 0.4794 - accuracy:
0.8873
750/750 [================ ] - 1s 705us/step - loss: 0.4799 - accuracy:
0.8875 - val loss: 0.5225 - val accuracy: 0.8712
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.4714 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4888 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.4814 - accuracy:
0.8848
266/750 [=======>.....] - ETA: 0s - loss: 0.4770 - accuracy:
0.8870
358/750 [=======>.....] - ETA: 0s - loss: 0.4764 - accuracy:
0.8874
447/750 [=========>.....] - ETA: 0s - loss: 0.4767 - accuracy:
0.8875
534/750 [=========>.....] - ETA: 0s - loss: 0.4732 - accuracy:
0.8883
0.8879
0.8883 - val_loss: 0.5207 - val_accuracy: 0.8727
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.4195 - accuracy:
```

```
0.8594
89/750 [==>.....] - ETA: 0s - loss: 0.4706 - accuracy:
0.8857
179/750 [=====>.....] - ETA: 0s - loss: 0.4746 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.4701 - accuracy:
0.8885
353/750 [=======>.....] - ETA: 0s - loss: 0.4711 - accuracy:
0.8871
442/750 [=========>.....] - ETA: 0s - loss: 0.4709 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.4701 - accuracy:
0.8893
750/750 [============= ] - 1s 698us/step - loss: 0.4729 - accuracy:
0.8890 - val loss: 0.5157 - val accuracy: 0.8729
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.5721 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.4723 - accuracy:
0.8871
166/750 [====>.....] - ETA: 0s - loss: 0.4689 - accuracy:
245/750 [======>.....] - ETA: 0s - loss: 0.4720 - accuracy:
0.8886
332/750 [========>.....] - ETA: 0s - loss: 0.4762 - accuracy:
0.8861
424/750 [========>.....] - ETA: 0s - loss: 0.4722 - accuracy:
0.8885
515/750 [===========>.....] - ETA: 0s - loss: 0.4723 - accuracy:
0.8885
602/750 [===========>.....] - ETA: 0s - loss: 0.4718 - accuracy:
0.8889
0.8902 - val_loss: 0.5290 - val_accuracy: 0.8675
Epoch 43/220
1/750 [...... 0.4906 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.4617 - accuracy:
0.8951
176/750 [=====>.....] - ETA: 0s - loss: 0.4622 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.4629 - accuracy:
```

```
0.8938
344/750 [========>......] - ETA: 0s - loss: 0.4623 - accuracy:
0.8949
426/750 [=========>.....] - ETA: 0s - loss: 0.4648 - accuracy:
0.8944
511/750 [========>:....] - ETA: 0s - loss: 0.4674 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.4695 - accuracy:
750/750 [============== ] - 1s 725us/step - loss: 0.4665 - accuracy:
0.8914 - val loss: 0.5097 - val accuracy: 0.8739
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.3924 - accuracy:
0.9219
83/750 [==>.....] - ETA: 0s - loss: 0.4582 - accuracy:
0.8933
168/750 [====>.....] - ETA: 0s - loss: 0.4624 - accuracy:
258/750 [======>..... - ETA: 0s - loss: 0.4616 - accuracy:
0.8936
346/750 [=======>.....] - ETA: 0s - loss: 0.4605 - accuracy:
0.8936
435/750 [=========>.....] - ETA: 0s - loss: 0.4613 - accuracy:
0.8926
520/750 [=========>.....] - ETA: 0s - loss: 0.4624 - accuracy:
0.8921
603/750 [===========>.....] - ETA: 0s - loss: 0.4619 - accuracy:
750/750 [=============== ] - 1s 717us/step - loss: 0.4649 - accuracy:
0.8915 - val loss: 0.5076 - val accuracy: 0.8760
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.4427 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.4687 - accuracy:
0.8885
165/750 [====>.....] - ETA: 0s - loss: 0.4598 - accuracy:
246/750 [======>......] - ETA: 0s - loss: 0.4613 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.4586 - accuracy:
0.8926
381/750 [========>..... - ETA: 0s - loss: 0.4590 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.4592 - accuracy:
```

```
545/750 [==========>.....] - ETA: 0s - loss: 0.4622 - accuracy:
0.8917
750/750 [================ ] - 1s 756us/step - loss: 0.4615 - accuracy:
0.8917 - val loss: 0.5094 - val accuracy: 0.8752
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.4140 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4570 - accuracy:
169/750 [=====>.....] - ETA: 0s - loss: 0.4619 - accuracy:
0.8891
251/750 [======>..... - ETA: 0s - loss: 0.4615 - accuracy:
0.8889
334/750 [=======>.....] - ETA: 0s - loss: 0.4623 - accuracy:
419/750 [========>..... - ETA: 0s - loss: 0.4611 - accuracy:
496/750 [==========>.....] - ETA: 0s - loss: 0.4594 - accuracy:
0.8916
576/750 [============>.....] - ETA: 0s - loss: 0.4604 - accuracy:
745/750 [==============>.] - ETA: 0s - loss: 0.4590 - accuracy:
0.8923
0.8925 - val_loss: 0.5009 - val_accuracy: 0.8767
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.4715 - accuracy:
81/750 [==>.....] - ETA: 0s - loss: 0.4542 - accuracy:
162/750 [=====>.....] - ETA: 0s - loss: 0.4577 - accuracy:
0.8927
250/750 [=======>.....] - ETA: 0s - loss: 0.4524 - accuracy:
335/750 [========>.....] - ETA: 0s - loss: 0.4531 - accuracy:
417/750 [========>..... - ETA: 0s - loss: 0.4539 - accuracy:
498/750 [=========>.....] - ETA: 0s - loss: 0.4552 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.4544 - accuracy:
```

```
0.8939
0.8942
0.8943 - val loss: 0.5076 - val accuracy: 0.8744
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.4107 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4426 - accuracy:
0.8994
176/750 [=====>.....] - ETA: 0s - loss: 0.4456 - accuracy:
0.8975
260/750 [=======>.....] - ETA: 0s - loss: 0.4462 - accuracy:
0.8975
347/750 [=======>.....] - ETA: 0s - loss: 0.4478 - accuracy:
0.8956
435/750 [==========>.....] - ETA: 0s - loss: 0.4520 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.4540 - accuracy:
698/750 [============>...] - ETA: 0s - loss: 0.4538 - accuracy:
750/750 [============= ] - 1s 714us/step - loss: 0.4534 - accuracy:
0.8939 - val_loss: 0.5174 - val_accuracy: 0.8694
Epoch 49/220
1/750 [.....] - ETA: 0s - loss: 0.5147 - accuracy:
0.8281
89/750 [==>.....] - ETA: 0s - loss: 0.4555 - accuracy:
0.8915
179/750 [=====>.....] - ETA: 0s - loss: 0.4478 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.4493 - accuracy:
0.8959
346/750 [========>.....] - ETA: 0s - loss: 0.4494 - accuracy:
0.8961
433/750 [=========>.....] - ETA: 0s - loss: 0.4478 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.4488 - accuracy:
0.8964
605/750 [===========>.....] - ETA: 0s - loss: 0.4508 - accuracy:
0.8949
687/750 [============>...] - ETA: 0s - loss: 0.4511 - accuracy:
0.8945
750/750 [============= ] - 1s 729us/step - loss: 0.4510 - accuracy:
```

```
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.4904 - accuracy:
0.8281
91/750 [==>.....] - ETA: 0s - loss: 0.4303 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.4347 - accuracy:
0.8971
257/750 [======>..... - ETA: 0s - loss: 0.4451 - accuracy:
0.8951
337/750 [=======>.....] - ETA: 0s - loss: 0.4473 - accuracy:
0.8937
423/750 [========>.....] - ETA: 0s - loss: 0.4463 - accuracy:
0.8939
511/750 [===========>.....] - ETA: 0s - loss: 0.4472 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.4487 - accuracy:
0.8936
0.8937 - val loss: 0.4969 - val accuracy: 0.8777
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.3845 - accuracy:
0.9375
75/750 [==>.....] - ETA: 0s - loss: 0.4510 - accuracy:
0.8938
155/750 [=====>.....] - ETA: 0s - loss: 0.4496 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.4467 - accuracy:
0.8929
301/750 [=======>.....] - ETA: 0s - loss: 0.4453 - accuracy:
0.8938
383/750 [=======>>.....] - ETA: 0s - loss: 0.4490 - accuracy:
0.8927
459/750 [==========>.....] - ETA: 0s - loss: 0.4487 - accuracy:
0.8928
538/750 [==========>.....] - ETA: 0s - loss: 0.4466 - accuracy:
0.8936
0.8941 - val_loss: 0.4973 - val_accuracy: 0.8765
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.4040 - accuracy:
```

0.8945 - val loss: 0.4989 - val_accuracy: 0.8776

```
0.9219
86/750 [==>.....] - ETA: 0s - loss: 0.4539 - accuracy:
0.8924
175/750 [=====>.....] - ETA: 0s - loss: 0.4472 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.4409 - accuracy:
0.8963
351/750 [=======>.....] - ETA: 0s - loss: 0.4432 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.4437 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.4436 - accuracy:
0.8973
0.8964
0.8969 - val loss: 0.5135 - val accuracy: 0.8708
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.4331 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.4293 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.4388 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.4417 - accuracy:
0.8968
347/750 [=========>.....] - ETA: 0s - loss: 0.4457 - accuracy:
0.8958
435/750 [=========>.....] - ETA: 0s - loss: 0.4418 - accuracy:
0.8970
524/750 [===========>.....] - ETA: 0s - loss: 0.4437 - accuracy:
610/750 [============>.....] - ETA: 0s - loss: 0.4428 - accuracy:
0.8967
0.8966 - val_loss: 0.4932 - val_accuracy: 0.8796
Epoch 54/220
1/750 [...... 0.3958 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4439 - accuracy:
0.8945
175/750 [=====>.....] - ETA: 0s - loss: 0.4398 - accuracy:
0.8943
266/750 [======>.....] - ETA: 0s - loss: 0.4392 - accuracy:
```

```
0.8957
352/750 [=========>.....] - ETA: 0s - loss: 0.4428 - accuracy:
0.8946
440/750 [=========>.....] - ETA: 0s - loss: 0.4424 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.4436 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.4408 - accuracy:
0.8957
750/750 [============= ] - 1s 696us/step - loss: 0.4392 - accuracy:
0.8964 - val loss: 0.4933 - val accuracy: 0.8775
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.4640 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.4409 - accuracy:
0.9011
177/750 [=====>.....] - ETA: 0s - loss: 0.4402 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.4375 - accuracy:
0.8983
356/750 [=======>.....] - ETA: 0s - loss: 0.4362 - accuracy:
0.8980
445/750 [=========>.....] - ETA: 0s - loss: 0.4376 - accuracy:
0.8974
535/750 [==========>.....] - ETA: 0s - loss: 0.4385 - accuracy:
0.8965
622/750 [===========>.....] - ETA: 0s - loss: 0.4389 - accuracy:
0.8964
750/750 [=============== ] - 1s 700us/step - loss: 0.4392 - accuracy:
0.8959 - val loss: 0.4994 - val accuracy: 0.8764
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.4390 - accuracy:
91/750 [==>....... - accuracy:
0.9011
181/750 [=====>.....] - ETA: 0s - loss: 0.4309 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.4335 - accuracy:
0.8974
360/750 [========>.....] - ETA: 0s - loss: 0.4350 - accuracy:
0.8964
450/750 [=========>...... - ETA: 0s - loss: 0.4364 - accuracy:
539/750 [=========>:....] - ETA: 0s - loss: 0.4372 - accuracy:
```

```
0.8959
0.8961
0.8966
750/750 [================ ] - 1s 690us/step - loss: 0.4359 - accuracy:
0.8966 - val loss: 0.4977 - val accuracy: 0.8747
Epoch 57/220
1/750 [.....] - ETA: 0s - loss: 0.3418 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4223 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.4352 - accuracy:
0.8958
267/750 [=======>.....] - ETA: 0s - loss: 0.4338 - accuracy:
0.8982
354/750 [=======>.....] - ETA: 0s - loss: 0.4307 - accuracy:
0.8989
446/750 [==========>.....] - ETA: 0s - loss: 0.4304 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.4300 - accuracy:
0.8989
0.8980
707/750 [==============>..] - ETA: 0s - loss: 0.4342 - accuracy:
750/750 [============= ] - 1s 732us/step - loss: 0.4346 - accuracy:
0.8968 - val_loss: 0.5074 - val_accuracy: 0.8710
Epoch 58/220
1/750 [.....] - ETA: 0s - loss: 0.3538 - accuracy:
0.9375
85/750 [==>.....] - ETA: 0s - loss: 0.4242 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.4321 - accuracy:
0.8981
264/750 [=======>.....] - ETA: 0s - loss: 0.4350 - accuracy:
0.8975
351/750 [========>.....] - ETA: 0s - loss: 0.4303 - accuracy:
0.8986
441/750 [=========>.....] - ETA: 0s - loss: 0.4298 - accuracy:
0.8981
524/750 [=========>.....] - ETA: 0s - loss: 0.4332 - accuracy:
0.8964
588/750 [===========>.....] - ETA: 0s - loss: 0.4323 - accuracy:
0.8971
671/750 [=============>....] - ETA: 0s - loss: 0.4302 - accuracy:
0.8982
```

```
0.8975
750/750 [=============== ] - 1s 733us/step - loss: 0.4318 - accuracy:
0.8974 - val_loss: 0.4938 - val_accuracy: 0.8783
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.3899 - accuracy:
0.9062
87/750 [==>.....] - ETA: 0s - loss: 0.4209 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4247 - accuracy:
265/750 [======>..... - ETA: 0s - loss: 0.4183 - accuracy:
337/750 [========>.....] - ETA: 0s - loss: 0.4212 - accuracy:
0.9026
419/750 [========>.....] - ETA: 0s - loss: 0.4259 - accuracy:
0.9011
508/750 [=========>>.....] - ETA: 0s - loss: 0.4271 - accuracy:
580/750 [==============>.....] - ETA: 0s - loss: 0.4281 - accuracy:
663/750 [============>....] - ETA: 0s - loss: 0.4312 - accuracy:
0.8988
0.8987
750/750 [============= ] - 1s 752us/step - loss: 0.4310 - accuracy:
0.8989 - val_loss: 0.4873 - val_accuracy: 0.8799
Epoch 60/220
 1/750 [...... 0.5008 - accuracy:
0.8906
67/750 [=>.....] - ETA: 0s - loss: 0.4214 - accuracy:
0.8986
152/750 [====>.....] - ETA: 0s - loss: 0.4271 - accuracy:
0.8974
237/750 [======>...... - ETA: 0s - loss: 0.4281 - accuracy:
0.8987
305/750 [=======>.....] - ETA: 0s - loss: 0.4322 - accuracy:
0.8980
395/750 [========>.....] - ETA: 0s - loss: 0.4307 - accuracy:
466/750 [==========>.....] - ETA: 0s - loss: 0.4297 - accuracy:
544/750 [=========>.....] - ETA: 0s - loss: 0.4305 - accuracy:
635/750 [============>....] - ETA: 0s - loss: 0.4307 - accuracy:
0.8999
750/750 [============= ] - 1s 780us/step - loss: 0.4285 - accuracy:
```

```
0.8997 - val loss: 0.4955 - val accuracy: 0.8757
Epoch 61/220
1/750 [.....] - ETA: 0s - loss: 0.4859 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.4181 - accuracy:
0.8996
156/750 [====>.....] - ETA: 0s - loss: 0.4195 - accuracy:
241/750 [======>..... - ETA: 0s - loss: 0.4200 - accuracy:
328/750 [========>.....] - ETA: 0s - loss: 0.4209 - accuracy:
418/750 [========>.....] - ETA: 0s - loss: 0.4239 - accuracy:
0.8999
504/750 [==========>.....] - ETA: 0s - loss: 0.4287 - accuracy:
0.8984
595/750 [===========>.....] - ETA: 0s - loss: 0.4266 - accuracy:
750/750 [=============== ] - 1s 713us/step - loss: 0.4271 - accuracy:
0.8993 - val loss: 0.4861 - val accuracy: 0.8795
Epoch 62/220
 1/750 [.....] - ETA: 0s - loss: 0.3864 - accuracy:
0.8996
85/750 [==>.....] - ETA: 0s - loss: 0.4227 - accuracy:
0.8978
174/750 [=====>.....] - ETA: 0s - loss: 0.4234 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.4154 - accuracy:
0.9034
341/750 [========>.....] - ETA: 0s - loss: 0.4183 - accuracy:
0.9023
430/750 [=========>..... - ETA: 0s - loss: 0.4198 - accuracy:
519/750 [==========>.....] - ETA: 0s - loss: 0.4235 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.4244 - accuracy:
0.8990
0.8989 - val loss: 0.4992 - val accuracy: 0.8769
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.3006 - accuracy:
0.9375
76/750 [==>.....] - ETA: 0s - loss: 0.4399 - accuracy:
```

```
0.8947
147/750 [====>.....] - ETA: 0s - loss: 0.4277 - accuracy:
0.8996
225/750 [======>.....] - ETA: 0s - loss: 0.4274 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.4267 - accuracy:
0.8991
367/750 [=======>.....] - ETA: 0s - loss: 0.4246 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.4228 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.4234 - accuracy:
0.8999
0.9001 - val loss: 0.4824 - val accuracy: 0.8817
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.4327 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.4118 - accuracy:
164/750 [====>.....] - ETA: 0s - loss: 0.4204 - accuracy:
248/750 [======>..... - ETA: 0s - loss: 0.4173 - accuracy:
0.9001
335/750 [=========>.....] - ETA: 0s - loss: 0.4178 - accuracy:
0.9014
424/750 [========>.....] - ETA: 0s - loss: 0.4217 - accuracy:
0.8990
506/750 [===========>.....] - ETA: 0s - loss: 0.4217 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.4210 - accuracy:
0.8998
750/750 [=============== ] - 1s 729us/step - loss: 0.4217 - accuracy:
0.8993 - val_loss: 0.4869 - val_accuracy: 0.8794
Epoch 65/220
1/750 [...... 0.2964 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.4238 - accuracy:
0.8998
178/750 [=====>.....] - ETA: 0s - loss: 0.4250 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.4216 - accuracy:
```

```
0.9006
346/750 [========>......] - ETA: 0s - loss: 0.4211 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.4200 - accuracy:
0.9016
513/750 [=========>.....] - ETA: 0s - loss: 0.4190 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.4203 - accuracy:
750/750 [============= ] - 1s 725us/step - loss: 0.4208 - accuracy:
0.9003 - val loss: 0.4828 - val accuracy: 0.8789
Epoch 66/220
  1/750 [.....] - ETA: 0s - loss: 0.4848 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.4098 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.4178 - accuracy:
257/750 [======>..... - ETA: 0s - loss: 0.4177 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.4196 - accuracy:
0.9003
427/750 [=========>.....] - ETA: 0s - loss: 0.4184 - accuracy:
0.9011
505/750 [=========>.....] - ETA: 0s - loss: 0.4199 - accuracy:
590/750 [===========>.....] - ETA: 0s - loss: 0.4178 - accuracy:
 0.9010 \\ \hline 0.00100 \\ \hline 0.00
750/750 [=============== ] - 1s 740us/step - loss: 0.4183 - accuracy:
0.9007 - val loss: 0.4970 - val accuracy: 0.8754
Epoch 67/220
  1/750 [.....] - ETA: 0s - loss: 0.3039 - accuracy:
0.9219
 84/750 [==>...... - ETA: 0s - loss: 0.4158 - accuracy:
0.9038
167/750 [====>.....] - ETA: 0s - loss: 0.4167 - accuracy:
245/750 [======>>.....] - ETA: 0s - loss: 0.4167 - accuracy:
332/750 [=======>.....] - ETA: 0s - loss: 0.4171 - accuracy:
0.9024
418/750 [========>..... - ETA: 0s - loss: 0.4167 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.4168 - accuracy:
```

```
0.9023
571/750 [============>.....] - ETA: 0s - loss: 0.4183 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.4189 - accuracy:
750/750 [=============== ] - 1s 740us/step - loss: 0.4176 - accuracy:
0.9014 - val loss: 0.4868 - val accuracy: 0.8798
Epoch 68/220
1/750 [...... - ETA: 0s - loss: 0.3417 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4298 - accuracy:
0.8987
177/750 [=====>.....] - ETA: 0s - loss: 0.4224 - accuracy:
0.9021
264/750 [======>..... - ETA: 0s - loss: 0.4200 - accuracy:
441/750 [========>..... - ETA: 0s - loss: 0.4190 - accuracy:
0.9017
527/750 [==========>.....] - ETA: 0s - loss: 0.4187 - accuracy:
615/750 [=============>.....] - ETA: 0s - loss: 0.4153 - accuracy:
0.9026
750/750 [============ ] - 1s 705us/step - loss: 0.4157 - accuracy:
0.9028 - val loss: 0.4877 - val accuracy: 0.8772
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.3207 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4156 - accuracy:
170/750 [====>..... - ETA: 0s - loss: 0.4171 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.4175 - accuracy:
0.9016
345/750 [========>.....] - ETA: 0s - loss: 0.4147 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.4154 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.4146 - accuracy:
613/750 [===========>.....] - ETA: 0s - loss: 0.4147 - accuracy:
699/750 [===========>...] - ETA: 0s - loss: 0.4149 - accuracy:
```

```
750/750 [=============== ] - 1s 706us/step - loss: 0.4150 - accuracy:
0.9009 - val_loss: 0.4997 - val_accuracy: 0.8727
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.4902 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4095 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4044 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.4063 - accuracy:
0.9071
352/750 [========>.....] - ETA: 0s - loss: 0.4125 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.4114 - accuracy:
0.9045
529/750 [=========>.....] - ETA: 0s - loss: 0.4107 - accuracy:
0.9041
706/750 [==============>..] - ETA: 0s - loss: 0.4124 - accuracy:
750/750 [=============== ] - 1s 712us/step - loss: 0.4129 - accuracy:
0.9025 - val loss: 0.4951 - val accuracy: 0.8746
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.4427 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.4092 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.4081 - accuracy:
0.9039
264/750 [=======>.....] - ETA: 0s - loss: 0.4114 - accuracy:
0.9051
349/750 [=======>.....] - ETA: 0s - loss: 0.4096 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.4140 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.4118 - accuracy:
0.9036 - val_loss: 0.4850 - val_accuracy: 0.8783
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.3368 - accuracy:
```

```
0.9375
87/750 [==>.....] - ETA: 0s - loss: 0.4091 - accuracy:
0.9064
174/750 [=====>.....] - ETA: 0s - loss: 0.3928 - accuracy:
0.9106
260/750 [======>.....] - ETA: 0s - loss: 0.4009 - accuracy:
0.9067
341/750 [=======>.....] - ETA: 0s - loss: 0.4056 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.4097 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.4090 - accuracy:
0.9023
598/750 [============>.....] - ETA: 0s - loss: 0.4065 - accuracy:
0.9036
0.9025 - val loss: 0.4864 - val accuracy: 0.8793
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.3131 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.4067 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.4018 - accuracy:
255/750 [======>.....] - ETA: 0s - loss: 0.4039 - accuracy:
340/750 [=========>.....] - ETA: 0s - loss: 0.4091 - accuracy:
0.9024
425/750 [=========>.....] - ETA: 0s - loss: 0.4088 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.4087 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.4116 - accuracy:
0.9019
0.9019 - val_loss: 0.4757 - val_accuracy: 0.8828
Epoch 74/220
1/750 [...... 0.3099 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.4082 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.4049 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.4074 - accuracy:
```

```
0.9026
347/750 [========>......] - ETA: 0s - loss: 0.4085 - accuracy:
0.9019
437/750 [=========>.....] - ETA: 0s - loss: 0.4092 - accuracy:
0.9017
527/750 [===========>.....] - ETA: 0s - loss: 0.4087 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.4088 - accuracy:
750/750 [============= ] - 1s 702us/step - loss: 0.4083 - accuracy:
0.9025 - val loss: 0.4929 - val accuracy: 0.8750
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.2855 - accuracy:
0.9375
91/750 [==>.....] - ETA: 0s - loss: 0.4035 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.4051 - accuracy:
0.9068
266/750 [======>.....] - ETA: 0s - loss: 0.4070 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.4080 - accuracy:
0.9047
443/750 [=========>.....] - ETA: 0s - loss: 0.4074 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.4068 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.4076 - accuracy:
750/750 [=============== ] - 1s 700us/step - loss: 0.4066 - accuracy:
0.9045 - val loss: 0.4746 - val accuracy: 0.8831
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.2345 - accuracy:
0.9844
89/750 [==>.....] - ETA: 0s - loss: 0.4039 - accuracy:
170/750 [====>.....] - ETA: 0s - loss: 0.4022 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.4047 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.4027 - accuracy:
0.9073
431/750 [=========>..... - ETA: 0s - loss: 0.4034 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.4049 - accuracy:
```

```
0.9065
606/750 [=============>.....] - ETA: 0s - loss: 0.4057 - accuracy:
750/750 [================ ] - 1s 716us/step - loss: 0.4059 - accuracy:
0.9056 - val loss: 0.4760 - val accuracy: 0.8805
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.4486 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3953 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.4091 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.4050 - accuracy:
0.9054
353/750 [=======>.....] - ETA: 0s - loss: 0.4066 - accuracy:
439/750 [==========>.....] - ETA: 0s - loss: 0.4054 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.4030 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.4049 - accuracy:
0.9051
750/750 [============= ] - 1s 716us/step - loss: 0.4049 - accuracy:
0.9052 - val_loss: 0.4889 - val_accuracy: 0.8768
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.4362 - accuracy:
0.8906
83/750 [==>.....] - ETA: 0s - loss: 0.4125 - accuracy:
0.9023
171/750 [====>.....] - ETA: 0s - loss: 0.4144 - accuracy:
0.9011
254/750 [=======>.....] - ETA: 0s - loss: 0.4126 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.4106 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.4086 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.4035 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.4024 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.4028 - accuracy:
750/750 [============= ] - 1s 713us/step - loss: 0.4023 - accuracy:
```

```
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.3638 - accuracy:
0.9219
82/750 [==>.....] - ETA: 0s - loss: 0.3948 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.3986 - accuracy:
256/750 [======>.....] - ETA: 0s - loss: 0.3972 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 0.3995 - accuracy:
0.9054
428/750 [=========>.....] - ETA: 0s - loss: 0.4029 - accuracy:
0.9041
516/750 [===========>.....] - ETA: 0s - loss: 0.4017 - accuracy:
0.9049
606/750 [===========>.....] - ETA: 0s - loss: 0.4000 - accuracy:
0.9049 - val loss: 0.4887 - val accuracy: 0.8773
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.2961 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4055 - accuracy:
169/750 [====>...... - ETA: 0s - loss: 0.3969 - accuracy:
252/750 [=======>.....] - ETA: 0s - loss: 0.4001 - accuracy:
0.9066
337/750 [========>.....] - ETA: 0s - loss: 0.3994 - accuracy:
0.9071
424/750 [========>..... - ETA: 0s - loss: 0.4023 - accuracy:
0.9054
509/750 [==========>.....] - ETA: 0s - loss: 0.4033 - accuracy:
0.9059
593/750 [===========>.....] - ETA: 0s - loss: 0.4026 - accuracy:
0.9061
0.9063
0.9065 - val_loss: 0.4828 - val_accuracy: 0.8792
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.3147 - accuracy:
0.9531
85/750 [==>.....] - ETA: 0s - loss: 0.3956 - accuracy:
```

0.9054 - val loss: 0.4807 - val accuracy: 0.8799

```
0.9031
175/750 [=====>.....] - ETA: 0s - loss: 0.3926 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.3929 - accuracy:
339/750 [=======>.....] - ETA: 0s - loss: 0.3933 - accuracy:
419/750 [========>.....] - ETA: 0s - loss: 0.3973 - accuracy:
502/750 [===========>.....] - ETA: 0s - loss: 0.3983 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.3986 - accuracy:
0.9061
750/750 [============= ] - 1s 734us/step - loss: 0.4007 - accuracy:
0.9057 - val loss: 0.5372 - val accuracy: 0.8611
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.4211 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.4108 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.4007 - accuracy:
0.9063
256/750 [=======>.....] - ETA: 0s - loss: 0.4014 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.4007 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.4003 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.3975 - accuracy:
0.9054 - val_loss: 0.4702 - val_accuracy: 0.8823
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.4200 - accuracy:
0.9531
90/750 [==>.....] - ETA: 0s - loss: 0.4063 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.3968 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.3992 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3988 - accuracy:
```

```
0.9074
444/750 [=========>.....] - ETA: 0s - loss: 0.3999 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3983 - accuracy:
750/750 [================ ] - 1s 700us/step - loss: 0.3980 - accuracy:
0.9065 - val_loss: 0.5155 - val_accuracy: 0.8673
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.4474 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3886 - accuracy:
0.9109
174/750 [====>...... - ETA: 0s - loss: 0.3941 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3943 - accuracy:
0.9094
353/750 [=======>.....] - ETA: 0s - loss: 0.3999 - accuracy:
0.9076
443/750 [=========>..... - ETA: 0s - loss: 0.3976 - accuracy:
0.9078
534/750 [==========>.....] - ETA: 0s - loss: 0.3954 - accuracy:
0.9086
707/750 [==============>..] - ETA: 0s - loss: 0.3958 - accuracy:
0.9084 - val_loss: 0.4938 - val_accuracy: 0.8747
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.3478 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.3784 - accuracy:
0.9170
177/750 [=====>.....] - ETA: 0s - loss: 0.3868 - accuracy:
0.9136
266/750 [=======>.....] - ETA: 0s - loss: 0.3910 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3896 - accuracy:
443/750 [========>.....] - ETA: 0s - loss: 0.3946 - accuracy:
0.9098
532/750 [==========>.....] - ETA: 0s - loss: 0.3968 - accuracy:
```

```
0.9079
750/750 [=============== ] - 1s 702us/step - loss: 0.3970 - accuracy:
0.9069 - val loss: 0.4785 - val accuracy: 0.8821
Epoch 86/220
 1/750 [.....] - ETA: 0s - loss: 0.3215 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3950 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 0.3874 - accuracy:
0.9109
266/750 [=======>.....] - ETA: 0s - loss: 0.3899 - accuracy:
0.9098
355/750 [=========>.....] - ETA: 0s - loss: 0.3873 - accuracy:
0.9111
444/750 [========>..... - ETA: 0s - loss: 0.3882 - accuracy:
534/750 [===========>.....] - ETA: 0s - loss: 0.3901 - accuracy:
623/750 [============>.....] - ETA: 0s - loss: 0.3920 - accuracy:
0.9083
750/750 [============= ] - 1s 696us/step - loss: 0.3958 - accuracy:
0.9083 - val_loss: 0.4674 - val_accuracy: 0.8842
Epoch 87/220
 1/750 [...... - 0.3189 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4039 - accuracy:
0.9041
176/750 [=====>.....] - ETA: 0s - loss: 0.3958 - accuracy:
0.9059
267/750 [======>.....] - ETA: 0s - loss: 0.3939 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.3940 - accuracy:
0.9084
444/750 [=========>.....] - ETA: 0s - loss: 0.3910 - accuracy:
529/750 [=========>:....] - ETA: 0s - loss: 0.3930 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.3934 - accuracy:
705/750 [==============>..] - ETA: 0s - loss: 0.3931 - accuracy:
750/750 [============== ] - 1s 713us/step - loss: 0.3948 - accuracy:
0.9087 - val loss: 0.4671 - val accuracy: 0.8847
Epoch 88/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3413 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.3885 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3904 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3907 - accuracy:
0.9077
353/750 [=======>.....] - ETA: 0s - loss: 0.3920 - accuracy:
0.9077
438/750 [=========>...... - ETA: 0s - loss: 0.3908 - accuracy:
0.9094
522/750 [==========>.....] - ETA: 0s - loss: 0.3923 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.3938 - accuracy:
0.9084
697/750 [============>...] - ETA: 0s - loss: 0.3940 - accuracy:
0.9082 - val_loss: 0.4700 - val_accuracy: 0.8840
Epoch 89/220
1/750 [...... - ETA: 0s - loss: 0.4420 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3980 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3927 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3934 - accuracy:
0.9078
353/750 [========>.....] - ETA: 0s - loss: 0.3921 - accuracy:
0.9086
440/750 [=========>.....] - ETA: 0s - loss: 0.3910 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3918 - accuracy:
0.9081
703/750 [==============>..] - ETA: 0s - loss: 0.3933 - accuracy:
0.9075 - val loss: 0.4726 - val accuracy: 0.8832
Epoch 90/220
1/750 [.....] - ETA: 0s - loss: 0.3156 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3842 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3883 - accuracy:
```

```
0.9102
261/750 [=======>.....] - ETA: 0s - loss: 0.3969 - accuracy:
0.9073
349/750 [=========>.....] - ETA: 0s - loss: 0.3938 - accuracy:
0.9079
439/750 [========>.....] - ETA: 0s - loss: 0.3953 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3921 - accuracy:
700/750 [==============>..] - ETA: 0s - loss: 0.3912 - accuracy:
0.9077
750/750 [============= ] - 1s 702us/step - loss: 0.3915 - accuracy:
0.9075 - val_loss: 0.4734 - val_accuracy: 0.8842
Epoch 91/220
1/750 [...... - ETA: 0s - loss: 0.3241 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3978 - accuracy:
0.9068
179/750 [=====>.....] - ETA: 0s - loss: 0.3921 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.3948 - accuracy:
0.9078
355/750 [=======>.....] - ETA: 0s - loss: 0.3926 - accuracy:
0.9086
441/750 [========>..... - ETA: 0s - loss: 0.3897 - accuracy:
0.9098
527/750 [=========>.....] - ETA: 0s - loss: 0.3892 - accuracy:
750/750 [=============== ] - 1s 702us/step - loss: 0.3906 - accuracy:
0.9097 - val loss: 0.4865 - val accuracy: 0.8774
Epoch 92/220
1/750 [...... - ETA: 0s - loss: 0.3434 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3848 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3940 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3898 - accuracy:
0.9097
348/750 [========>.....] - ETA: 0s - loss: 0.3927 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3902 - accuracy:
```

```
0.9096
527/750 [=========>:....] - ETA: 0s - loss: 0.3892 - accuracy:
750/750 [================ ] - 1s 709us/step - loss: 0.3890 - accuracy:
0.9100 - val loss: 0.4944 - val accuracy: 0.8747
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.3676 - accuracy:
169/750 [=====>.....] - ETA: 0s - loss: 0.3775 - accuracy:
0.9158
252/750 [=======>..... - ETA: 0s - loss: 0.3791 - accuracy:
0.9159
339/750 [========>.....] - ETA: 0s - loss: 0.3786 - accuracy:
425/750 [========>.....] - ETA: 0s - loss: 0.3828 - accuracy:
0.9121
515/750 [===========>.....] - ETA: 0s - loss: 0.3828 - accuracy:
0.9118
599/750 [============>.....] - ETA: 0s - loss: 0.3846 - accuracy:
0.9117
0.9109
750/750 [============ ] - 1s 716us/step - loss: 0.3897 - accuracy:
0.9101 - val loss: 0.4986 - val accuracy: 0.8727
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.3850 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3966 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3929 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3883 - accuracy:
352/750 [========>.....] - ETA: 0s - loss: 0.3899 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.3885 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3877 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.3884 - accuracy:
703/750 [==============>..] - ETA: 0s - loss: 0.3873 - accuracy:
```

```
0.9112
750/750 [================ ] - 1s 702us/step - loss: 0.3884 - accuracy:
0.9106 - val_loss: 0.4646 - val_accuracy: 0.8852
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.3091 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3773 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.3855 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.3854 - accuracy:
348/750 [=========>.....] - ETA: 0s - loss: 0.3894 - accuracy:
0.9086
437/750 [=========>.....] - ETA: 0s - loss: 0.3875 - accuracy:
0.9109
505/750 [=========>>.....] - ETA: 0s - loss: 0.3870 - accuracy:
0.9112
591/750 [==============>.....] - ETA: 0s - loss: 0.3859 - accuracy:
677/750 [============>...] - ETA: 0s - loss: 0.3857 - accuracy:
0.9116
750/750 [============= ] - 1s 724us/step - loss: 0.3863 - accuracy:
0.9118 - val loss: 0.4789 - val accuracy: 0.8801
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.3735 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3808 - accuracy:
0.9149
176/750 [=====>.....] - ETA: 0s - loss: 0.3789 - accuracy:
0.9152
262/750 [=======>.....] - ETA: 0s - loss: 0.3794 - accuracy:
0.9151
350/750 [=======>.....] - ETA: 0s - loss: 0.3839 - accuracy:
0.9124
439/750 [=========>.....] - ETA: 0s - loss: 0.3835 - accuracy:
0.9123
527/750 [=========>.....] - ETA: 0s - loss: 0.3855 - accuracy:
0.9114 - val_loss: 0.4769 - val_accuracy: 0.8812
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.3198 - accuracy:
```

```
0.9531
90/750 [==>.....] - ETA: 0s - loss: 0.3890 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3830 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.3840 - accuracy:
0.9124
353/750 [=======>.....] - ETA: 0s - loss: 0.3841 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3842 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3868 - accuracy:
0.9101
0.9096
0.9102 - val loss: 0.4815 - val accuracy: 0.8788
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.4878 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3739 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3747 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.3830 - accuracy:
0.9108
354/750 [=========>.....] - ETA: 0s - loss: 0.3834 - accuracy:
0.9106
441/750 [=========>.....] - ETA: 0s - loss: 0.3841 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3860 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.3887 - accuracy:
0.9112 - val_loss: 0.4748 - val_accuracy: 0.8827
Epoch 99/220
1/750 [...... 0.4777 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3791 - accuracy:
0.9129
176/750 [=====>.....] - ETA: 0s - loss: 0.3814 - accuracy:
0.9118
266/750 [======>.....] - ETA: 0s - loss: 0.3831 - accuracy:
```

```
0.9112
352/750 [=========>.....] - ETA: 0s - loss: 0.3824 - accuracy:
0.9109
437/750 [=========>.....] - ETA: 0s - loss: 0.3809 - accuracy:
524/750 [============>.....] - ETA: 0s - loss: 0.3837 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.3838 - accuracy:
750/750 [============= ] - 1s 701us/step - loss: 0.3845 - accuracy:
0.9102 - val loss: 0.4784 - val accuracy: 0.8796
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.4232 - accuracy:
0.9375
89/750 [==>.....] - ETA: 0s - loss: 0.3808 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3799 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3790 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.3845 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.3839 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.3836 - accuracy:
0.9116
619/750 [===========>.....] - ETA: 0s - loss: 0.3853 - accuracy:
750/750 [=============== ] - 1s 701us/step - loss: 0.3841 - accuracy:
0.9110 - val loss: 0.4925 - val accuracy: 0.8712
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.3910 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.3750 - accuracy:
0.9131
176/750 [=====>.....] - ETA: 0s - loss: 0.3842 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3804 - accuracy:
0.9121
353/750 [========>.....] - ETA: 0s - loss: 0.3772 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.3767 - accuracy:
0.9141
531/750 [==========>.....] - ETA: 0s - loss: 0.3786 - accuracy:
```

```
0.9134
0.9118
750/750 [================ ] - 1s 704us/step - loss: 0.3812 - accuracy:
0.9122 - val loss: 0.4782 - val accuracy: 0.8810
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.2860 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.3911 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3852 - accuracy:
0.9114
265/750 [=======>.....] - ETA: 0s - loss: 0.3754 - accuracy:
0.9142
351/750 [=======>.....] - ETA: 0s - loss: 0.3809 - accuracy:
0.9121
442/750 [==========>.....] - ETA: 0s - loss: 0.3778 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.3780 - accuracy:
0.9131
0.9121
706/750 [==============>..] - ETA: 0s - loss: 0.3817 - accuracy:
0.9114
750/750 [============= ] - 1s 701us/step - loss: 0.3825 - accuracy:
0.9112 - val_loss: 0.4650 - val_accuracy: 0.8831
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.3651 - accuracy:
0.9219
91/750 [==>.....] - ETA: 0s - loss: 0.3886 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3830 - accuracy:
0.9124
266/750 [=======>.....] - ETA: 0s - loss: 0.3815 - accuracy:
0.9119
347/750 [========>.....] - ETA: 0s - loss: 0.3818 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.3823 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.3840 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.3831 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.3807 - accuracy:
750/750 [============= ] - 1s 725us/step - loss: 0.3795 - accuracy:
```

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92/750 [==>.....] - ETA: 0s - loss: 0.3635 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3672 - accuracy:
266/750 [======>.....] - ETA: 0s - loss: 0.3726 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.3756 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3779 - accuracy:
0.9128
530/750 [==========>.....] - ETA: 0s - loss: 0.3773 - accuracy:
0.9138
617/750 [============>.....] - ETA: 0s - loss: 0.3789 - accuracy:
0.9120 - val loss: 0.4720 - val accuracy: 0.8832
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.3176 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3674 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.3689 - accuracy:
0.9184
259/750 [=======>.....] - ETA: 0s - loss: 0.3706 - accuracy:
0.9167
348/750 [========>.....] - ETA: 0s - loss: 0.3709 - accuracy:
0.9167
434/750 [=========>..... - ETA: 0s - loss: 0.3734 - accuracy:
522/750 [==========>.....] - ETA: 0s - loss: 0.3772 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.3783 - accuracy:
0.9136 - val_loss: 0.4732 - val_accuracy: 0.8813
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.3296 - accuracy:
0.9219
88/750 [==>.....] - ETA: 0s - loss: 0.3672 - accuracy:
```

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0.9199
175/750 [=====>.....] - ETA: 0s - loss: 0.3724 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.3728 - accuracy:
0.9161
339/750 [=======>.....] - ETA: 0s - loss: 0.3716 - accuracy:
0.9169
418/750 [========>.....] - ETA: 0s - loss: 0.3751 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.3785 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.3794 - accuracy:
0.9126
750/750 [============== ] - 1s 740us/step - loss: 0.3812 - accuracy:
0.9125 - val loss: 0.4892 - val accuracy: 0.8744
Epoch 107/220
1/750 [...... 0.5244 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.3616 - accuracy:
169/750 [====>..... - ETA: 0s - loss: 0.3691 - accuracy:
0.9196
254/750 [=======>.....] - ETA: 0s - loss: 0.3690 - accuracy:
0.9192
343/750 [=======>.....] - ETA: 0s - loss: 0.3700 - accuracy:
0.9177
426/750 [=========>.....] - ETA: 0s - loss: 0.3768 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.3768 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.3779 - accuracy:
0.9141
0.9135 - val_loss: 0.4681 - val_accuracy: 0.8846
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.3534 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3681 - accuracy:
170/750 [=====>.....] - ETA: 0s - loss: 0.3731 - accuracy:
258/750 [=======>..... - ETA: 0s - loss: 0.3703 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.3715 - accuracy:
```

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0.9157
428/750 [=========>.....] - ETA: 0s - loss: 0.3759 - accuracy:
0.9137
519/750 [==========>.....] - ETA: 0s - loss: 0.3782 - accuracy:
0.9136
750/750 [=============== ] - 1s 721us/step - loss: 0.3771 - accuracy:
0.9139 - val loss: 0.4690 - val accuracy: 0.8861
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.3511 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.3786 - accuracy:
0.9128
152/750 [====>...... - ETA: 0s - loss: 0.3748 - accuracy:
240/750 [======>..... - ETA: 0s - loss: 0.3717 - accuracy:
0.9168
327/750 [=======>.....] - ETA: 0s - loss: 0.3781 - accuracy:
414/750 [========>..... - ETA: 0s - loss: 0.3774 - accuracy:
0.9147
506/750 [===========>.....] - ETA: 0s - loss: 0.3778 - accuracy:
0.9142
595/750 [============>.....] - ETA: 0s - loss: 0.3779 - accuracy:
680/750 [============>...] - ETA: 0s - loss: 0.3773 - accuracy:
0.9143
0.9143 - val_loss: 0.4699 - val_accuracy: 0.8827
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.3932 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3585 - accuracy:
0.9211
153/750 [=====>.....] - ETA: 0s - loss: 0.3652 - accuracy:
0.9176
240/750 [======>.....] - ETA: 0s - loss: 0.3718 - accuracy:
0.9163
327/750 [=========>.....] - ETA: 0s - loss: 0.3751 - accuracy:
412/750 [========>..... - ETA: 0s - loss: 0.3767 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.3746 - accuracy:
591/750 [============>.....] - ETA: 0s - loss: 0.3733 - accuracy:
```

```
0.9158
750/750 [=============== ] - 1s 716us/step - loss: 0.3761 - accuracy:
0.9143 - val loss: 0.4732 - val accuracy: 0.8824
Epoch 111/220
 1/750 [.....] - ETA: 0s - loss: 0.2910 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.3626 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.3636 - accuracy:
0.9198
254/750 [=======>.....] - ETA: 0s - loss: 0.3700 - accuracy:
0.9165
339/750 [=========>.....] - ETA: 0s - loss: 0.3712 - accuracy:
0.9154
425/750 [=========>...... - ETA: 0s - loss: 0.3730 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.3744 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.3755 - accuracy:
0.9141
750/750 [============= ] - 1s 721us/step - loss: 0.3763 - accuracy:
0.9143 - val_loss: 0.4789 - val_accuracy: 0.8812
Epoch 112/220
 1/750 [...... 0.3065 - accuracy:
0.9531
85/750 [==>.....] - ETA: 0s - loss: 0.3683 - accuracy:
0.9138
176/750 [=====>.....] - ETA: 0s - loss: 0.3727 - accuracy:
0.9125
259/750 [======>..... - ETA: 0s - loss: 0.3733 - accuracy:
0.9129
348/750 [========>.....] - ETA: 0s - loss: 0.3752 - accuracy:
0.9129
437/750 [=========>.....] - ETA: 0s - loss: 0.3751 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.3748 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3737 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.3748 - accuracy:
0.9139
750/750 [============== ] - 1s 709us/step - loss: 0.3746 - accuracy:
0.9139 - val loss: 0.4701 - val accuracy: 0.8810
Epoch 113/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3169 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3693 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3657 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.3686 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3740 - accuracy:
448/750 [=========>..... - ETA: 0s - loss: 0.3748 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3771 - accuracy:
0.9133
0.9154
0.9150 - val_loss: 0.4779 - val_accuracy: 0.8782
Epoch 114/220
1/750 [.....] - ETA: 0s - loss: 0.5000 - accuracy:
0.9531
81/750 [==>...... - accuracy:
164/750 [====>.....] - ETA: 0s - loss: 0.3719 - accuracy:
255/750 [=======>.....] - ETA: 0s - loss: 0.3698 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.3731 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.3722 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.3743 - accuracy:
0.9148
0.9139
705/750 [==============>..] - ETA: 0s - loss: 0.3765 - accuracy:
0.9143 - val loss: 0.4639 - val accuracy: 0.8853
Epoch 115/220
1/750 [.....] - ETA: 0s - loss: 0.3761 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3502 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3609 - accuracy:
```

```
0.9212
267/750 [=======>.....] - ETA: 0s - loss: 0.3679 - accuracy:
0.9189
354/750 [=======>.....] - ETA: 0s - loss: 0.3670 - accuracy:
0.9193
443/750 [========>...... - ETA: 0s - loss: 0.3671 - accuracy:
534/750 [=========>.....] - ETA: 0s - loss: 0.3684 - accuracy:
0.9181
713/750 [===============>..] - ETA: 0s - loss: 0.3720 - accuracy:
0.9166
750/750 [============= ] - 1s 694us/step - loss: 0.3727 - accuracy:
0.9164 - val_loss: 0.4765 - val_accuracy: 0.8786
Epoch 116/220
1/750 [...... - ETA: 0s - loss: 0.4094 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3653 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3695 - accuracy:
0.9176
269/750 [======>..... - ETA: 0s - loss: 0.3735 - accuracy:
355/750 [========>.....] - ETA: 0s - loss: 0.3681 - accuracy:
0.9175
446/750 [========>...... - ETA: 0s - loss: 0.3703 - accuracy:
0.9171
537/750 [=========>.....] - ETA: 0s - loss: 0.3700 - accuracy:
0.9171
0.9151
0.9151 - val loss: 0.4875 - val accuracy: 0.8741
Epoch 117/220
1/750 [...... - ETA: 0s - loss: 0.3683 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3650 - accuracy:
0.9182
179/750 [=====>.....] - ETA: 0s - loss: 0.3726 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.3733 - accuracy:
0.9141
363/750 [========>.....] - ETA: 0s - loss: 0.3738 - accuracy:
0.9148
450/750 [==========>.....] - ETA: 0s - loss: 0.3712 - accuracy:
```

```
0.9164
540/750 [==========>.....] - ETA: 0s - loss: 0.3733 - accuracy:
0.9160 - val loss: 0.4652 - val accuracy: 0.8838
Epoch 118/220
1/750 [...... - ETA: 0s - loss: 0.3713 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3671 - accuracy:
0.9181
173/750 [=====>.....] - ETA: 0s - loss: 0.3612 - accuracy:
0.9214
262/750 [======>..... - ETA: 0s - loss: 0.3663 - accuracy:
0.9188
350/750 [========>.....] - ETA: 0s - loss: 0.3697 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3676 - accuracy:
0.9176
522/750 [===========>.....] - ETA: 0s - loss: 0.3693 - accuracy:
0.9169
0.9159
750/750 [============ ] - 1s 714us/step - loss: 0.3717 - accuracy:
0.9158 - val loss: 0.4698 - val accuracy: 0.8820
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.3392 - accuracy:
0.9219
80/750 [==>.....] - ETA: 0s - loss: 0.3549 - accuracy:
165/750 [====>.....] - ETA: 0s - loss: 0.3690 - accuracy:
0.9187
252/750 [=======>.....] - ETA: 0s - loss: 0.3795 - accuracy:
340/750 [========>.....] - ETA: 0s - loss: 0.3756 - accuracy:
429/750 [========>.....] - ETA: 0s - loss: 0.3703 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.3705 - accuracy:
0.9161
605/750 [===========>.....] - ETA: 0s - loss: 0.3720 - accuracy:
687/750 [===========>...] - ETA: 0s - loss: 0.3722 - accuracy:
```

```
0.9157
750/750 [================ ] - 1s 717us/step - loss: 0.3727 - accuracy:
0.9152 - val loss: 0.4844 - val accuracy: 0.8776
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.3499 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3766 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3740 - accuracy:
265/750 [======>..... - ETA: 0s - loss: 0.3768 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3753 - accuracy:
0.9141
441/750 [=========>.....] - ETA: 0s - loss: 0.3776 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3754 - accuracy:
699/750 [============>...] - ETA: 0s - loss: 0.3731 - accuracy:
0.9145 - val loss: 0.4934 - val accuracy: 0.8735
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.2570 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3601 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3634 - accuracy:
0.9169
261/750 [=======>.....] - ETA: 0s - loss: 0.3645 - accuracy:
0.9180
350/750 [=======>.....] - ETA: 0s - loss: 0.3645 - accuracy:
0.9184
441/750 [=========>.....] - ETA: 0s - loss: 0.3665 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3691 - accuracy:
0.9163
0.9166
0.9161 - val_loss: 0.4849 - val_accuracy: 0.8786
Epoch 122/220
1/750 [.....] - ETA: 0s - loss: 0.2615 - accuracy:
```

```
0.9688
87/750 [==>.....] - ETA: 0s - loss: 0.3532 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9174
264/750 [======>..... - ETA: 0s - loss: 0.3615 - accuracy:
0.9178
349/750 [=======>.....] - ETA: 0s - loss: 0.3649 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3654 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.3677 - accuracy:
0.9161
750/750 [============== ] - 1s 705us/step - loss: 0.3691 - accuracy:
0.9161 - val loss: 0.4767 - val accuracy: 0.8842
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.2645 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3628 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3692 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.3687 - accuracy:
0.9168
346/750 [=========>.....] - ETA: 0s - loss: 0.3707 - accuracy:
0.9171
431/750 [=========>.....] - ETA: 0s - loss: 0.3713 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.3697 - accuracy:
0.9171
601/750 [===========>.....] - ETA: 0s - loss: 0.3690 - accuracy:
0.9160 - val_loss: 0.4894 - val_accuracy: 0.8767
Epoch 124/220
1/750 [...... 0.3429 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3657 - accuracy:
0.9184
176/750 [=====>.....] - ETA: 0s - loss: 0.3644 - accuracy:
0.9181
265/750 [======>.....] - ETA: 0s - loss: 0.3676 - accuracy:
```

```
0.9170
349/750 [========>......] - ETA: 0s - loss: 0.3655 - accuracy:
0.9177
436/750 [=========>.....] - ETA: 0s - loss: 0.3686 - accuracy:
0.9163
525/750 [==========>.....] - ETA: 0s - loss: 0.3690 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.3682 - accuracy:
0.9177
750/750 [============== ] - 1s 708us/step - loss: 0.3687 - accuracy:
0.9176 - val loss: 0.4955 - val accuracy: 0.8763
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.4327 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3549 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3589 - accuracy:
263/750 [======>.....] - ETA: 0s - loss: 0.3624 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3623 - accuracy:
0.9209
434/750 [=========>.....] - ETA: 0s - loss: 0.3657 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3667 - accuracy:
0.9184
600/750 [===========>.....] - ETA: 0s - loss: 0.3673 - accuracy:
0.9179
750/750 [================ ] - 1s 712us/step - loss: 0.3681 - accuracy:
0.9183 - val loss: 0.4817 - val accuracy: 0.8823
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.3439 - accuracy:
0.9531
91/750 [==>...... - accuracy:
0.9172
175/750 [=====>.....] - ETA: 0s - loss: 0.3657 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.3674 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3652 - accuracy:
0.9196
445/750 [=========>..... - ETA: 0s - loss: 0.3651 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3690 - accuracy:
```

```
0.9176
0.9169
0.9170 - val loss: 0.4711 - val accuracy: 0.8838
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.2696 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.3543 - accuracy:
0.9231
180/750 [=====>.....] - ETA: 0s - loss: 0.3604 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3650 - accuracy:
0.9194
356/750 [=======>.....] - ETA: 0s - loss: 0.3653 - accuracy:
0.9186
445/750 [==========>.....] - ETA: 0s - loss: 0.3684 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.3679 - accuracy:
0.9179
620/750 [===========>.....] - ETA: 0s - loss: 0.3695 - accuracy:
0.9171
708/750 [==============>..] - ETA: 0s - loss: 0.3701 - accuracy:
750/750 [============= ] - 1s 698us/step - loss: 0.3689 - accuracy:
0.9172 - val_loss: 0.5089 - val_accuracy: 0.8735
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.3880 - accuracy:
0.9219
88/750 [==>.....] - ETA: 0s - loss: 0.3575 - accuracy:
0.9231
178/750 [=====>.....] - ETA: 0s - loss: 0.3618 - accuracy:
0.9214
262/750 [=======>.....] - ETA: 0s - loss: 0.3660 - accuracy:
0.9197
350/750 [========>.....] - ETA: 0s - loss: 0.3653 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3672 - accuracy:
0.9174
526/750 [=========>.....] - ETA: 0s - loss: 0.3668 - accuracy:
0.9181
615/750 [===========>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9187
702/750 [===============>..] - ETA: 0s - loss: 0.3654 - accuracy:
750/750 [============= ] - 1s 696us/step - loss: 0.3664 - accuracy:
```

```
0.9188 - val loss: 0.5125 - val accuracy: 0.8721
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.4005 - accuracy:
0.9219
86/750 [==>.....] - ETA: 0s - loss: 0.3627 - accuracy:
0.9182
177/750 [=====>.....] - ETA: 0s - loss: 0.3633 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.3626 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.3638 - accuracy:
0.9199
438/750 [=========>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9188
525/750 [==========>.....] - ETA: 0s - loss: 0.3667 - accuracy:
0.9187
615/750 [===========>.....] - ETA: 0s - loss: 0.3656 - accuracy:
0.9190
0.9193
0.9185 - val loss: 0.5128 - val accuracy: 0.8663
Epoch 130/220
 1/750 [.....] - ETA: 0s - loss: 0.2800 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3574 - accuracy:
0.9228
181/750 [=====>.....] - ETA: 0s - loss: 0.3645 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3653 - accuracy:
0.9197
356/750 [========>.....] - ETA: 0s - loss: 0.3640 - accuracy:
444/750 [=========>..... - ETA: 0s - loss: 0.3633 - accuracy:
0.9196
535/750 [=========>.....] - ETA: 0s - loss: 0.3633 - accuracy:
0.9194
628/750 [============>....] - ETA: 0s - loss: 0.3640 - accuracy:
750/750 [============= ] - 1s 694us/step - loss: 0.3676 - accuracy:
0.9181 - val_loss: 0.4869 - val_accuracy: 0.8794
Epoch 131/220
```

```
0.9204
177/750 [=====>.....] - ETA: 0s - loss: 0.3556 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.3558 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3591 - accuracy:
442/750 [========>.....] - ETA: 0s - loss: 0.3614 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.3613 - accuracy:
621/750 [===========>.....] - ETA: 0s - loss: 0.3632 - accuracy:
0.9189
0.9186
750/750 [============== ] - 1s 696us/step - loss: 0.3647 - accuracy:
0.9179 - val loss: 0.4714 - val accuracy: 0.8820
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.4142 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3660 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3689 - accuracy:
0.9177
268/750 [=======>.....] - ETA: 0s - loss: 0.3674 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.3653 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3655 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.3647 - accuracy:
0.9198
0.9193
0.9193
0.9185 - val_loss: 0.4768 - val_accuracy: 0.8813
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.3699 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3773 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3715 - accuracy:
265/750 [======>..... - ETA: 0s - loss: 0.3665 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3637 - accuracy:
```

```
0.9184
443/750 [=========>.....] - ETA: 0s - loss: 0.3645 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.3656 - accuracy:
0.9183
0.9192 - val loss: 0.4859 - val accuracy: 0.8796
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.3977 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3765 - accuracy:
0.9141
181/750 [=====>...... - ETA: 0s - loss: 0.3659 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.3649 - accuracy:
0.9181
357/750 [=======>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9187
445/750 [=========>...... - ETA: 0s - loss: 0.3628 - accuracy:
0.9193
535/750 [==========>.....] - ETA: 0s - loss: 0.3657 - accuracy:
0.9176
716/750 [==============>..] - ETA: 0s - loss: 0.3647 - accuracy:
0.9181
0.9178 - val loss: 0.4743 - val accuracy: 0.8832
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.2663 - accuracy:
0.9844
86/750 [==>.....] - ETA: 0s - loss: 0.3715 - accuracy:
0.9159
177/750 [=====>.....] - ETA: 0s - loss: 0.3697 - accuracy:
0.9163
263/750 [=======>.....] - ETA: 0s - loss: 0.3680 - accuracy:
0.9168
351/750 [========>.....] - ETA: 0s - loss: 0.3653 - accuracy:
0.9181
442/750 [========>.....] - ETA: 0s - loss: 0.3636 - accuracy:
0.9181
534/750 [==========>.....] - ETA: 0s - loss: 0.3638 - accuracy:
0.9181
```

```
0.9185
0.9184
0.9183 - val loss: 0.4762 - val accuracy: 0.8809
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.4435 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3570 - accuracy:
180/750 [=====>...... - ETA: 0s - loss: 0.3549 - accuracy:
0.9251
268/750 [=======>.....] - ETA: 0s - loss: 0.3607 - accuracy:
357/750 [=========>.....] - ETA: 0s - loss: 0.3586 - accuracy:
0.9226
448/750 [=========>..... - ETA: 0s - loss: 0.3587 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3609 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.3611 - accuracy:
750/750 [============= ] - 1s 696us/step - loss: 0.3647 - accuracy:
0.9194 - val_loss: 0.4695 - val_accuracy: 0.8823
Epoch 137/220
1/750 [...... 0.4008 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3519 - accuracy:
0.9226
178/750 [=====>.....] - ETA: 0s - loss: 0.3563 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.3556 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3555 - accuracy:
0.9224
442/750 [=========>.....] - ETA: 0s - loss: 0.3596 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.3607 - accuracy:
0.9199
620/750 [===========>.....] - ETA: 0s - loss: 0.3615 - accuracy:
710/750 [===============>..] - ETA: 0s - loss: 0.3631 - accuracy:
750/750 [============== ] - 1s 692us/step - loss: 0.3635 - accuracy:
0.9187 - val loss: 0.4971 - val accuracy: 0.8719
Epoch 138/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.3587 - accuracy:
0.9217
179/750 [=====>.....] - ETA: 0s - loss: 0.3586 - accuracy:
269/750 [======>.....] - ETA: 0s - loss: 0.3591 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3583 - accuracy:
448/750 [=========>..... - ETA: 0s - loss: 0.3571 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3599 - accuracy:
0.9199
0.9198
0.9200 - val_loss: 0.4666 - val_accuracy: 0.8842
Epoch 139/220
1/750 [...... - ETA: 0s - loss: 0.3921 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3517 - accuracy:
0.9261
175/750 [=====>.....] - ETA: 0s - loss: 0.3567 - accuracy:
0.9214
265/750 [=======>.....] - ETA: 0s - loss: 0.3616 - accuracy:
0.9195
357/750 [=======>.....] - ETA: 0s - loss: 0.3604 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3620 - accuracy:
0.9193
540/750 [=========>.....] - ETA: 0s - loss: 0.3610 - accuracy:
0.9194
720/750 [==============>..] - ETA: 0s - loss: 0.3615 - accuracy:
0.9195 - val loss: 0.4963 - val accuracy: 0.8784
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.3948 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3606 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3602 - accuracy:
```

```
0.9183
268/750 [=======>.....] - ETA: 0s - loss: 0.3591 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3582 - accuracy:
0.9204
446/750 [========>.....] - ETA: 0s - loss: 0.3588 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3589 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.3628 - accuracy:
0.9193
750/750 [============= ] - 1s 693us/step - loss: 0.3617 - accuracy:
0.9199 - val_loss: 0.4800 - val_accuracy: 0.8808
Epoch 141/220
1/750 [...... - ETA: 0s - loss: 0.5207 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3636 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3590 - accuracy:
0.9183
270/750 [======>.....] - ETA: 0s - loss: 0.3620 - accuracy:
0.9181
360/750 [=======>.....] - ETA: 0s - loss: 0.3629 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3644 - accuracy:
0.9176
540/750 [=========>.....] - ETA: 0s - loss: 0.3647 - accuracy:
750/750 [=============== ] - 1s 702us/step - loss: 0.3639 - accuracy:
0.9190 - val loss: 0.4759 - val accuracy: 0.8848
Epoch 142/220
1/750 [.....] - ETA: 0s - loss: 0.2914 - accuracy:
0.9531
91/750 [==>.....] - ETA: 0s - loss: 0.3609 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.3585 - accuracy:
272/750 [======>..... - ETA: 0s - loss: 0.3612 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.3584 - accuracy:
0.9226
452/750 [==========>.....] - ETA: 0s - loss: 0.3590 - accuracy:
```

```
0.9218
540/750 [==========>.....] - ETA: 0s - loss: 0.3593 - accuracy:
750/750 [=============== ] - 1s 697us/step - loss: 0.3616 - accuracy:
0.9208 - val loss: 0.4709 - val accuracy: 0.8838
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.2752 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3615 - accuracy:
0.9226
177/750 [=====>.....] - ETA: 0s - loss: 0.3621 - accuracy:
0.9204
267/750 [======>.....] - ETA: 0s - loss: 0.3602 - accuracy:
0.9197
444/750 [========>.....] - ETA: 0s - loss: 0.3588 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.3609 - accuracy:
0.9200
0.9209
750/750 [============ ] - 1s 696us/step - loss: 0.3617 - accuracy:
0.9208 - val loss: 0.4741 - val accuracy: 0.8828
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.3146 - accuracy:
0.9531
85/750 [==>.....] - ETA: 0s - loss: 0.3580 - accuracy:
0.9206
174/750 [====>.....] - ETA: 0s - loss: 0.3540 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3562 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3558 - accuracy:
443/750 [========>.....] - ETA: 0s - loss: 0.3575 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.3595 - accuracy:
614/750 [===========>.....] - ETA: 0s - loss: 0.3587 - accuracy:
```

```
0.9206
750/750 [=============== ] - 1s 710us/step - loss: 0.3603 - accuracy:
0.9204 - val loss: 0.4884 - val_accuracy: 0.8794
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.2908 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3414 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3497 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.3530 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3526 - accuracy:
0.9223
445/750 [=========>.....] - ETA: 0s - loss: 0.3561 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3605 - accuracy:
0.9201
712/750 [===============>..] - ETA: 0s - loss: 0.3607 - accuracy:
0.9199
750/750 [=============== ] - 1s 694us/step - loss: 0.3610 - accuracy:
0.9196 - val loss: 0.5257 - val accuracy: 0.8692
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.6330 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3576 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3547 - accuracy:
0.9212
269/750 [=======>.....] - ETA: 0s - loss: 0.3562 - accuracy:
0.9218
354/750 [=======>.....] - ETA: 0s - loss: 0.3571 - accuracy:
0.9211
443/750 [=========>.....] - ETA: 0s - loss: 0.3572 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3583 - accuracy:
0.9201 - val_loss: 0.4728 - val_accuracy: 0.8827
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.2871 - accuracy:
```

```
0.9844
90/750 [==>.....] - ETA: 0s - loss: 0.3506 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3589 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3569 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3549 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3543 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3570 - accuracy:
0.9229
0.9223 - val loss: 0.4688 - val accuracy: 0.8844
Epoch 148/220
1/750 [.....] - ETA: 0s - loss: 0.2409 - accuracy:
0.9844
88/750 [==>.....] - ETA: 0s - loss: 0.3425 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3425 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.3483 - accuracy:
351/750 [=========>.....] - ETA: 0s - loss: 0.3540 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3563 - accuracy:
0.9231
524/750 [===========>.....] - ETA: 0s - loss: 0.3586 - accuracy:
0.9221
610/750 [============>.....] - ETA: 0s - loss: 0.3587 - accuracy:
0.9216
0.9212 - val_loss: 0.4696 - val_accuracy: 0.8847
Epoch 149/220
1/750 [...... 0.2981 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3532 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3522 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.3546 - accuracy:
```

```
0.9244
350/750 [=========>.....] - ETA: 0s - loss: 0.3535 - accuracy:
0.9244
438/750 [=========>.....] - ETA: 0s - loss: 0.3519 - accuracy:
526/750 [===========>.....] - ETA: 0s - loss: 0.3554 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.3564 - accuracy:
0.9223 - val loss: 0.4763 - val accuracy: 0.8824
Epoch 150/220
1/750 [.....] - ETA: 0s - loss: 0.4223 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3679 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3649 - accuracy:
0.9201
262/750 [======>.....] - ETA: 0s - loss: 0.3627 - accuracy:
0.9201
349/750 [=======>.....] - ETA: 0s - loss: 0.3567 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.3599 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3596 - accuracy:
750/750 [=============== ] - 1s 714us/step - loss: 0.3604 - accuracy:
0.9202 - val loss: 0.4765 - val accuracy: 0.8818
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.3933 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9257
175/750 [=====>.....] - ETA: 0s - loss: 0.3562 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.3522 - accuracy:
0.9261
347/750 [========>.....] - ETA: 0s - loss: 0.3551 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.3586 - accuracy:
0.9221
519/750 [=========>.....] - ETA: 0s - loss: 0.3585 - accuracy:
```

```
0.9216
0.9220 - val loss: 0.4935 - val accuracy: 0.8782
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.5439 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3599 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3566 - accuracy:
0.9218
260/750 [=======>.....] - ETA: 0s - loss: 0.3546 - accuracy:
0.9236
345/750 [=======>.....] - ETA: 0s - loss: 0.3497 - accuracy:
430/750 [==========>.....] - ETA: 0s - loss: 0.3524 - accuracy:
0.9241
518/750 [=========>.....] - ETA: 0s - loss: 0.3542 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.3568 - accuracy:
750/750 [============= ] - 1s 713us/step - loss: 0.3573 - accuracy:
0.9219 - val_loss: 0.4916 - val_accuracy: 0.8780
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.4362 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3546 - accuracy:
0.9244
174/750 [====>.....] - ETA: 0s - loss: 0.3575 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3571 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.3589 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9223
519/750 [=========>.....] - ETA: 0s - loss: 0.3591 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3588 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.3579 - accuracy:
0.9221
750/750 [============= ] - 1s 710us/step - loss: 0.3576 - accuracy:
```

```
0.9219 - val loss: 0.4826 - val accuracy: 0.8811
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.3626 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.3685 - accuracy:
0.9162
173/750 [====>.....] - ETA: 0s - loss: 0.3613 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.3617 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.3600 - accuracy:
0.9199
432/750 [=========>.....] - ETA: 0s - loss: 0.3561 - accuracy:
515/750 [==========>.....] - ETA: 0s - loss: 0.3552 - accuracy:
0.9219
600/750 [===========>.....] - ETA: 0s - loss: 0.3560 - accuracy:
0.9215 - val loss: 0.4992 - val accuracy: 0.8778
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.3944 - accuracy:
0.8996
89/750 [==>.....] - ETA: 0s - loss: 0.3543 - accuracy:
0.9263
177/750 [=====>.....] - ETA: 0s - loss: 0.3498 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9262
355/750 [=======>.....] - ETA: 0s - loss: 0.3500 - accuracy:
0.9246
447/750 [========>..... - ETA: 0s - loss: 0.3528 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3544 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.3563 - accuracy:
750/750 [============ ] - 1s 694us/step - loss: 0.3580 - accuracy:
0.9216 - val loss: 0.4764 - val accuracy: 0.8817
Epoch 156/220
```

1/750 [.....] - ETA: 0s - loss: 0.2813 - accuracy:

89/750 [==>.....] - ETA: 0s - loss: 0.3425 - accuracy:

```
0.9287
175/750 [=====>.....] - ETA: 0s - loss: 0.3427 - accuracy:
0.9278
268/750 [=======>.....] - ETA: 0s - loss: 0.3504 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3549 - accuracy:
438/750 [========>.....] - ETA: 0s - loss: 0.3532 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.3548 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.3561 - accuracy:
0.9214
0.9221
750/750 [============= ] - 1s 701us/step - loss: 0.3573 - accuracy:
0.9214 - val_loss: 0.5230 - val_accuracy: 0.8661
Epoch 157/220
1/750 [...... os. - loss: 0.5339 - accuracy:
0.8125
87/750 [==>.....] - ETA: 0s - loss: 0.3570 - accuracy:
172/750 [====>...... - ETA: 0s - loss: 0.3621 - accuracy:
0.9198
260/750 [=======>.....] - ETA: 0s - loss: 0.3605 - accuracy:
0.9199
350/750 [=======>.....] - ETA: 0s - loss: 0.3568 - accuracy:
0.9217
441/750 [=========>.....] - ETA: 0s - loss: 0.3586 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3577 - accuracy:
615/750 [=============>.....] - ETA: 0s - loss: 0.3564 - accuracy:
0.9231
0.9235 - val_loss: 0.4760 - val_accuracy: 0.8810
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.2932 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.3483 - accuracy:
0.9261
177/750 [=====>.....] - ETA: 0s - loss: 0.3461 - accuracy:
0.9271
263/750 [======>..... - ETA: 0s - loss: 0.3490 - accuracy:
0.9267
354/750 [========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
```

```
0.9278
444/750 [=========>.....] - ETA: 0s - loss: 0.3516 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3534 - accuracy:
0.9233 - val_loss: 0.5028 - val_accuracy: 0.8768
Epoch 159/220
1/750 [.....] - ETA: 0s - loss: 0.3093 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3472 - accuracy:
0.9286
180/750 [=====>...... - ETA: 0s - loss: 0.3534 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.3514 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.3531 - accuracy:
450/750 [=========>...... - ETA: 0s - loss: 0.3554 - accuracy:
0.9243
540/750 [==========>.....] - ETA: 0s - loss: 0.3567 - accuracy:
719/750 [==============>..] - ETA: 0s - loss: 0.3569 - accuracy:
0.9237
0.9239 - val loss: 0.4817 - val accuracy: 0.8836
Epoch 160/220
1/750 [.....] - ETA: 0s - loss: 0.2606 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.3520 - accuracy:
0.9268
176/750 [=====>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9257
262/750 [=======>.....] - ETA: 0s - loss: 0.3477 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.3518 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.3527 - accuracy:
0.9241
529/750 [=========>.....] - ETA: 0s - loss: 0.3552 - accuracy:
```

```
0.9226
0.9236 - val loss: 0.4815 - val accuracy: 0.8809
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.2995 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3384 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.3434 - accuracy:
0.9293
267/750 [=======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9279
353/750 [=========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9278
444/750 [========>..... - ETA: 0s - loss: 0.3502 - accuracy:
0.9267
532/750 [==========>.....] - ETA: 0s - loss: 0.3527 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.3569 - accuracy:
750/750 [============= ] - 1s 697us/step - loss: 0.3571 - accuracy:
0.9239 - val_loss: 0.4792 - val_accuracy: 0.8812
Epoch 162/220
1/750 [...... 0.4209 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3419 - accuracy:
0.9266
177/750 [=====>.....] - ETA: 0s - loss: 0.3467 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.3447 - accuracy:
0.9277
356/750 [=======>.....] - ETA: 0s - loss: 0.3472 - accuracy:
0.9263
446/750 [=========>.....] - ETA: 0s - loss: 0.3506 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3532 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.3526 - accuracy:
0.9241
0.9239
0.9239 - val loss: 0.4908 - val accuracy: 0.8797
Epoch 163/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9531
91/750 [==>.....] - ETA: 0s - loss: 0.3443 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.3452 - accuracy:
0.9269
269/750 [======>.....] - ETA: 0s - loss: 0.3477 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3477 - accuracy:
447/750 [========>...... - ETA: 0s - loss: 0.3497 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.3506 - accuracy:
0.9254
0.9244
0.9239 - val_loss: 0.4861 - val_accuracy: 0.8800
Epoch 164/220
1/750 [...... - ETA: 0s - loss: 0.3766 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3440 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9284
264/750 [=======>.....] - ETA: 0s - loss: 0.3492 - accuracy:
0.9263
352/750 [=======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.3509 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.3538 - accuracy:
0.9234
709/750 [==============>..] - ETA: 0s - loss: 0.3542 - accuracy:
0.9232 - val loss: 0.4782 - val accuracy: 0.8826
Epoch 165/220
1/750 [.....] - ETA: 0s - loss: 0.3413 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3323 - accuracy:
0.9321
176/750 [=====>.....] - ETA: 0s - loss: 0.3416 - accuracy:
```

```
0.9287
266/750 [=======>.....] - ETA: 0s - loss: 0.3440 - accuracy:
0.9281
354/750 [=======>.....] - ETA: 0s - loss: 0.3478 - accuracy:
0.9257
446/750 [========>..... - ETA: 0s - loss: 0.3513 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3520 - accuracy:
712/750 [===============>..] - ETA: 0s - loss: 0.3556 - accuracy:
0.9227
750/750 [============= ] - 1s 696us/step - loss: 0.3553 - accuracy:
0.9231 - val_loss: 0.4721 - val_accuracy: 0.8852
Epoch 166/220
1/750 [...... - ETA: 0s - loss: 0.3547 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3559 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3596 - accuracy:
0.9213
267/750 [======>..... - ETA: 0s - loss: 0.3541 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3537 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.3556 - accuracy:
0.9237
533/750 [=========>.....] - ETA: 0s - loss: 0.3538 - accuracy:
750/750 [=============== ] - 1s 710us/step - loss: 0.3532 - accuracy:
0.9245 - val loss: 0.5202 - val accuracy: 0.8703
Epoch 167/220
1/750 [.....] - ETA: 0s - loss: 0.3095 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3370 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3455 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.3544 - accuracy:
0.9244
357/750 [=======>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9245
446/750 [=========>.....] - ETA: 0s - loss: 0.3526 - accuracy:
```

```
0.9249
535/750 [==========>.....] - ETA: 0s - loss: 0.3526 - accuracy:
0.9240 - val loss: 0.4732 - val accuracy: 0.8834
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.3594 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3558 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3540 - accuracy:
257/750 [======>..... - ETA: 0s - loss: 0.3521 - accuracy:
0.9273
343/750 [========>...... - ETA: 0s - loss: 0.3516 - accuracy:
427/750 [========>.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9270
517/750 [===========>.....] - ETA: 0s - loss: 0.3509 - accuracy:
0.9271
0.9265
750/750 [============ ] - 1s 709us/step - loss: 0.3524 - accuracy:
0.9259 - val loss: 0.4956 - val accuracy: 0.8779
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.3004 - accuracy:
0.9219
91/750 [==>.....] - ETA: 0s - loss: 0.3539 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.3547 - accuracy:
0.9224
268/750 [=======>.....] - ETA: 0s - loss: 0.3545 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
444/750 [========>.....] - ETA: 0s - loss: 0.3537 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3547 - accuracy:
0.9229
624/750 [===========>.....] - ETA: 0s - loss: 0.3546 - accuracy:
0.9231
```

```
0.9231
0.9231 - val_loss: 0.4778 - val_accuracy: 0.8842
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.2018 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3489 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3520 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.3538 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3534 - accuracy:
0.9254
437/750 [=========>.....] - ETA: 0s - loss: 0.3526 - accuracy:
0.9257
518/750 [=========>>.....] - ETA: 0s - loss: 0.3512 - accuracy:
688/750 [============>...] - ETA: 0s - loss: 0.3516 - accuracy:
0.9256
750/750 [================ ] - 1s 722us/step - loss: 0.3524 - accuracy:
0.9253 - val loss: 0.4868 - val accuracy: 0.8821
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.2832 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.3418 - accuracy:
0.9311
169/750 [=====>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9287
256/750 [=======>.....] - ETA: 0s - loss: 0.3497 - accuracy:
345/750 [=======>.....] - ETA: 0s - loss: 0.3522 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3515 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.3509 - accuracy:
0.9247 - val_loss: 0.4783 - val_accuracy: 0.8834
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.2565 - accuracy:
```

```
0.9375
87/750 [==>.....] - ETA: 0s - loss: 0.3483 - accuracy:
0.9269
178/750 [=====>.....] - ETA: 0s - loss: 0.3514 - accuracy:
0.9266
268/750 [======>.....] - ETA: 0s - loss: 0.3540 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3553 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3542 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.3532 - accuracy:
605/750 [=============>.....] - ETA: 0s - loss: 0.3532 - accuracy:
0.9253 - val loss: 0.4769 - val accuracy: 0.8848
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.2539 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3431 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3438 - accuracy:
266/750 [======>.....] - ETA: 0s - loss: 0.3445 - accuracy:
353/750 [=========>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9285
442/750 [=========>.....] - ETA: 0s - loss: 0.3509 - accuracy:
0.9271
532/750 [==========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.3516 - accuracy:
0.9263
750/750 [============= ] - 1s 697us/step - loss: 0.3514 - accuracy:
0.9264 - val_loss: 0.4802 - val_accuracy: 0.8827
Epoch 174/220
1/750 [...... 0.3325 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9289
176/750 [=====>.....] - ETA: 0s - loss: 0.3417 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.3460 - accuracy:
```

```
0.9284
356/750 [=========>.....] - ETA: 0s - loss: 0.3495 - accuracy:
0.9267
444/750 [=========>.....] - ETA: 0s - loss: 0.3500 - accuracy:
0.9263
534/750 [==========>.....] - ETA: 0s - loss: 0.3532 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.3508 - accuracy:
0.9257
750/750 [============= ] - 1s 708us/step - loss: 0.3519 - accuracy:
0.9252 - val loss: 0.5264 - val accuracy: 0.8672
Epoch 175/220
1/750 [.....] - ETA: 0s - loss: 0.3754 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3464 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3496 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.3501 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.3508 - accuracy:
0.9239
441/750 [=========>.....] - ETA: 0s - loss: 0.3517 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3526 - accuracy:
0.9244
615/750 [============>.....] - ETA: 0s - loss: 0.3521 - accuracy:
0.9249 - val loss: 0.5328 - val accuracy: 0.8643
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.4192 - accuracy:
0.8906
92/750 [==>.....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9263
181/750 [=====>.....] - ETA: 0s - loss: 0.3486 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3462 - accuracy:
447/750 [========>..... - ETA: 0s - loss: 0.3461 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.3491 - accuracy:
```

```
0.9244
0.9236
0.9237 - val loss: 0.4753 - val accuracy: 0.8857
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.4498 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3473 - accuracy:
0.9284
178/750 [=====>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9290
264/750 [=======>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9292
355/750 [=======>.....] - ETA: 0s - loss: 0.3438 - accuracy:
438/750 [==========>.....] - ETA: 0s - loss: 0.3474 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.3503 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.3506 - accuracy:
750/750 [============= ] - 1s 696us/step - loss: 0.3511 - accuracy:
0.9266 - val_loss: 0.5193 - val_accuracy: 0.8712
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.4143 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.3317 - accuracy:
0.9336
179/750 [=====>.....] - ETA: 0s - loss: 0.3456 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.3459 - accuracy:
0.9274
356/750 [=======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9264
448/750 [=========>.....] - ETA: 0s - loss: 0.3507 - accuracy:
0.9251
533/750 [=========>.....] - ETA: 0s - loss: 0.3490 - accuracy:
623/750 [===========>.....] - ETA: 0s - loss: 0.3518 - accuracy:
750/750 [============= ] - 1s 694us/step - loss: 0.3503 - accuracy:
```

```
0.9258 - val loss: 0.4795 - val accuracy: 0.8836
Epoch 179/220
1/750 [.....] - ETA: 0s - loss: 0.2701 - accuracy:
0.9688
88/750 [==>.....] - ETA: 0s - loss: 0.3535 - accuracy:
0.9196
176/750 [=====>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9261
266/750 [======>.....] - ETA: 0s - loss: 0.3470 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.3479 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9263
530/750 [==========>.....] - ETA: 0s - loss: 0.3517 - accuracy:
0.9257
620/750 [===========>.....] - ETA: 0s - loss: 0.3532 - accuracy:
0.9246
0.9249 - val loss: 0.4933 - val accuracy: 0.8788
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.3331 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.3438 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.3472 - accuracy:
0.9287
361/750 [========>.....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9269
451/750 [=========>...... - ETA: 0s - loss: 0.3486 - accuracy:
0.9268
537/750 [=========>.....] - ETA: 0s - loss: 0.3499 - accuracy:
0.9267
627/750 [============>....] - ETA: 0s - loss: 0.3511 - accuracy:
0.9262 - val loss: 0.4904 - val accuracy: 0.8794
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.2963 - accuracy:
0.9531
```

86/750 [==>.....] - ETA: 0s - loss: 0.3493 - accuracy:

```
0.9244
177/750 [=====>.....] - ETA: 0s - loss: 0.3456 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3500 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.3541 - accuracy:
0.9244
442/750 [========>.....] - ETA: 0s - loss: 0.3527 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3517 - accuracy:
621/750 [===========>.....] - ETA: 0s - loss: 0.3495 - accuracy:
0.9268
0.9268
750/750 [============= ] - 1s 694us/step - loss: 0.3484 - accuracy:
0.9267 - val loss: 0.4844 - val accuracy: 0.8830
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.2943 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3442 - accuracy:
0.9280
180/750 [=====>.....] - ETA: 0s - loss: 0.3476 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9261
358/750 [=======>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9271
447/750 [=========>.....] - ETA: 0s - loss: 0.3476 - accuracy:
0.9270
537/750 [==========>.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9274
0.9274 - val_loss: 0.4962 - val_accuracy: 0.8793
Epoch 183/220
1/750 [.....] - ETA: 0s - loss: 0.3004 - accuracy:
0.9375
82/750 [==>.....] - ETA: 0s - loss: 0.3367 - accuracy:
168/750 [=====>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9321
256/750 [======>..... - ETA: 0s - loss: 0.3403 - accuracy:
0.9312
346/750 [========>.....] - ETA: 0s - loss: 0.3434 - accuracy:
```

```
0.9297
437/750 [=========>.....] - ETA: 0s - loss: 0.3419 - accuracy:
524/750 [==========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9283
750/750 [=============== ] - 1s 700us/step - loss: 0.3491 - accuracy:
0.9266 - val loss: 0.5044 - val accuracy: 0.8757
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.3134 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3368 - accuracy:
0.9291
177/750 [=====>...... - ETA: 0s - loss: 0.3384 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.3439 - accuracy:
0.9278
357/750 [=======>.....] - ETA: 0s - loss: 0.3477 - accuracy:
0.9256
445/750 [========>..... - ETA: 0s - loss: 0.3471 - accuracy:
0.9268
534/750 [==========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
0.9268
0.9270 - val_loss: 0.4809 - val_accuracy: 0.8827
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.3436 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.3431 - accuracy:
0.9296
178/750 [=====>.....] - ETA: 0s - loss: 0.3430 - accuracy:
0.9294
267/750 [=======>.....] - ETA: 0s - loss: 0.3454 - accuracy:
0.9283
356/750 [========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9281
445/750 [========>.....] - ETA: 0s - loss: 0.3469 - accuracy:
0.9281
536/750 [=========>.....] - ETA: 0s - loss: 0.3454 - accuracy:
```

```
0.9285
0.9278 - val loss: 0.5122 - val accuracy: 0.8747
Epoch 186/220
 1/750 [.....] - ETA: 0s - loss: 0.3444 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3388 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 0.3456 - accuracy:
0.9299
268/750 [=======>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9287
359/750 [=========>.....] - ETA: 0s - loss: 0.3463 - accuracy:
0.9291
448/750 [=========>..... - ETA: 0s - loss: 0.3474 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.3499 - accuracy:
0.9276
0.9274
750/750 [============= ] - 1s 693us/step - loss: 0.3500 - accuracy:
0.9276 - val_loss: 0.4817 - val_accuracy: 0.8861
Epoch 187/220
 1/750 [...... - 0.3240 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9261
176/750 [=====>.....] - ETA: 0s - loss: 0.3433 - accuracy:
0.9293
265/750 [======>.....] - ETA: 0s - loss: 0.3478 - accuracy:
0.9286
356/750 [========>.....] - ETA: 0s - loss: 0.3467 - accuracy:
0.9289
446/750 [=========>.....] - ETA: 0s - loss: 0.3487 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3496 - accuracy:
0.9274
623/750 [===========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
711/750 [===============>..] - ETA: 0s - loss: 0.3454 - accuracy:
0.9285
750/750 [============== ] - 1s 693us/step - loss: 0.3463 - accuracy:
0.9281 - val_loss: 0.4839 - val_accuracy: 0.8827
Epoch 188/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4149 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3430 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.3495 - accuracy:
0.9279
271/750 [=======>.....] - ETA: 0s - loss: 0.3461 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9280
452/750 [=========>...... - ETA: 0s - loss: 0.3470 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9292
0.9279
0.9273
0.9270 - val_loss: 0.4833 - val_accuracy: 0.8841
Epoch 189/220
1/750 [...... - ETA: 0s - loss: 0.3339 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3354 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3397 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3357 - accuracy:
0.9329
355/750 [=======>.....] - ETA: 0s - loss: 0.3430 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.3440 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3448 - accuracy:
0.9283
715/750 [==============>..] - ETA: 0s - loss: 0.3475 - accuracy:
0.9283 - val loss: 0.4838 - val accuracy: 0.8802
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9531
92/750 [==>.....] - ETA: 0s - loss: 0.3356 - accuracy:
0.9329
181/750 [=====>.....] - ETA: 0s - loss: 0.3390 - accuracy:
```

```
0.9324
271/750 [=======>.....] - ETA: 0s - loss: 0.3412 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3439 - accuracy:
0.9293
447/750 [========>..... - ETA: 0s - loss: 0.3441 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3452 - accuracy:
714/750 [===============>..] - ETA: 0s - loss: 0.3470 - accuracy:
0.9284
750/750 [============= ] - 1s 694us/step - loss: 0.3463 - accuracy:
0.9286 - val_loss: 0.4979 - val_accuracy: 0.8812
Epoch 191/220
1/750 [...... - ETA: 0s - loss: 0.3850 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.3356 - accuracy:
0.9363
182/750 [=====>.....] - ETA: 0s - loss: 0.3432 - accuracy:
272/750 [======>..... - ETA: 0s - loss: 0.3434 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.3456 - accuracy:
0.9299
455/750 [=========>.....] - ETA: 0s - loss: 0.3462 - accuracy:
0.9301
545/750 [=========>.....] - ETA: 0s - loss: 0.3469 - accuracy:
0.9291
0.9281
0.9281 - val loss: 0.4982 - val accuracy: 0.8795
Epoch 192/220
1/750 [...... - ETA: 0s - loss: 0.3135 - accuracy:
0.9531
91/750 [==>.....] - ETA: 0s - loss: 0.3355 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.3363 - accuracy:
271/750 [======>..... - ETA: 0s - loss: 0.3360 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.3400 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.3433 - accuracy:
```

```
0.9282
539/750 [==========>.....] - ETA: 0s - loss: 0.3449 - accuracy:
750/750 [================ ] - 1s 692us/step - loss: 0.3474 - accuracy:
0.9269 - val loss: 0.4888 - val accuracy: 0.8808
Epoch 193/220
1/750 [...... - ETA: 0s - loss: 0.3319 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9296
177/750 [=====>.....] - ETA: 0s - loss: 0.3434 - accuracy:
0.9294
266/750 [=======>.....] - ETA: 0s - loss: 0.3435 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3446 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9276
533/750 [==========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
750/750 [============= ] - 1s 690us/step - loss: 0.3472 - accuracy:
0.9287 - val loss: 0.5065 - val accuracy: 0.8790
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.3157 - accuracy:
0.9375
90/750 [==>.....] - ETA: 0s - loss: 0.3298 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3277 - accuracy:
0.9377
269/750 [=======>.....] - ETA: 0s - loss: 0.3324 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3394 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.3408 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9284
624/750 [===========>.....] - ETA: 0s - loss: 0.3452 - accuracy:
712/750 [===============>..] - ETA: 0s - loss: 0.3460 - accuracy:
```

```
0.9282
0.9280 - val_loss: 0.4816 - val_accuracy: 0.8823
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.4025 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3426 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3409 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.3456 - accuracy:
0.9281
361/750 [========>.....] - ETA: 0s - loss: 0.3448 - accuracy:
0.9288
452/750 [==========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
0.9289
544/750 [==========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
716/750 [==============>..] - ETA: 0s - loss: 0.3462 - accuracy:
0.9286
750/750 [============= ] - 1s 693us/step - loss: 0.3455 - accuracy:
0.9288 - val loss: 0.4857 - val accuracy: 0.8833
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.3493 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9386
175/750 [=====>.....] - ETA: 0s - loss: 0.3380 - accuracy:
0.9339
261/750 [=======>.....] - ETA: 0s - loss: 0.3383 - accuracy:
0.9336
350/750 [=======>.....] - ETA: 0s - loss: 0.3393 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9341
523/750 [=========>.....] - ETA: 0s - loss: 0.3447 - accuracy:
0.9321
0.9316
0.9306 - val_loss: 0.4845 - val_accuracy: 0.8827
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.3063 - accuracy:
```

```
0.9219
93/750 [==>.....] - ETA: 0s - loss: 0.3383 - accuracy:
184/750 [=====>.....] - ETA: 0s - loss: 0.3354 - accuracy:
274/750 [======>.....] - ETA: 0s - loss: 0.3404 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.3424 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.3450 - accuracy:
546/750 [=========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9291
0.9294
0.9288 - val loss: 0.4841 - val accuracy: 0.8829
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.3732 - accuracy:
0.8906
90/750 [==>.....] - ETA: 0s - loss: 0.3309 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3341 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.3383 - accuracy:
360/750 [=========>.....] - ETA: 0s - loss: 0.3429 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.3425 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.3437 - accuracy:
0.9301
0.9294
0.9293 - val_loss: 0.5029 - val_accuracy: 0.8779
Epoch 199/220
1/750 [...... os. 4491 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3382 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3321 - accuracy:
0.9331
267/750 [======>.....] - ETA: 0s - loss: 0.3355 - accuracy:
```

```
0.9329
354/750 [=========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3416 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.3413 - accuracy:
623/750 [===========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
750/750 [============= ] - 1s 693us/step - loss: 0.3454 - accuracy:
0.9295 - val loss: 0.5485 - val accuracy: 0.8617
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.4349 - accuracy:
0.8594
89/750 [==>.....] - ETA: 0s - loss: 0.3435 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.3393 - accuracy:
273/750 [======>.....] - ETA: 0s - loss: 0.3453 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.3450 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.3419 - accuracy:
0.9311
542/750 [=========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9294
625/750 [============>....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9291
750/750 [=============== ] - 1s 693us/step - loss: 0.3462 - accuracy:
0.9290 - val loss: 0.4961 - val accuracy: 0.8802
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.4061 - accuracy:
0.9219
91/750 [==>....... - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3355 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.3405 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3417 - accuracy:
0.9329
450/750 [=========>...... - ETA: 0s - loss: 0.3409 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.3407 - accuracy:
```

```
0.9316
0.9311
0.9309 - val loss: 0.4830 - val accuracy: 0.8856
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.2945 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9339
179/750 [=====>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9323
269/750 [=======>.....] - ETA: 0s - loss: 0.3408 - accuracy:
0.9314
355/750 [=======>.....] - ETA: 0s - loss: 0.3422 - accuracy:
436/750 [==========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9296
0.9293
703/750 [==============>..] - ETA: 0s - loss: 0.3452 - accuracy:
750/750 [============= ] - 1s 710us/step - loss: 0.3454 - accuracy:
0.9287 - val_loss: 0.4984 - val_accuracy: 0.8767
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.3673 - accuracy:
0.8906
90/750 [==>.....] - ETA: 0s - loss: 0.3417 - accuracy:
0.9299
181/750 [=====>.....] - ETA: 0s - loss: 0.3415 - accuracy:
0.9298
270/750 [=======>.....] - ETA: 0s - loss: 0.3458 - accuracy:
0.9293
360/750 [========>.....] - ETA: 0s - loss: 0.3445 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9301
538/750 [=========>.....] - ETA: 0s - loss: 0.3441 - accuracy:
0.9297
630/750 [============>....] - ETA: 0s - loss: 0.3453 - accuracy:
750/750 [============= ] - 1s 688us/step - loss: 0.3454 - accuracy:
```

```
0.9293 - val loss: 0.5054 - val accuracy: 0.8759
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.2368 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9357
177/750 [=====>.....] - ETA: 0s - loss: 0.3424 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9337
354/750 [=======>...... - ETA: 0s - loss: 0.3396 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.3413 - accuracy:
0.9321
529/750 [=========>.....] - ETA: 0s - loss: 0.3415 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.3415 - accuracy:
0.9296 - val loss: 0.4936 - val accuracy: 0.8819
Epoch 205/220
 1/750 [.....] - ETA: 0s - loss: 0.2903 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3360 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3343 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3452 - accuracy:
0.9280
355/750 [=======>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9285
445/750 [=========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9289
624/750 [===========>.....] - ETA: 0s - loss: 0.3454 - accuracy:
0.9286
0.9289
0.9292 - val_loss: 0.4928 - val_accuracy: 0.8804
Epoch 206/220
1/750 [.....] - ETA: 0s - loss: 0.3451 - accuracy:
```

0.9375

93/750 [==>.....] - ETA: 0s - loss: 0.3362 - accuracy:

```
0.9308
181/750 [=====>.....] - ETA: 0s - loss: 0.3406 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.3381 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3398 - accuracy:
0.9315
446/750 [========>.....] - ETA: 0s - loss: 0.3442 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3412 - accuracy:
624/750 [===========>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9306
750/750 [============= ] - 1s 696us/step - loss: 0.3428 - accuracy:
0.9300 - val loss: 0.4910 - val accuracy: 0.8832
Epoch 207/220
1/750 [...... o.4092 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3348 - accuracy:
0.9337
181/750 [=====>...... - ETA: 0s - loss: 0.3315 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.3341 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3383 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3400 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9299
0.9296
0.9293
0.9291 - val_loss: 0.4902 - val_accuracy: 0.8812
Epoch 208/220
1/750 [.....] - ETA: 0s - loss: 0.4068 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3421 - accuracy:
0.9281
179/750 [=====>.....] - ETA: 0s - loss: 0.3487 - accuracy:
0.9256
266/750 [======>..... - ETA: 0s - loss: 0.3460 - accuracy:
0.9275
355/750 [=======>.....] - ETA: 0s - loss: 0.3443 - accuracy:
```

```
0.9288
442/750 [=========>.....] - ETA: 0s - loss: 0.3401 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9306
750/750 [================ ] - 1s 694us/step - loss: 0.3421 - accuracy:
0.9306 - val loss: 0.5048 - val accuracy: 0.8791
Epoch 209/220
1/750 [.....] - ETA: 0s - loss: 0.3835 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3360 - accuracy:
0.9357
176/750 [=====>...... - ETA: 0s - loss: 0.3372 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.3397 - accuracy:
0.9349
353/750 [=======>.....] - ETA: 0s - loss: 0.3445 - accuracy:
0.9329
440/750 [=========>..... - ETA: 0s - loss: 0.3439 - accuracy:
0.9317
533/750 [==========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.3436 - accuracy:
0.9312 - val loss: 0.4924 - val accuracy: 0.8823
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.2515 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.3242 - accuracy:
0.9370
176/750 [=====>.....] - ETA: 0s - loss: 0.3289 - accuracy:
0.9365
264/750 [=======>.....] - ETA: 0s - loss: 0.3316 - accuracy:
0.9351
355/750 [========>.....] - ETA: 0s - loss: 0.3311 - accuracy:
441/750 [========>..... - ETA: 0s - loss: 0.3355 - accuracy:
0.9334
533/750 [==========>.....] - ETA: 0s - loss: 0.3387 - accuracy:
```

```
0.9314
0.9305 - val loss: 0.5515 - val accuracy: 0.8622
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.4385 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3375 - accuracy:
184/750 [=====>...... - ETA: 0s - loss: 0.3454 - accuracy:
0.9278
273/750 [=======>.....] - ETA: 0s - loss: 0.3451 - accuracy:
0.9292
364/750 [=========>.....] - ETA: 0s - loss: 0.3450 - accuracy:
0.9296
453/750 [=========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9299
542/750 [==========>.....] - ETA: 0s - loss: 0.3447 - accuracy:
633/750 [============>....] - ETA: 0s - loss: 0.3458 - accuracy:
750/750 [============= ] - 1s 686us/step - loss: 0.3434 - accuracy:
0.9306 - val_loss: 0.4808 - val_accuracy: 0.8864
Epoch 212/220
1/750 [...... 0.2691 - accuracy:
0.9688
86/750 [==>.....] - ETA: 0s - loss: 0.3373 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3399 - accuracy:
0.9311
263/750 [======>..... - ETA: 0s - loss: 0.3422 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.3442 - accuracy:
0.9296
439/750 [=========>.....] - ETA: 0s - loss: 0.3417 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9296
619/750 [===========>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9304
0.9301 - val_loss: 0.5009 - val_accuracy: 0.8832
Epoch 213/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3291 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.3598 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3452 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.3439 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3405 - accuracy:
0.9301
446/750 [=========>..... - ETA: 0s - loss: 0.3414 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3402 - accuracy:
623/750 [============>.....] - ETA: 0s - loss: 0.3419 - accuracy:
0.9296
0.9291 - val_loss: 0.4834 - val_accuracy: 0.8832
Epoch 214/220
1/750 [...... - ETA: 0s - loss: 0.3973 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.3668 - accuracy:
0.9286
180/750 [=====>.....] - ETA: 0s - loss: 0.3492 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9314
355/750 [=======>.....] - ETA: 0s - loss: 0.3450 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.3432 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9321
0.9311 - val loss: 0.5298 - val_accuracy: 0.8751
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.2934 - accuracy:
0.9531
91/750 [==>.....] - ETA: 0s - loss: 0.3423 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3400 - accuracy:
```

```
0.9329
268/750 [=======>.....] - ETA: 0s - loss: 0.3349 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3376 - accuracy:
0.9341
447/750 [========>.....] - ETA: 0s - loss: 0.3403 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3400 - accuracy:
712/750 [==============>..] - ETA: 0s - loss: 0.3412 - accuracy:
0.9316
750/750 [============= ] - 1s 697us/step - loss: 0.3411 - accuracy:
0.9313 - val_loss: 0.4971 - val_accuracy: 0.8800
Epoch 216/220
1/750 [...... - ETA: 0s - loss: 0.2884 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3300 - accuracy:
0.9361
177/750 [=====>.....] - ETA: 0s - loss: 0.3382 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.3372 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3402 - accuracy:
442/750 [========>..... - ETA: 0s - loss: 0.3413 - accuracy:
0.9317
534/750 [=========>.....] - ETA: 0s - loss: 0.3408 - accuracy:
0.9311 - val loss: 0.5022 - val accuracy: 0.8784
Epoch 217/220
1/750 [...... - ETA: 0s - loss: 0.3308 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3372 - accuracy:
162/750 [====>...... - ETA: 0s - loss: 0.3375 - accuracy:
254/750 [=======>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9341
346/750 [========>.....] - ETA: 0s - loss: 0.3368 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.3348 - accuracy:
```

```
0.9354
521/750 [===========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9326
750/750 [=============== ] - 1s 704us/step - loss: 0.3413 - accuracy:
0.9320 - val loss: 0.4959 - val accuracy: 0.8782
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.2542 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3312 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3335 - accuracy:
0.9348
261/750 [======>..... - ETA: 0s - loss: 0.3368 - accuracy:
0.9341
351/750 [========>...... - ETA: 0s - loss: 0.3391 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.3383 - accuracy:
0.9336
532/750 [==========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
0.9329
750/750 [============ ] - 1s 692us/step - loss: 0.3401 - accuracy:
0.9325 - val loss: 0.4997 - val accuracy: 0.8808
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.3731 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3405 - accuracy:
0.9311
180/750 [=====>.....] - ETA: 0s - loss: 0.3416 - accuracy:
0.9294
268/750 [=======>.....] - ETA: 0s - loss: 0.3356 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.3358 - accuracy:
446/750 [========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3407 - accuracy:
0.9314
623/750 [===========>.....] - ETA: 0s - loss: 0.3408 - accuracy:
0.9316
713/750 [===============>..] - ETA: 0s - loss: 0.3401 - accuracy:
```

```
0.9320 - val_loss: 0.5014 - val_accuracy: 0.8779
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.2066 - accuracy:
0.9844
86/750 [==>.....] - ETA: 0s - loss: 0.3244 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3396 - accuracy:
0.9319
264/750 [======>..... - ETA: 0s - loss: 0.3429 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9308
442/750 [=========>.....] - ETA: 0s - loss: 0.3401 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
0.9315
0.9301
0.9302 - val loss: 0.4981 - val accuracy: 0.8813
1/313 [.....] - ETA: 3s - loss: 0.5754 - accuracy:
110/313 [=======>.....] - ETA: 0s - loss: 0.5124 - accuracy:
0.8778
230/313 [===========>.....] - ETA: 0s - loss: 0.5251 - accuracy:
0.8741
Testing loss: 0.5171683430671692
Testing accuracy: 87.41000294685364%
Running for Model 4/12
Model: "sequential 4"
Layer (type)
            Output Shape
                       Param #
 -----
input layer (Dense)
            (None, 50)
                       39250
hidden1 (Dense)
            (None, 50)
                       2550
```

(None, 50)

(None, 50)

2550

2550

hidden2 (Dense)

hidden3 (Dense)

```
hidden4 (Dense)
                (None, 50)
                               2550
                (None, 10)
output layer (Dense)
                               510
______
Total params: 49,960
Trainable params: 49,960
Non-trainable params: 0
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.01 and
L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 50,
'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size':
50, 'activation_function': 'relu'}, { 'name': 'hidden2', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 50,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 2:12 - loss: 2.6340 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 2.5920 - accuracy: 0.1039
137/750 [====>.............] - ETA: 0s - loss: 2.5294 - accuracy:
0.1385
208/750 [=====>.....] - ETA: 0s - loss: 2.4564 - accuracy:
279/750 [=======>.....] - ETA: 0s - loss: 2.3772 - accuracy:
0.2354
349/750 [========>.....] - ETA: 0s - loss: 2.2819 - accuracy:
420/750 [========>.....] - ETA: 0s - loss: 2.1571 - accuracy:
493/750 [=========>.....] - ETA: 0s - loss: 2.0300 - accuracy:
0.3951
563/750 [===========>.....] - ETA: 0s - loss: 1.9259 - accuracy:
0.4311
0.4893
0.5021 - val_loss: 1.0458 - val_accuracy: 0.7271
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 1.0609 - accuracy:
0.8125
68/750 [=>.....] - ETA: 0s - loss: 1.0621 - accuracy:
```

```
137/750 [====>.....] - ETA: 0s - loss: 1.0489 - accuracy:
208/750 [======>.....] - ETA: 0s - loss: 1.0349 - accuracy:
278/750 [=======>..... - ETA: 0s - loss: 1.0298 - accuracy:
0.7315
347/750 [=======>.....] - ETA: 0s - loss: 1.0210 - accuracy:
0.7357
417/750 [========>.....] - ETA: 0s - loss: 1.0115 - accuracy:
0.7385
485/750 [=========>...... - ETA: 0s - loss: 1.0035 - accuracy:
554/750 [============>.....] - ETA: 0s - loss: 0.9975 - accuracy:
0.7428
0.7458
0.7494 - val_loss: 0.9157 - val_accuracy: 0.7744
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 0.8226 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.9101 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.9090 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.9080 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.9046 - accuracy:
0.7811
364/750 [========>.....] - ETA: 0s - loss: 0.8977 - accuracy:
439/750 [=========>..... - ETA: 0s - loss: 0.8947 - accuracy:
0.7846
511/750 [===========>.....] - ETA: 0s - loss: 0.8895 - accuracy:
0.7879
584/750 [===========>.....] - ETA: 0s - loss: 0.8890 - accuracy:
0.7898
0.7911 - val_loss: 0.8339 - val_accuracy: 0.8126
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 0.8962 - accuracy:
```

```
71/750 [=>.....] - ETA: 0s - loss: 0.8361 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.8338 - accuracy:
0.8116
215/750 [======>.....] - ETA: 0s - loss: 0.8311 - accuracy:
0.8134
289/750 [=======>.....] - ETA: 0s - loss: 0.8349 - accuracy:
0.8121
361/750 [=======>.....] - ETA: 0s - loss: 0.8320 - accuracy:
436/750 [=========>...... - ETA: 0s - loss: 0.8306 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.8258 - accuracy:
0.8141
581/750 [============>.....] - ETA: 0s - loss: 0.8241 - accuracy:
0.8148
655/750 [=============>....] - ETA: 0s - loss: 0.8235 - accuracy:
0.8146
0.8155 - val loss: 0.8043 - val accuracy: 0.8199
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 0.6429 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.7894 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.8011 - accuracy:
0.8190
221/750 [======>.....] - ETA: 0s - loss: 0.8007 - accuracy:
0.8211
293/750 [=======>.....] - ETA: 0s - loss: 0.7958 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.7910 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.7905 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.7899 - accuracy:
0.8271
593/750 [===========>.....] - ETA: 0s - loss: 0.7863 - accuracy:
0.8280
665/750 [==============>....] - ETA: 0s - loss: 0.7832 - accuracy:
0.8293
750/750 [============== ] - 1s 833us/step - loss: 0.7836 - accuracy:
0.8294 - val_loss: 0.7675 - val_accuracy: 0.8331
Epoch 6/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7411 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7496 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.7583 - accuracy:
222/750 [=====>.....] - ETA: 0s - loss: 0.7668 - accuracy:
298/750 [=======>..... - ETA: 0s - loss: 0.7617 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.7573 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.7579 - accuracy:
0.8361
521/750 [==========>.....] - ETA: 0s - loss: 0.7559 - accuracy:
596/750 [=============>.....] - ETA: 0s - loss: 0.7566 - accuracy:
0.8363
0.8366
750/750 [================ ] - 1s 828us/step - loss: 0.7554 - accuracy:
0.8367 - val loss: 0.7485 - val accuracy: 0.8407
Epoch 7/220
1/750 [...... 0.6559 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7390 - accuracy:
0.8490
150/750 [=====>.....] - ETA: 0s - loss: 0.7286 - accuracy:
0.8482
224/750 [======>.....] - ETA: 0s - loss: 0.7257 - accuracy:
0.8484
297/750 [=======>..... - ETA: 0s - loss: 0.7284 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.7292 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.7289 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.7311 - accuracy:
588/750 [============>.....] - ETA: 0s - loss: 0.7323 - accuracy:
663/750 [=============>....] - ETA: 0s - loss: 0.7323 - accuracy:
0.8441
750/750 [============= ] - 1s 826us/step - loss: 0.7312 - accuracy:
```

```
0.8443 - val_loss: 0.7396 - val_accuracy: 0.8410 Epoch 8/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.8723 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.7442 - accuracy:
0.8364
152/750 [====>.....] - ETA: 0s - loss: 0.7275 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.7229 - accuracy:
0.8476
302/750 [=======>..... - ETA: 0s - loss: 0.7255 - accuracy:
378/750 [==========>.....] - ETA: 0s - loss: 0.7209 - accuracy:
0.8471
454/750 [==========>.....] - ETA: 0s - loss: 0.7197 - accuracy:
0.8473
528/750 [==========>.....] - ETA: 0s - loss: 0.7188 - accuracy:
680/750 [============>...] - ETA: 0s - loss: 0.7150 - accuracy:
750/750 [================ ] - 1s 817us/step - loss: 0.7134 - accuracy:
0.8486 - val loss: 0.7071 - val accuracy: 0.8495
Epoch 9/220
1/750 [...... 0.5563 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.7027 - accuracy:
0.8491
149/750 [====>.....] - ETA: 0s - loss: 0.7013 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.7141 - accuracy:
0.8458
302/750 [=======>.....] - ETA: 0s - loss: 0.7070 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.7023 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.7018 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.7023 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.6979 - accuracy:
0.8526
750/750 [============= ] - 1s 818us/step - loss: 0.6956 - accuracy:
0.8524 - val_loss: 0.6935 - val_accuracy: 0.8548
Epoch 10/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6266 - accuracy:
0.8906
61/750 [=>.....] - ETA: 0s - loss: 0.6830 - accuracy:
0.8560
136/750 [====>...... - ETA: 0s - loss: 0.6847 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.6898 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.6853 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.6835 - accuracy:
0.8546
434/750 [==========>.....] - ETA: 0s - loss: 0.6835 - accuracy:
0.8551
509/750 [==========>.....] - ETA: 0s - loss: 0.6850 - accuracy:
582/750 [==============>.....] - ETA: 0s - loss: 0.6819 - accuracy:
0.8553 - val loss: 0.6863 - val accuracy: 0.8531
Epoch 11/220
1/750 [...... 0.6194 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.6781 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.6690 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.6765 - accuracy:
0.8699
297/750 [=======>..... - ETA: 0s - loss: 0.6762 - accuracy:
371/750 [========>.....] - ETA: 0s - loss: 0.6754 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.6723 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.6715 - accuracy:
594/750 [=============>.....] - ETA: 0s - loss: 0.6693 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.6682 - accuracy:
0.8594
750/750 [============= ] - 1s 832us/step - loss: 0.6690 - accuracy:
```

```
0.8590 - val_loss: 0.6772 - val_accuracy: 0.8555 Epoch 12/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6318 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6384 - accuracy:
0.8719
145/750 [====>...... - ETA: 0s - loss: 0.6536 - accuracy:
217/750 [=====>.....] - ETA: 0s - loss: 0.6637 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 0.6638 - accuracy:
365/750 [=========>.....] - ETA: 0s - loss: 0.6660 - accuracy:
0.8603
438/750 [=========>..... - ETA: 0s - loss: 0.6618 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.6608 - accuracy:
0.8611
589/750 [=============>.....] - ETA: 0s - loss: 0.6603 - accuracy:
663/750 [=============>....] - ETA: 0s - loss: 0.6578 - accuracy:
0.8624
0.8623
750/750 [============= ] - 1s 826us/step - loss: 0.6566 - accuracy:
0.8625 - val_loss: 0.6756 - val_accuracy: 0.8547
Epoch 13/220
1/750 [...... 0.5317 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.6564 - accuracy:
0.8579
151/750 [=====>.....] - ETA: 0s - loss: 0.6539 - accuracy:
0.8696
227/750 [======>.....] - ETA: 0s - loss: 0.6461 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.6455 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.6451 - accuracy:
0.8647
449/750 [=========>.....] - ETA: 0s - loss: 0.6443 - accuracy:
0.8653
523/750 [=========>.....] - ETA: 0s - loss: 0.6432 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.6448 - accuracy:
674/750 [=============>....] - ETA: 0s - loss: 0.6449 - accuracy:
```

```
0.8646
750/750 [================ ] - 1s 816us/step - loss: 0.6442 - accuracy:
0.8646 - val_loss: 0.6599 - val_accuracy: 0.8562
Epoch 14/220
 1/750 [.....] - ETA: 0s - loss: 0.6112 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6424 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.6314 - accuracy:
223/750 [======>...... - ETA: 0s - loss: 0.6337 - accuracy:
0.8679
297/750 [=======>.....] - ETA: 0s - loss: 0.6299 - accuracy:
0.8689
374/750 [=========>.....] - ETA: 0s - loss: 0.6326 - accuracy:
0.8678
447/750 [========>...... - ETA: 0s - loss: 0.6334 - accuracy:
0.8676
524/750 [============>.....] - ETA: 0s - loss: 0.6319 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.6346 - accuracy:
0.8668
671/750 [=============>....] - ETA: 0s - loss: 0.6349 - accuracy:
0.8666
750/750 [============= ] - 1s 818us/step - loss: 0.6346 - accuracy:
0.8669 - val_loss: 0.6459 - val_accuracy: 0.8624
Epoch 15/220
 1/750 [.....] - ETA: 0s - loss: 0.6735 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.6363 - accuracy:
0.8686
150/750 [====>.....] - ETA: 0s - loss: 0.6339 - accuracy:
0.8686
226/750 [======>.....] - ETA: 0s - loss: 0.6288 - accuracy:
0.8691
302/750 [========>.....] - ETA: 0s - loss: 0.6246 - accuracy:
378/750 [========>.....] - ETA: 0s - loss: 0.6256 - accuracy:
452/750 [==========>.....] - ETA: 0s - loss: 0.6235 - accuracy:
0.8687
527/750 [=========>.....] - ETA: 0s - loss: 0.6222 - accuracy:
0.8686
603/750 [===========>.....] - ETA: 0s - loss: 0.6230 - accuracy:
0.8684
678/750 [============>...] - ETA: 0s - loss: 0.6244 - accuracy:
```

```
0.8674
750/750 [=============== ] - 1s 816us/step - loss: 0.6241 - accuracy:
0.8677 - val_loss: 0.6417 - val_accuracy: 0.8611
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 0.6316 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5910 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.6153 - accuracy:
227/750 [======>..... - ETA: 0s - loss: 0.6131 - accuracy:
302/750 [========>.....] - ETA: 0s - loss: 0.6166 - accuracy:
0.8728
377/750 [=========>.....] - ETA: 0s - loss: 0.6154 - accuracy:
0.8723
452/750 [=========>...... - ETA: 0s - loss: 0.6160 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.6157 - accuracy:
0.8718
0.8718
750/750 [============= ] - 1s 820us/step - loss: 0.6147 - accuracy:
0.8717 - val_loss: 0.6285 - val_accuracy: 0.8654
Epoch 17/220
1/750 [...... 0.5743 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6030 - accuracy:
0.8718
147/750 [====>.....] - ETA: 0s - loss: 0.6069 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6131 - accuracy:
0.8701
297/750 [=======>.....] - ETA: 0s - loss: 0.6126 - accuracy:
0.8694
372/750 [========>.....] - ETA: 0s - loss: 0.6122 - accuracy:
0.8691
447/750 [=========>.....] - ETA: 0s - loss: 0.6097 - accuracy:
0.8701
524/750 [=========>.....] - ETA: 0s - loss: 0.6075 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.6085 - accuracy:
0.8711
673/750 [============>....] - ETA: 0s - loss: 0.6061 - accuracy:
```

```
0.8725
0.8724 - val_loss: 0.6207 - val_accuracy: 0.8666
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.6268 - accuracy:
0.7969
75/750 [==>.....] - ETA: 0s - loss: 0.6068 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.6006 - accuracy:
225/750 [======>...... - ETA: 0s - loss: 0.6004 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.5999 - accuracy:
0.8744
374/750 [=========>.....] - ETA: 0s - loss: 0.5994 - accuracy:
449/750 [========>...... - ETA: 0s - loss: 0.5970 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.5956 - accuracy:
0.8751
601/750 [===========>.....] - ETA: 0s - loss: 0.5959 - accuracy:
0.8749
0.8753
0.8751
750/750 [============= ] - 1s 828us/step - loss: 0.5962 - accuracy:
0.8750 - val_loss: 0.6331 - val_accuracy: 0.8584
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 0.4871 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5738 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5847 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.5868 - accuracy:
0.8763
292/750 [=======>.....] - ETA: 0s - loss: 0.5847 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.5819 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.5839 - accuracy:
0.8776
512/750 [=========>.....] - ETA: 0s - loss: 0.5860 - accuracy:
586/750 [===========>.....] - ETA: 0s - loss: 0.5863 - accuracy:
0.8774
661/750 [=============>....] - ETA: 0s - loss: 0.5881 - accuracy:
```

```
0.8765
0.8765 - val loss: 0.6071 - val accuracy: 0.8683
Epoch 20/220
1/750 [.....] - ETA: 0s - loss: 0.4587 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5736 - accuracy:
0.8841
147/750 [====>...... - ETA: 0s - loss: 0.5660 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5754 - accuracy:
0.8813
293/750 [=======>.....] - ETA: 0s - loss: 0.5784 - accuracy:
0.8797
366/750 [========>.....] - ETA: 0s - loss: 0.5776 - accuracy:
436/750 [==========>.....] - ETA: 0s - loss: 0.5781 - accuracy:
507/750 [========>>.....] - ETA: 0s - loss: 0.5790 - accuracy:
0.8783
580/750 [============>.....] - ETA: 0s - loss: 0.5803 - accuracy:
0.8779
0.8771
0.8768 - val loss: 0.6019 - val accuracy: 0.8711
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 0.5511 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5530 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.5704 - accuracy:
0.8896
223/750 [======>.....] - ETA: 0s - loss: 0.5673 - accuracy:
0.8835
295/750 [=======>.....] - ETA: 0s - loss: 0.5721 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.5717 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.5737 - accuracy:
0.8814
516/750 [=========>.....] - ETA: 0s - loss: 0.5716 - accuracy:
591/750 [=============>.....] - ETA: 0s - loss: 0.5717 - accuracy:
```

```
0.8807
0.8796
0.8799 - val loss: 0.6093 - val accuracy: 0.8637
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.6220 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5825 - accuracy:
0.8741
144/750 [====>...... - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.5663 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 0.5671 - accuracy:
0.8801
361/750 [=======>.....] - ETA: 0s - loss: 0.5640 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5635 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.5630 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.5629 - accuracy:
724/750 [===============>..] - ETA: 0s - loss: 0.5651 - accuracy:
0.8814 - val_loss: 0.5919 - val_accuracy: 0.8697
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.4432 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.5646 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.5681 - accuracy:
0.8799
219/750 [======>.....] - ETA: 0s - loss: 0.5646 - accuracy:
0.8894
290/750 [=======>.....] - ETA: 0s - loss: 0.5668 - accuracy:
365/750 [========>.....] - ETA: 0s - loss: 0.5644 - accuracy:
0.8793
437/750 [=========>.....] - ETA: 0s - loss: 0.5631 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.5616 - accuracy:
```

```
0.8894
583/750 [=============>.....] - ETA: 0s - loss: 0.5600 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.5607 - accuracy:
0.8896
0.8811
0.8815 - val loss: 0.6193 - val accuracy: 0.8589
Epoch 24/220
1/750 [.....] - ETA: 0s - loss: 0.6427 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5460 - accuracy:
0.8898
149/750 [====>.....] - ETA: 0s - loss: 0.5545 - accuracy:
0.8850
222/750 [======>...... - ETA: 0s - loss: 0.5539 - accuracy:
0.8851
293/750 [=======>..... - ETA: 0s - loss: 0.5520 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.5511 - accuracy:
0.8848
441/750 [========>.....] - ETA: 0s - loss: 0.5514 - accuracy:
0.8845
514/750 [============>.....] - ETA: 0s - loss: 0.5508 - accuracy:
0.8847
588/750 [=============>.....] - ETA: 0s - loss: 0.5523 - accuracy:
663/750 [=============>....] - ETA: 0s - loss: 0.5516 - accuracy:
0.8841
0.8836
0.8835 - val loss: 0.5894 - val accuracy: 0.8694
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.4185 - accuracy:
0.9219
71/750 [=>...... - 6.5660 - accuracy:
0.8772
143/750 [====>.....] - ETA: 0s - loss: 0.5646 - accuracy:
0.8769
216/750 [======>.....] - ETA: 0s - loss: 0.5557 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.5541 - accuracy:
360/750 [=======>..... - ETA: 0s - loss: 0.5510 - accuracy:
0.8831
432/750 [=========>.....] - ETA: 0s - loss: 0.5497 - accuracy:
```

```
0.8832
507/750 [===========>.....] - ETA: 0s - loss: 0.5493 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.5474 - accuracy:
0.8843 - val_loss: 0.6129 - val_accuracy: 0.8575
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.5549 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5370 - accuracy:
0.8867
146/750 [====>...... - ETA: 0s - loss: 0.5457 - accuracy:
0.8846
219/750 [=====>.....] - ETA: 0s - loss: 0.5353 - accuracy:
0.8883
292/750 [======>..... - ETA: 0s - loss: 0.5357 - accuracy:
0.8881
365/750 [=======>.....] - ETA: 0s - loss: 0.5378 - accuracy:
0.8865
437/750 [=========>.....] - ETA: 0s - loss: 0.5377 - accuracy:
0.8861
511/750 [=========>.....] - ETA: 0s - loss: 0.5388 - accuracy:
0.8856
585/750 [===========>.....] - ETA: 0s - loss: 0.5401 - accuracy:
656/750 [=============>....] - ETA: 0s - loss: 0.5396 - accuracy:
0.8845 - val loss: 0.5769 - val accuracy: 0.8707
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.4454 - accuracy:
0.9219
75/750 [==>.....] - ETA: 0s - loss: 0.5490 - accuracy:
0.8831
147/750 [====>......] - ETA: 0s - loss: 0.5428 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.5438 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.5359 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.5317 - accuracy:
```

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0.8874
439/750 [=========>.....] - ETA: 0s - loss: 0.5336 - accuracy:
0.8865
512/750 [==========>.....] - ETA: 0s - loss: 0.5346 - accuracy:
0.8863
585/750 [============>.....] - ETA: 0s - loss: 0.5339 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.5350 - accuracy:
750/750 [============= ] - 1s 842us/step - loss: 0.5337 - accuracy:
0.8867 - val loss: 0.5735 - val accuracy: 0.8733
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.5792 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.5384 - accuracy:
0.8848
150/750 [====>.....] - ETA: 0s - loss: 0.5319 - accuracy:
0.8881
221/750 [======>.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8884
294/750 [=======>..... - ETA: 0s - loss: 0.5302 - accuracy:
0.8891
368/750 [========>.....] - ETA: 0s - loss: 0.5323 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.5307 - accuracy:
0.8887
511/750 [==========>.....] - ETA: 0s - loss: 0.5323 - accuracy:
0.8878
584/750 [============>.....] - ETA: 0s - loss: 0.5318 - accuracy:
0.8871
0.8869
0.8870
0.8868 - val_loss: 0.5763 - val_accuracy: 0.8723
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.5256 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5420 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.5362 - accuracy:
0.8866
220/750 [=====>>...... - ETA: 0s - loss: 0.5290 - accuracy:
0.8882
292/750 [=======>.....] - ETA: 0s - loss: 0.5262 - accuracy:
```

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0.8891
366/750 [=========>.....] - ETA: 0s - loss: 0.5234 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.5221 - accuracy:
0.8905
514/750 [=========>.....] - ETA: 0s - loss: 0.5222 - accuracy:
585/750 [===========>.....] - ETA: 0s - loss: 0.5231 - accuracy:
0.8894
693/750 [============>...] - ETA: 0s - loss: 0.5234 - accuracy:
0.8890
750/750 [============= ] - 1s 883us/step - loss: 0.5222 - accuracy:
0.8892 - val_loss: 0.5893 - val_accuracy: 0.8618
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.6150 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5188 - accuracy:
0.8906
148/750 [====>...... - ETA: 0s - loss: 0.5173 - accuracy:
0.8891
224/750 [======>.....] - ETA: 0s - loss: 0.5150 - accuracy:
0.8903
299/750 [=======>.....] - ETA: 0s - loss: 0.5171 - accuracy:
0.8885
371/750 [=======>.....] - ETA: 0s - loss: 0.5174 - accuracy:
0.8887
445/750 [=========>.....] - ETA: 0s - loss: 0.5193 - accuracy:
0.8877
521/750 [===========>.....] - ETA: 0s - loss: 0.5160 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.5175 - accuracy:
0.8891
672/750 [=============>....] - ETA: 0s - loss: 0.5172 - accuracy:
0.8889
0.8885
750/750 [============= ] - 1s 822us/step - loss: 0.5187 - accuracy:
0.8885 - val_loss: 0.5605 - val_accuracy: 0.8738
Epoch 31/220
 1/750 [...... 0.5858 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5095 - accuracy:
0.8928
147/750 [====>.....] - ETA: 0s - loss: 0.5054 - accuracy:
0.8967
222/750 [======>.....] - ETA: 0s - loss: 0.5084 - accuracy:
```

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297/750 [=======>.....] - ETA: 0s - loss: 0.5125 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.5146 - accuracy:
0.8904
444/750 [========>..... - ETA: 0s - loss: 0.5155 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.5146 - accuracy:
595/750 [=============>.....] - ETA: 0s - loss: 0.5153 - accuracy:
667/750 [============>....] - ETA: 0s - loss: 0.5150 - accuracy:
0.8887
0.8896
750/750 [============== ] - 1s 826us/step - loss: 0.5129 - accuracy:
0.8897 - val loss: 0.5539 - val accuracy: 0.8763
Epoch 32/220
1/750 [...... 0.5157 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5080 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.5078 - accuracy:
0.8934
224/750 [======>.....] - ETA: 0s - loss: 0.5084 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.5090 - accuracy:
0.8916
375/750 [=========>.....] - ETA: 0s - loss: 0.5101 - accuracy:
0.8904
449/750 [=========>.....] - ETA: 0s - loss: 0.5086 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.5068 - accuracy:
0.8911
601/750 [===========>.....] - ETA: 0s - loss: 0.5081 - accuracy:
0.8909
0.8911 - val_loss: 0.5487 - val_accuracy: 0.8779
Epoch 33/220
1/750 [...... 0.4832 - accuracy:
75/750 [==>....... - accuracy:
0.8967
150/750 [====>.....] - ETA: 0s - loss: 0.4970 - accuracy:
0.8947
224/750 [=====>.....] - ETA: 0s - loss: 0.4990 - accuracy:
```

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0.8929
300/750 [========>.....] - ETA: 0s - loss: 0.5044 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.5063 - accuracy:
0.8895
452/750 [=========>.....] - ETA: 0s - loss: 0.5054 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.5032 - accuracy:
0.8911
679/750 [============>...] - ETA: 0s - loss: 0.5037 - accuracy:
750/750 [============= ] - 1s 813us/step - loss: 0.5037 - accuracy:
0.8919 - val_loss: 0.5444 - val_accuracy: 0.8795
Epoch 34/220
1/750 [...... - ETA: 0s - loss: 0.4917 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5104 - accuracy:
0.8871
150/750 [====>.....] - ETA: 0s - loss: 0.5081 - accuracy:
0.8870
226/750 [======>.....] - ETA: 0s - loss: 0.5040 - accuracy:
0.8903
299/750 [=======>.....] - ETA: 0s - loss: 0.5015 - accuracy:
375/750 [=======>>.....] - ETA: 0s - loss: 0.5041 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.5024 - accuracy:
0.8916
527/750 [=========>.....] - ETA: 0s - loss: 0.5014 - accuracy:
0.8934 - val_loss: 0.5563 - val_accuracy: 0.8740
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.5418 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4908 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.4821 - accuracy:
0.8986
229/750 [======>.....] - ETA: 0s - loss: 0.4843 - accuracy:
0.8977
305/750 [=======>.....] - ETA: 0s - loss: 0.4857 - accuracy:
```

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0.8975
379/750 [==========>.....] - ETA: 0s - loss: 0.4900 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.4914 - accuracy:
0.8947
531/750 [==========>.....] - ETA: 0s - loss: 0.4919 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.4912 - accuracy:
750/750 [============= ] - 1s 812us/step - loss: 0.4930 - accuracy:
0.8941 - val loss: 0.5467 - val accuracy: 0.8752
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.6495 - accuracy:
0.8125
76/750 [==>.....] - ETA: 0s - loss: 0.4841 - accuracy:
0.8974
151/750 [====>.....] - ETA: 0s - loss: 0.4925 - accuracy:
0.8949
227/750 [======>.....] - ETA: 0s - loss: 0.4868 - accuracy:
0.8970
305/750 [=======>.....] - ETA: 0s - loss: 0.4825 - accuracy:
0.8985
380/750 [========>.....] - ETA: 0s - loss: 0.4834 - accuracy:
0.8984
455/750 [=========>.....] - ETA: 0s - loss: 0.4834 - accuracy:
0.8975
531/750 [=========>.....] - ETA: 0s - loss: 0.4845 - accuracy:
0.8961
0.8956
0.8950 - val loss: 0.5452 - val accuracy: 0.8733
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.6607 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4745 - accuracy:
152/750 [=====>...... - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.4810 - accuracy:
0.8983
305/750 [=======>.....] - ETA: 0s - loss: 0.4839 - accuracy:
381/750 [==========>.....] - ETA: 0s - loss: 0.4879 - accuracy:
```

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0.8948
455/750 [==========>.....] - ETA: 0s - loss: 0.4865 - accuracy:
0.8954
529/750 [=========>.....] - ETA: 0s - loss: 0.4858 - accuracy:
680/750 [============>...] - ETA: 0s - loss: 0.4853 - accuracy:
750/750 [================ ] - 1s 814us/step - loss: 0.4860 - accuracy:
0.8948 - val_loss: 0.5450 - val_accuracy: 0.8773
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.4102 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.4916 - accuracy:
0.8944
149/750 [====>...... - ETA: 0s - loss: 0.4848 - accuracy:
0.8954
225/750 [======>.....] - ETA: 0s - loss: 0.4859 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.4831 - accuracy:
0.8959
375/750 [=======>..... - ETA: 0s - loss: 0.4814 - accuracy:
0.8961
449/750 [=========>.....] - ETA: 0s - loss: 0.4796 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.4814 - accuracy:
0.8961
600/750 [===========>.....] - ETA: 0s - loss: 0.4803 - accuracy:
0.8964 - val loss: 0.5314 - val accuracy: 0.8798
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.4691 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.4725 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.4655 - accuracy:
0.9024
228/750 [======>>......] - ETA: 0s - loss: 0.4724 - accuracy:
303/750 [=======>.....] - ETA: 0s - loss: 0.4744 - accuracy:
0.8984
379/750 [=======>..... - ETA: 0s - loss: 0.4790 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.4787 - accuracy:
```

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0.8973
532/750 [==========>.....] - ETA: 0s - loss: 0.4778 - accuracy:
608/750 [============>.....] - ETA: 0s - loss: 0.4774 - accuracy:
0.8973
0.8974 - val loss: 0.5522 - val accuracy: 0.8723
Epoch 40/220
1/750 [...... - ETA: 0s - loss: 0.4838 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4605 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.4681 - accuracy:
224/750 [======>...... - ETA: 0s - loss: 0.4673 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.4712 - accuracy:
0.8985
377/750 [=======>.....] - ETA: 0s - loss: 0.4762 - accuracy:
0.8958
450/750 [==========>.....] - ETA: 0s - loss: 0.4741 - accuracy:
0.8964
526/750 [=========>:....] - ETA: 0s - loss: 0.4733 - accuracy:
675/750 [============>...] - ETA: 0s - loss: 0.4733 - accuracy:
0.8969
0.8966
0.8967 - val loss: 0.5438 - val accuracy: 0.8714
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.4649 - accuracy:
74/750 [=>...... - accuracy:
0.8951
148/750 [====>.....] - ETA: 0s - loss: 0.4789 - accuracy:
0.8928
221/750 [======>.....] - ETA: 0s - loss: 0.4700 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.4688 - accuracy:
0.8987
370/750 [=======>....] - ETA: 0s - loss: 0.4701 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.4739 - accuracy:
```

```
0.8963
516/750 [===========>.....] - ETA: 0s - loss: 0.4729 - accuracy:
593/750 [============>.....] - ETA: 0s - loss: 0.4747 - accuracy:
0.8956
750/750 [================ ] - 1s 834us/step - loss: 0.4707 - accuracy:
0.8972 - val_loss: 0.5330 - val_accuracy: 0.8748
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.7229 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.4769 - accuracy:
139/750 [====>...... - ETA: 0s - loss: 0.4684 - accuracy:
209/750 [=====>..... - ETA: 0s - loss: 0.4701 - accuracy:
0.8982
278/750 [=======>..... - ETA: 0s - loss: 0.4652 - accuracy:
0.8997
347/750 [=======>.....] - ETA: 0s - loss: 0.4624 - accuracy:
415/750 [========>.....] - ETA: 0s - loss: 0.4644 - accuracy:
0.9003
486/750 [==========>.....] - ETA: 0s - loss: 0.4644 - accuracy:
0.8999
554/750 [==========>.....] - ETA: 0s - loss: 0.4644 - accuracy:
0.8997
0.8994
0.8996 - val loss: 0.5191 - val accuracy: 0.8811
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.4450 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.4411 - accuracy:
0.9076
214/750 [======>.....] - ETA: 0s - loss: 0.4585 - accuracy:
0.9006
287/750 [=======>..... - ETA: 0s - loss: 0.4601 - accuracy:
360/750 [=========>.....] - ETA: 0s - loss: 0.4633 - accuracy:
```

```
0.8994
432/750 [=========>.....] - ETA: 0s - loss: 0.4612 - accuracy:
507/750 [==========>.....] - ETA: 0s - loss: 0.4623 - accuracy:
581/750 [============>.....] - ETA: 0s - loss: 0.4663 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.4656 - accuracy:
750/750 [============= ] - 1s 845us/step - loss: 0.4643 - accuracy:
0.8991 - val loss: 0.5196 - val accuracy: 0.8787
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.5071 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.4576 - accuracy:
0.8979
144/750 [====>...... - ETA: 0s - loss: 0.4667 - accuracy:
0.8981
219/750 [=====>>.....] - ETA: 0s - loss: 0.4630 - accuracy:
0.8990
292/750 [=======>..... - ETA: 0s - loss: 0.4619 - accuracy:
364/750 [========>.....] - ETA: 0s - loss: 0.4624 - accuracy:
0.8990
438/750 [=========>.....] - ETA: 0s - loss: 0.4627 - accuracy:
0.8995
510/750 [===========>.....] - ETA: 0s - loss: 0.4616 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.4623 - accuracy:
0.8998
0.9001
0.9002 - val_loss: 0.5214 - val_accuracy: 0.8809
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.4121 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.4533 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.4554 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.4587 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.4566 - accuracy:
```

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369/750 [=========>.....] - ETA: 0s - loss: 0.4586 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.4591 - accuracy:
0.8998
518/750 [=========>.....] - ETA: 0s - loss: 0.4599 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.4582 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.4590 - accuracy:
737/750 [==============>.] - ETA: 0s - loss: 0.4582 - accuracy:
750/750 [============= ] - 1s 836us/step - loss: 0.4579 - accuracy:
0.9001 - val_loss: 0.5192 - val_accuracy: 0.8825
Epoch 46/220
1/750 [...... - ETA: 0s - loss: 0.4754 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4407 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.4416 - accuracy:
220/750 [=====>>.....] - ETA: 0s - loss: 0.4479 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.4522 - accuracy:
0.9024
364/750 [=======>.....] - ETA: 0s - loss: 0.4501 - accuracy:
0.9026
438/750 [=========>.....] - ETA: 0s - loss: 0.4486 - accuracy:
0.9031
510/750 [===========>.....] - ETA: 0s - loss: 0.4512 - accuracy:
0.9021
583/750 [============>.....] - ETA: 0s - loss: 0.4540 - accuracy:
0.9013
656/750 [============>....] - ETA: 0s - loss: 0.4549 - accuracy:
0.9016
0.9015 - val_loss: 0.5467 - val_accuracy: 0.8692
Epoch 47/220
 1/750 [...... 0.3676 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4399 - accuracy:
0.9071
147/750 [====>.....] - ETA: 0s - loss: 0.4501 - accuracy:
0.9043
220/750 [=====>>.....] - ETA: 0s - loss: 0.4509 - accuracy:
```

```
0.9033
295/750 [=======>.....] - ETA: 0s - loss: 0.4530 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.4516 - accuracy:
440/750 [========>..... - ETA: 0s - loss: 0.4510 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.4509 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.4524 - accuracy:
660/750 [============>....] - ETA: 0s - loss: 0.4520 - accuracy:
0.9021
0.9019
750/750 [============= ] - 1s 838us/step - loss: 0.4513 - accuracy:
0.9021 - val loss: 0.5228 - val accuracy: 0.8797
Epoch 48/220
1/750 [...... 0.6597 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4485 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.4436 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.4431 - accuracy:
293/750 [======>..... - ETA: 0s - loss: 0.4443 - accuracy:
369/750 [=========>.....] - ETA: 0s - loss: 0.4445 - accuracy:
0.9039
443/750 [=========>.....] - ETA: 0s - loss: 0.4456 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.4460 - accuracy:
590/750 [===========>.....] - ETA: 0s - loss: 0.4482 - accuracy:
0.9021
663/750 [=============>....] - ETA: 0s - loss: 0.4495 - accuracy:
0.9014
0.9021 - val loss: 0.5254 - val accuracy: 0.8803
Epoch 49/220
1/750 [.....] - ETA: 0s - loss: 0.4004 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.4612 - accuracy:
139/750 [====>.....] - ETA: 0s - loss: 0.4429 - accuracy:
```

```
0.9042
212/750 [======>.....] - ETA: 0s - loss: 0.4476 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.4508 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.4505 - accuracy:
430/750 [=========>....] - ETA: 0s - loss: 0.4499 - accuracy:
0.9017
502/750 [===========>.....] - ETA: 0s - loss: 0.4475 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.4466 - accuracy:
0.9034
0.9026 - val loss: 0.5207 - val accuracy: 0.8772
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.3946 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.4494 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.4392 - accuracy:
219/750 [=====>>.....] - ETA: 0s - loss: 0.4374 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.4380 - accuracy:
0.9054
364/750 [=========>.....] - ETA: 0s - loss: 0.4397 - accuracy:
0.9046
438/750 [=========>.....] - ETA: 0s - loss: 0.4392 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.4427 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.4448 - accuracy:
656/750 [============>....] - ETA: 0s - loss: 0.4450 - accuracy:
0.9031
0.9031 - val loss: 0.5090 - val accuracy: 0.8802
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.4512 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.4313 - accuracy:
```

```
0.9112
142/750 [====>.....] - ETA: 0s - loss: 0.4377 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.4372 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.4381 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.4400 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.4386 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.4361 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.4382 - accuracy:
0.9051
655/750 [=============>....] - ETA: 0s - loss: 0.4401 - accuracy:
0.9048
0.9053 - val_loss: 0.5087 - val_accuracy: 0.8792
Epoch 52/220
1/750 [...... - ETA: 0s - loss: 0.3060 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.4175 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.4206 - accuracy:
0.9078
217/750 [======>.....] - ETA: 0s - loss: 0.4225 - accuracy:
0.9081
294/750 [=======>.....] - ETA: 0s - loss: 0.4298 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.4327 - accuracy:
0.9061
441/750 [=========>..... - ETA: 0s - loss: 0.4365 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.4379 - accuracy:
0.9039
591/750 [===========>.....] - ETA: 0s - loss: 0.4383 - accuracy:
0.9034
0.9041 - val_loss: 0.5289 - val_accuracy: 0.8727
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.4804 - accuracy:
```

```
0.8438
73/750 [=>.....] - ETA: 0s - loss: 0.4381 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.4300 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.4344 - accuracy:
0.9024
296/750 [=======>.....] - ETA: 0s - loss: 0.4353 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.4330 - accuracy:
0.9039
445/750 [=========>...... - ETA: 0s - loss: 0.4336 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.4354 - accuracy:
0.9034
596/750 [============>.....] - ETA: 0s - loss: 0.4350 - accuracy:
0.9044
669/750 [============>....] - ETA: 0s - loss: 0.4356 - accuracy:
0.9042 - val loss: 0.5524 - val accuracy: 0.8593
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.3907 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.4295 - accuracy:
0.9077
147/750 [====>.....] - ETA: 0s - loss: 0.4255 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.4291 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.4278 - accuracy:
372/750 [=======>.....] - ETA: 0s - loss: 0.4288 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.4276 - accuracy:
0.9064
523/750 [=========>.....] - ETA: 0s - loss: 0.4291 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.4312 - accuracy:
673/750 [===============>....] - ETA: 0s - loss: 0.4320 - accuracy:
749/750 [==============>.] - ETA: 0s - loss: 0.4341 - accuracy:
0.9051 - val_loss: 0.5009 - val_accuracy: 0.8828
Epoch 55/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3001 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.4368 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.4371 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.4304 - accuracy:
286/750 [=======>..... - ETA: 0s - loss: 0.4336 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.4324 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.4313 - accuracy:
0.9063
501/750 [==========>.....] - ETA: 0s - loss: 0.4328 - accuracy:
0.9057
574/750 [============>.....] - ETA: 0s - loss: 0.4316 - accuracy:
0.9068
750/750 [================ ] - 1s 864us/step - loss: 0.4303 - accuracy:
0.9068 - val loss: 0.5312 - val accuracy: 0.8710
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.4274 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.4174 - accuracy:
0.9159
144/750 [====>.....] - ETA: 0s - loss: 0.4176 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.4222 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.4214 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.4211 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.4241 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.4264 - accuracy:
593/750 [============>.....] - ETA: 0s - loss: 0.4273 - accuracy:
0.9071
666/750 [=============>....] - ETA: 0s - loss: 0.4264 - accuracy:
0.9075
750/750 [============= ] - 1s 826us/step - loss: 0.4279 - accuracy:
```

```
0.9073 - val_loss: 0.5055 - val_accuracy: 0.8829 Epoch 57/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4765 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.4206 - accuracy:
0.9067
150/750 [====>.....] - ETA: 0s - loss: 0.4245 - accuracy:
223/750 [=====>.....] - ETA: 0s - loss: 0.4250 - accuracy:
299/750 [=======>..... - ETA: 0s - loss: 0.4273 - accuracy:
0.9054
362/750 [=========>.....] - ETA: 0s - loss: 0.4235 - accuracy:
0.9074
438/750 [=========>..... - ETA: 0s - loss: 0.4219 - accuracy:
0.9079
513/750 [=========>.....] - ETA: 0s - loss: 0.4233 - accuracy:
0.9081
587/750 [=============>.....] - ETA: 0s - loss: 0.4236 - accuracy:
0.9076
662/750 [==============>....] - ETA: 0s - loss: 0.4257 - accuracy:
0.9071
0.9064
750/750 [============= ] - 1s 832us/step - loss: 0.4267 - accuracy:
0.9064 - val_loss: 0.5027 - val_accuracy: 0.8814
Epoch 58/220
 1/750 [...... 0.3745 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.4245 - accuracy:
0.9073
150/750 [=====>.....] - ETA: 0s - loss: 0.4263 - accuracy:
0.9075
226/750 [======>.....] - ETA: 0s - loss: 0.4239 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.4253 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.4235 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.4226 - accuracy:
0.9077
524/750 [=========>.....] - ETA: 0s - loss: 0.4208 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.4206 - accuracy:
0.9081
669/750 [============>....] - ETA: 0s - loss: 0.4215 - accuracy:
```

```
0.9076
0.9074 - val_loss: 0.5336 - val_accuracy: 0.8726
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.4301 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.4142 - accuracy:
0.9147
148/750 [====>...... - ETA: 0s - loss: 0.4153 - accuracy:
221/750 [======>...... - ETA: 0s - loss: 0.4179 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.4227 - accuracy:
368/750 [=========>.....] - ETA: 0s - loss: 0.4200 - accuracy:
0.9068
443/750 [=========>...... - ETA: 0s - loss: 0.4199 - accuracy:
0.9071
518/750 [===========>.....] - ETA: 0s - loss: 0.4193 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.4199 - accuracy:
0.9069
668/750 [============>....] - ETA: 0s - loss: 0.4208 - accuracy:
0.9070
750/750 [============= ] - 1s 825us/step - loss: 0.4210 - accuracy:
0.9066 - val_loss: 0.5307 - val_accuracy: 0.8718
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.5280 - accuracy:
0.8438
77/750 [==>.....] - ETA: 0s - loss: 0.4133 - accuracy:
0.9095
150/750 [====>.....] - ETA: 0s - loss: 0.4224 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.4217 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.4261 - accuracy:
0.9064
370/750 [=======>.....] - ETA: 0s - loss: 0.4246 - accuracy:
0.9071
441/750 [========>.....] - ETA: 0s - loss: 0.4243 - accuracy:
0.9081
512/750 [=========>.....] - ETA: 0s - loss: 0.4226 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 0.4200 - accuracy:
656/750 [============>....] - ETA: 0s - loss: 0.4198 - accuracy:
```

```
0.9094 - val loss: 0.5162 - val accuracy: 0.8758
Epoch 61/220
1/750 [.....] - ETA: 0s - loss: 0.4186 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.4200 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.4158 - accuracy:
0.9104
301/750 [========>.....] - ETA: 0s - loss: 0.4128 - accuracy:
375/750 [=======>>.....] - ETA: 0s - loss: 0.4138 - accuracy:
0.9107
450/750 [==========>.....] - ETA: 0s - loss: 0.4153 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.4169 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.4178 - accuracy:
0.9085 - val loss: 0.5078 - val accuracy: 0.8737
Epoch 62/220
1/750 [.....] - ETA: 0s - loss: 0.4414 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3964 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.4111 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.4127 - accuracy:
0.9101
295/750 [=======>.....] - ETA: 0s - loss: 0.4120 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.4122 - accuracy:
442/750 [========>..... - ETA: 0s - loss: 0.4130 - accuracy:
0.9106
515/750 [=========>.....] - ETA: 0s - loss: 0.4133 - accuracy:
590/750 [============>.....] - ETA: 0s - loss: 0.4143 - accuracy:
```

```
0.9104
750/750 [================ ] - 1s 829us/step - loss: 0.4145 - accuracy:
0.9101 - val loss: 0.4936 - val accuracy: 0.8827
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.3437 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.4236 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.4184 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.4176 - accuracy:
0.9096
298/750 [=======>..... - ETA: 0s - loss: 0.4155 - accuracy:
368/750 [=======>..... - ETA: 0s - loss: 0.4143 - accuracy:
441/750 [========>..... - ETA: 0s - loss: 0.4139 - accuracy:
0.9111
512/750 [===========>.....] - ETA: 0s - loss: 0.4139 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.4135 - accuracy:
0.9098
0.9100 - val loss: 0.4949 - val accuracy: 0.8846
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.3901 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.4067 - accuracy:
0.9169
143/750 [====>.....] - ETA: 0s - loss: 0.4095 - accuracy:
217/750 [=====>.....] - ETA: 0s - loss: 0.4044 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.4044 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 0.4074 - accuracy:
435/750 [=========>...... - ETA: 0s - loss: 0.4085 - accuracy:
0.9119
508/750 [===========>.....] - ETA: 0s - loss: 0.4090 - accuracy:
```

```
0.9114
582/750 [=============>.....] - ETA: 0s - loss: 0.4111 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.4111 - accuracy:
750/750 [=============== ] - 1s 850us/step - loss: 0.4127 - accuracy:
0.9096 - val loss: 0.4881 - val accuracy: 0.8832
Epoch 65/220
1/750 [...... - ETA: 0s - loss: 0.4658 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3978 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.4032 - accuracy:
0.9129
217/750 [======>...... - ETA: 0s - loss: 0.3989 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3961 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.3993 - accuracy:
442/750 [==========>.....] - ETA: 0s - loss: 0.4008 - accuracy:
0.9147
515/750 [===========>.....] - ETA: 0s - loss: 0.4023 - accuracy:
588/750 [=============>.....] - ETA: 0s - loss: 0.4021 - accuracy:
664/750 [=============>....] - ETA: 0s - loss: 0.4060 - accuracy:
0.9117
750/750 [================ ] - 1s 834us/step - loss: 0.4094 - accuracy:
0.9118 - val loss: 0.4916 - val accuracy: 0.8826
Epoch 66/220
1/750 [.....] - ETA: 0s - loss: 0.3948 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.4040 - accuracy:
0.9139
148/750 [====>.....] - ETA: 0s - loss: 0.4043 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.4039 - accuracy:
296/750 [======>..... - ETA: 0s - loss: 0.4051 - accuracy:
0.9121
369/750 [=======>....] - ETA: 0s - loss: 0.4081 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.4084 - accuracy:
```

```
0.9101
515/750 [===========>.....] - ETA: 0s - loss: 0.4105 - accuracy:
0.9099
585/750 [============>.....] - ETA: 0s - loss: 0.4096 - accuracy:
750/750 [================ ] - 1s 833us/step - loss: 0.4082 - accuracy:
0.9106 - val_loss: 0.5261 - val_accuracy: 0.8718
Epoch 67/220
1/750 [.....] - ETA: 0s - loss: 0.4780 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.4134 - accuracy:
0.9075
148/750 [====>.....] - ETA: 0s - loss: 0.4038 - accuracy:
224/750 [=====>...... - ETA: 0s - loss: 0.4027 - accuracy:
0.9109
298/750 [=======>..... - ETA: 0s - loss: 0.4045 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.4048 - accuracy:
0.9116
450/750 [==========>.....] - ETA: 0s - loss: 0.4073 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.4066 - accuracy:
0.9107
602/750 [===========>.....] - ETA: 0s - loss: 0.4071 - accuracy:
750/750 [================ ] - 1s 814us/step - loss: 0.4074 - accuracy:
0.9103 - val loss: 0.4947 - val accuracy: 0.8808
Epoch 68/220
1/750 [.....] - ETA: 0s - loss: 0.4570 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3899 - accuracy:
0.9198
151/750 [====>.....] - ETA: 0s - loss: 0.3947 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.4004 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3994 - accuracy:
0.9121
375/750 [========>.....] - ETA: 0s - loss: 0.4036 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.4035 - accuracy:
```

```
0.9107
526/750 [==========>.....] - ETA: 0s - loss: 0.4048 - accuracy:
600/750 [============>.....] - ETA: 0s - loss: 0.4038 - accuracy:
750/750 [=============== ] - 1s 818us/step - loss: 0.4063 - accuracy:
0.9108 - val_loss: 0.5105 - val_accuracy: 0.8779
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.3832 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3977 - accuracy:
0.9085
151/750 [=====>.....] - ETA: 0s - loss: 0.3994 - accuracy:
0.9121
226/750 [======>.....] - ETA: 0s - loss: 0.4054 - accuracy:
303/750 [=======>.....] - ETA: 0s - loss: 0.3987 - accuracy:
0.9128
378/750 [=======>..... - ETA: 0s - loss: 0.4010 - accuracy:
0.9122
455/750 [==========>.....] - ETA: 0s - loss: 0.4013 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.4010 - accuracy:
0.9129
607/750 [===========>.....] - ETA: 0s - loss: 0.4027 - accuracy:
750/750 [================ ] - 1s 812us/step - loss: 0.4029 - accuracy:
0.9121 - val loss: 0.4918 - val accuracy: 0.8814
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.3831 - accuracy:
0.9219
76/750 [==>.....] - ETA: 0s - loss: 0.3937 - accuracy:
0.9151
153/750 [====>.....] - ETA: 0s - loss: 0.3943 - accuracy:
0.9136
227/750 [======>.....] - ETA: 0s - loss: 0.3969 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.3984 - accuracy:
379/750 [=======>>.....] - ETA: 0s - loss: 0.4014 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.4013 - accuracy:
```

```
0.9114
529/750 [==========>.....] - ETA: 0s - loss: 0.4008 - accuracy:
605/750 [============>.....] - ETA: 0s - loss: 0.4009 - accuracy:
0.9114
0.9111
750/750 [=============== ] - 1s 816us/step - loss: 0.4010 - accuracy:
0.9121 - val loss: 0.5088 - val accuracy: 0.8776
Epoch 71/220
1/750 [...... - ETA: 0s - loss: 0.5379 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3873 - accuracy:
0.9169
152/750 [=====>.....] - ETA: 0s - loss: 0.3920 - accuracy:
0.9148
225/750 [======>.....] - ETA: 0s - loss: 0.3967 - accuracy:
303/750 [=======>.....] - ETA: 0s - loss: 0.3969 - accuracy:
0.9126
378/750 [=======>>.....] - ETA: 0s - loss: 0.4008 - accuracy:
452/750 [=========>...... - ETA: 0s - loss: 0.4015 - accuracy:
0.9107
527/750 [==========>.....] - ETA: 0s - loss: 0.4015 - accuracy:
680/750 [============>...] - ETA: 0s - loss: 0.4001 - accuracy:
0.9117
0.9120 - val_loss: 0.5295 - val_accuracy: 0.8702
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.4105 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.3950 - accuracy:
0.9131
150/750 [=====>.....] - ETA: 0s - loss: 0.3963 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.3919 - accuracy:
0.9170
299/750 [=======>.....] - ETA: 0s - loss: 0.3965 - accuracy:
376/750 [========>>.....] - ETA: 0s - loss: 0.3947 - accuracy:
450/750 [=========>...... - ETA: 0s - loss: 0.3983 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3990 - accuracy:
```

```
0.9127
676/750 [=============>...] - ETA: 0s - loss: 0.3996 - accuracy:
0.9126
750/750 [================ ] - 1s 812us/step - loss: 0.3982 - accuracy:
0.9129 - val loss: 0.5002 - val accuracy: 0.8810
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.4540 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3843 - accuracy:
0.9146
150/750 [=====>.....] - ETA: 0s - loss: 0.3853 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3902 - accuracy:
0.9156
303/750 [=======>>.....] - ETA: 0s - loss: 0.3942 - accuracy:
379/750 [========>.....] - ETA: 0s - loss: 0.3966 - accuracy:
455/750 [=========>.....] - ETA: 0s - loss: 0.3964 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.3975 - accuracy:
0.9128
0.9127
0.9124
750/750 [============ ] - 1s 816us/step - loss: 0.3972 - accuracy:
0.9124 - val loss: 0.4869 - val accuracy: 0.8846
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.2730 - accuracy:
0.9688
76/750 [==>.....] - ETA: 0s - loss: 0.3744 - accuracy:
0.9211
151/750 [====>.....] - ETA: 0s - loss: 0.3845 - accuracy:
0.9194
228/750 [======>.....] - ETA: 0s - loss: 0.3861 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3909 - accuracy:
0.9163
379/750 [========>.....] - ETA: 0s - loss: 0.3892 - accuracy:
454/750 [=========>.....] - ETA: 0s - loss: 0.3897 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3915 - accuracy:
605/750 [=============>.....] - ETA: 0s - loss: 0.3916 - accuracy:
```

```
0.9154
748/750 [===============>.] - ETA: 0s - loss: 0.3949 - accuracy:
0.9139 - val loss: 0.5113 - val accuracy: 0.8739
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.3887 - accuracy:
66/750 [=>.....] - ETA: 0s - loss: 0.3780 - accuracy:
0.9183
142/750 [====>.....] - ETA: 0s - loss: 0.3860 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.3860 - accuracy:
0.9163
292/750 [=======>..... - ETA: 0s - loss: 0.3911 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.3903 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.3912 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.3935 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.3947 - accuracy:
0.9147
737/750 [==============>.] - ETA: 0s - loss: 0.3956 - accuracy:
0.9146 - val loss: 0.5051 - val accuracy: 0.8787
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.4476 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.4059 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3930 - accuracy:
0.9133
226/750 [======>.....] - ETA: 0s - loss: 0.3922 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3926 - accuracy:
375/750 [========>>.....] - ETA: 0s - loss: 0.3934 - accuracy:
0.9128
452/750 [=========>...... - ETA: 0s - loss: 0.3916 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3922 - accuracy:
```

```
0.9138
0.9144
678/750 [=============>...] - ETA: 0s - loss: 0.3934 - accuracy:
0.9139
0.9139 - val loss: 0.4911 - val accuracy: 0.8824
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.3353 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3913 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3938 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3934 - accuracy:
0.9169
303/750 [========>.....] - ETA: 0s - loss: 0.3910 - accuracy:
378/750 [========>.....] - ETA: 0s - loss: 0.3905 - accuracy:
453/750 [=========>.....] - ETA: 0s - loss: 0.3913 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3901 - accuracy:
0.9168
0.9161
750/750 [============ ] - 1s 814us/step - loss: 0.3920 - accuracy:
0.9155 - val loss: 0.4839 - val accuracy: 0.8856
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.3643 - accuracy:
0.9375
77/750 [==>.....] - ETA: 0s - loss: 0.3821 - accuracy:
0.9154
149/750 [====>.....] - ETA: 0s - loss: 0.3872 - accuracy:
0.9143
222/750 [======>.....] - ETA: 0s - loss: 0.3894 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.3901 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.3884 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3900 - accuracy:
0.9127
525/750 [=========>.....] - ETA: 0s - loss: 0.3888 - accuracy:
0.9131
599/750 [============>.....] - ETA: 0s - loss: 0.3894 - accuracy:
```

```
0.9128
0.9134 - val loss: 0.5682 - val accuracy: 0.8574
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.4454 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3844 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.3798 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3792 - accuracy:
305/750 [=======>>.....] - ETA: 0s - loss: 0.3823 - accuracy:
0.9181
380/750 [========>.....] - ETA: 0s - loss: 0.3834 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.3861 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3890 - accuracy:
0.9155
0.9159
0.9164 - val_loss: 0.5269 - val_accuracy: 0.8708
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.3668 - accuracy:
0.9219
75/750 [==>.....] - ETA: 0s - loss: 0.3922 - accuracy:
0.9106
151/750 [====>.....] - ETA: 0s - loss: 0.3864 - accuracy:
0.9151
224/750 [======>.....] - ETA: 0s - loss: 0.3876 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.3865 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.3860 - accuracy:
0.9171
450/750 [=========>.....] - ETA: 0s - loss: 0.3865 - accuracy:
0.9171
524/750 [=========>.....] - ETA: 0s - loss: 0.3871 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.3872 - accuracy:
```

```
0.9158
0.9161
0.9157 - val loss: 0.4830 - val accuracy: 0.8832
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.2594 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3807 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.3882 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.3809 - accuracy:
0.9191
289/750 [=======>.....] - ETA: 0s - loss: 0.3822 - accuracy:
0.9171
359/750 [=======>.....] - ETA: 0s - loss: 0.3801 - accuracy:
0.9173
430/750 [==========>.....] - ETA: 0s - loss: 0.3825 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.3844 - accuracy:
0.9157
577/750 [============>.....] - ETA: 0s - loss: 0.3853 - accuracy:
0.9156
0.9158 - val loss: 0.5131 - val accuracy: 0.8757
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.3418 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3729 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.3724 - accuracy:
0.9227
227/750 [======>.....] - ETA: 0s - loss: 0.3772 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.3790 - accuracy:
380/750 [========>>.....] - ETA: 0s - loss: 0.3803 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 0.3836 - accuracy:
0.9164
531/750 [=========>.....] - ETA: 0s - loss: 0.3826 - accuracy:
```

```
0.9153
0.9152 - val loss: 0.5067 - val accuracy: 0.8779
Epoch 83/220
 1/750 [.....] - ETA: 0s - loss: 0.6245 - accuracy:
0.8281
76/750 [==>.....] - ETA: 0s - loss: 0.3758 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.3729 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3770 - accuracy:
0.9183
305/750 [========>.....] - ETA: 0s - loss: 0.3734 - accuracy:
0.9193
381/750 [========>.....] - ETA: 0s - loss: 0.3760 - accuracy:
454/750 [==========>.....] - ETA: 0s - loss: 0.3790 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3805 - accuracy:
0.9179
0.9170
677/750 [============>...] - ETA: 0s - loss: 0.3828 - accuracy:
0.9169
750/750 [============= ] - 1s 816us/step - loss: 0.3833 - accuracy:
0.9165 - val_loss: 0.5046 - val_accuracy: 0.8770
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.3902 - accuracy:
0.9219
76/750 [==>.....] - ETA: 0s - loss: 0.3803 - accuracy:
0.9171
151/750 [====>.....] - ETA: 0s - loss: 0.3794 - accuracy:
0.9181
226/750 [======>.....] - ETA: 0s - loss: 0.3813 - accuracy:
0.9179
301/750 [=======>.....] - ETA: 0s - loss: 0.3794 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3791 - accuracy:
0.9189
451/750 [=========>.....] - ETA: 0s - loss: 0.3821 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.3833 - accuracy:
0.9177
602/750 [===========>.....] - ETA: 0s - loss: 0.3834 - accuracy:
0.9167
678/750 [============>...] - ETA: 0s - loss: 0.3833 - accuracy:
```

```
0.9165
0.9161 - val_loss: 0.5266 - val_accuracy: 0.8748
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.2789 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3654 - accuracy:
0.9211
150/750 [====>.....] - ETA: 0s - loss: 0.3680 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3694 - accuracy:
0.9219
300/750 [=======>.....] - ETA: 0s - loss: 0.3762 - accuracy:
0.9193
374/750 [=========>.....] - ETA: 0s - loss: 0.3772 - accuracy:
0.9190
452/750 [=========>.....] - ETA: 0s - loss: 0.3803 - accuracy:
0.9176
526/750 [==========>.....] - ETA: 0s - loss: 0.3815 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.3806 - accuracy:
0.9177
0.9181
750/750 [============= ] - 1s 817us/step - loss: 0.3805 - accuracy:
0.9183 - val_loss: 0.4975 - val_accuracy: 0.8824
Epoch 86/220
1/750 [...... 0.4628 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.3921 - accuracy:
0.9177
148/750 [====>.....] - ETA: 0s - loss: 0.3812 - accuracy:
0.9191
219/750 [======>.....] - ETA: 0s - loss: 0.3882 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.3861 - accuracy:
0.9172
370/750 [========>.....] - ETA: 0s - loss: 0.3836 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.3820 - accuracy:
0.9188
520/750 [=========>.....] - ETA: 0s - loss: 0.3829 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.3812 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.3814 - accuracy:
```

```
0.9192
750/750 [=============== ] - 1s 826us/step - loss: 0.3813 - accuracy:
0.9193 - val_loss: 0.5020 - val_accuracy: 0.8741
Epoch 87/220
 1/750 [.....] - ETA: 0s - loss: 0.3081 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3686 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.3717 - accuracy:
0.9221
224/750 [=====>...... - ETA: 0s - loss: 0.3716 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.3704 - accuracy:
376/750 [=========>.....] - ETA: 0s - loss: 0.3754 - accuracy:
0.9193
451/750 [=========>...... - ETA: 0s - loss: 0.3770 - accuracy:
0.9189
526/750 [==========>.....] - ETA: 0s - loss: 0.3788 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.3763 - accuracy:
0.9194
0.9189
750/750 [============= ] - 1s 810us/step - loss: 0.3787 - accuracy:
0.9185 - val_loss: 0.4773 - val_accuracy: 0.8861
Epoch 88/220
 1/750 [...... - loss: 0.3373 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3761 - accuracy:
0.9147
150/750 [====>.....] - ETA: 0s - loss: 0.3723 - accuracy:
0.9184
225/750 [======>.....] - ETA: 0s - loss: 0.3780 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.3803 - accuracy:
0.9159
376/750 [========>.....] - ETA: 0s - loss: 0.3804 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3803 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.3805 - accuracy:
0.9161
600/750 [===========>.....] - ETA: 0s - loss: 0.3799 - accuracy:
0.9167
673/750 [============>....] - ETA: 0s - loss: 0.3806 - accuracy:
0.9165
750/750 [============= ] - ETA: 0s - loss: 0.3800 - accuracy:
```

```
0.9170
0.9170 - val_loss: 0.5224 - val_accuracy: 0.8694
Epoch 89/220
1/750 [.....] - ETA: 0s - loss: 0.3887 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.3631 - accuracy:
0.9227
150/750 [====>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9221
226/750 [======>...... - ETA: 0s - loss: 0.3694 - accuracy:
0.9214
303/750 [========>.....] - ETA: 0s - loss: 0.3724 - accuracy:
0.9192
377/750 [=========>.....] - ETA: 0s - loss: 0.3732 - accuracy:
0.9192
453/750 [=========>...........] - ETA: 0s - loss: 0.3747 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.3742 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.3757 - accuracy:
0.9185
0.9181
750/750 [============= ] - 1s 812us/step - loss: 0.3770 - accuracy:
0.9184 - val_loss: 0.4852 - val_accuracy: 0.8806
Epoch 90/220
 1/750 [...... 0.4355 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.3750 - accuracy:
0.9187
147/750 [====>.....] - ETA: 0s - loss: 0.3692 - accuracy:
0.9233
224/750 [=====>.....] - ETA: 0s - loss: 0.3683 - accuracy:
0.9231
295/750 [=======>.....] - ETA: 0s - loss: 0.3710 - accuracy:
372/750 [========>.....] - ETA: 0s - loss: 0.3702 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.3723 - accuracy:
0.9198
524/750 [=========>.....] - ETA: 0s - loss: 0.3711 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.3719 - accuracy:
0.9199
674/750 [=============>....] - ETA: 0s - loss: 0.3725 - accuracy:
```

```
0.9192
750/750 [================ ] - 1s 816us/step - loss: 0.3753 - accuracy:
0.9192 - val_loss: 0.4898 - val_accuracy: 0.8790
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.3101 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3787 - accuracy:
0.9211
150/750 [====>.....] - ETA: 0s - loss: 0.3728 - accuracy:
0.9217
226/750 [======>...... - ETA: 0s - loss: 0.3722 - accuracy:
0.9193
301/750 [=======>.....] - ETA: 0s - loss: 0.3745 - accuracy:
0.9193
376/750 [=========>.....] - ETA: 0s - loss: 0.3743 - accuracy:
0.9189
452/750 [=========>.....] - ETA: 0s - loss: 0.3730 - accuracy:
527/750 [==========>.....] - ETA: 0s - loss: 0.3737 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.3764 - accuracy:
0.9179
0.9181
750/750 [============= ] - 1s 816us/step - loss: 0.3756 - accuracy:
0.9183 - val loss: 0.4984 - val_accuracy: 0.8770
Epoch 92/220
 1/750 [...... - 0.3914 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.3715 - accuracy:
0.9211
154/750 [====>.....] - ETA: 0s - loss: 0.3737 - accuracy:
0.9187
228/750 [======>...... - ETA: 0s - loss: 0.3765 - accuracy:
0.9174
305/750 [=======>.....] - ETA: 0s - loss: 0.3747 - accuracy:
381/750 [========>.....] - ETA: 0s - loss: 0.3757 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.3756 - accuracy:
0.9189
530/750 [=========>.....] - ETA: 0s - loss: 0.3741 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.3745 - accuracy:
0.9194
678/750 [============>...] - ETA: 0s - loss: 0.3745 - accuracy:
```

```
0.9195
750/750 [================ ] - 1s 824us/step - loss: 0.3746 - accuracy:
0.9195 - val_loss: 0.4838 - val_accuracy: 0.8833
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.3412 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3711 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.3661 - accuracy:
220/750 [=====>>...... - ETA: 0s - loss: 0.3692 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.3694 - accuracy:
367/750 [========>.....] - ETA: 0s - loss: 0.3719 - accuracy:
0.9211
439/750 [=========>...... - ETA: 0s - loss: 0.3747 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.3724 - accuracy:
0.9211
585/750 [===========>.....] - ETA: 0s - loss: 0.3724 - accuracy:
0.9213
750/750 [============= ] - 1s 844us/step - loss: 0.3716 - accuracy:
0.9215 - val_loss: 0.4883 - val_accuracy: 0.8801
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.3298 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.3544 - accuracy:
0.9272
146/750 [====>.....] - ETA: 0s - loss: 0.3626 - accuracy:
0.9237
218/750 [======>.....] - ETA: 0s - loss: 0.3682 - accuracy:
0.9217
290/750 [=======>.....] - ETA: 0s - loss: 0.3702 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.3696 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.3715 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.3698 - accuracy:
0.9211
579/750 [===========>.....] - ETA: 0s - loss: 0.3701 - accuracy:
654/750 [=============>....] - ETA: 0s - loss: 0.3719 - accuracy:
```

```
0.9203
750/750 [=============== ] - 1s 845us/step - loss: 0.3719 - accuracy:
0.9203 - val loss: 0.4910 - val accuracy: 0.8831
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.3410 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3566 - accuracy:
0.9280
147/750 [====>...... - ETA: 0s - loss: 0.3689 - accuracy:
0.9219
219/750 [======>.....] - ETA: 0s - loss: 0.3693 - accuracy:
0.9206
293/750 [=======>.....] - ETA: 0s - loss: 0.3696 - accuracy:
0.9207
366/750 [========>.....] - ETA: 0s - loss: 0.3653 - accuracy:
439/750 [==========>.....] - ETA: 0s - loss: 0.3666 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.3687 - accuracy:
586/750 [============>.....] - ETA: 0s - loss: 0.3717 - accuracy:
0.9206
0.9195 - val loss: 0.4836 - val accuracy: 0.8806
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.3916 - accuracy:
0.9219
71/750 [=>.....] - ETA: 0s - loss: 0.3528 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.3642 - accuracy:
0.9249
218/750 [======>.....] - ETA: 0s - loss: 0.3688 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.3674 - accuracy:
0.9231
364/750 [========>.....] - ETA: 0s - loss: 0.3687 - accuracy:
437/750 [========>..... - ETA: 0s - loss: 0.3691 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.3698 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.3708 - accuracy:
```

```
0.9219
750/750 [================ ] - 1s 848us/step - loss: 0.3714 - accuracy:
0.9213 - val loss: 0.5122 - val accuracy: 0.8753
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.3610 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3726 - accuracy:
0.9206
146/750 [====>.....] - ETA: 0s - loss: 0.3658 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3656 - accuracy:
0.9239
294/750 [=======>...... - ETA: 0s - loss: 0.3684 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.3698 - accuracy:
442/750 [========>.....] - ETA: 0s - loss: 0.3688 - accuracy:
0.9224
514/750 [=========>.....] - ETA: 0s - loss: 0.3686 - accuracy:
580/750 [============>.....] - ETA: 0s - loss: 0.3672 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.3686 - accuracy:
726/750 [===============>.] - ETA: 0s - loss: 0.3691 - accuracy:
0.9213 - val_loss: 0.5010 - val_accuracy: 0.8786
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.3696 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3483 - accuracy:
0.9297
143/750 [====>.....] - ETA: 0s - loss: 0.3574 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.3584 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.3638 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3632 - accuracy:
434/750 [=========>...... - ETA: 0s - loss: 0.3625 - accuracy:
507/750 [==========>.....] - ETA: 0s - loss: 0.3636 - accuracy:
```

```
0.9231
580/750 [=============>.....] - ETA: 0s - loss: 0.3654 - accuracy:
652/750 [============>....] - ETA: 0s - loss: 0.3673 - accuracy:
0.9213
0.9209 - val loss: 0.4886 - val accuracy: 0.8794
Epoch 99/220
1/750 [.....] - ETA: 0s - loss: 0.3829 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3428 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.3555 - accuracy:
0.9274
220/750 [======>...... - ETA: 0s - loss: 0.3565 - accuracy:
0.9268
294/750 [=======>..... - ETA: 0s - loss: 0.3571 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.3626 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3635 - accuracy:
0.9246
516/750 [===========>.....] - ETA: 0s - loss: 0.3617 - accuracy:
592/750 [=============>.....] - ETA: 0s - loss: 0.3642 - accuracy:
663/750 [=============>....] - ETA: 0s - loss: 0.3661 - accuracy:
0.9226
0.9227
0.9224 - val loss: 0.5250 - val accuracy: 0.8727
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.3735 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3409 - accuracy:
0.9326
147/750 [====>.....] - ETA: 0s - loss: 0.3499 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3586 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.3605 - accuracy:
365/750 [=======>....] - ETA: 0s - loss: 0.3628 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
```

```
0.9247
513/750 [===========>.....] - ETA: 0s - loss: 0.3658 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.3660 - accuracy:
0.9217 - val_loss: 0.4918 - val_accuracy: 0.8776
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.3211 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9280
145/750 [====>.....] - ETA: 0s - loss: 0.3567 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3641 - accuracy:
289/750 [======>..... - ETA: 0s - loss: 0.3658 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.3673 - accuracy:
0.9220
434/750 [==========>.....] - ETA: 0s - loss: 0.3671 - accuracy:
0.9221
507/750 [=========>.....] - ETA: 0s - loss: 0.3688 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.3671 - accuracy:
651/750 [=============>....] - ETA: 0s - loss: 0.3668 - accuracy:
0.9222 - val loss: 0.4751 - val accuracy: 0.8862
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.3134 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3716 - accuracy:
0.9177
147/750 [====>....... - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3656 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3669 - accuracy:
0.9213
365/750 [=======>.....] - ETA: 0s - loss: 0.3672 - accuracy:
```

```
0.9220
439/750 [=========>.....] - ETA: 0s - loss: 0.3664 - accuracy:
0.9219
510/750 [==========>.....] - ETA: 0s - loss: 0.3658 - accuracy:
582/750 [=============>.....] - ETA: 0s - loss: 0.3670 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.3656 - accuracy:
750/750 [============= ] - 1s 845us/step - loss: 0.3669 - accuracy:
0.9215 - val loss: 0.4955 - val accuracy: 0.8788
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.4173 - accuracy:
0.9375
73/750 [=>.....] - ETA: 0s - loss: 0.3554 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.3584 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3614 - accuracy:
0.9241
290/750 [=======>..... - ETA: 0s - loss: 0.3604 - accuracy:
364/750 [========>.....] - ETA: 0s - loss: 0.3638 - accuracy:
0.9227
438/750 [=========>.....] - ETA: 0s - loss: 0.3629 - accuracy:
0.9234
511/750 [=========>.....] - ETA: 0s - loss: 0.3638 - accuracy:
581/750 [============>.....] - ETA: 0s - loss: 0.3645 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.3655 - accuracy:
0.9229 - val_loss: 0.4897 - val_accuracy: 0.8835
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.3249 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3659 - accuracy:
0.9221
152/750 [=====>.....] - ETA: 0s - loss: 0.3635 - accuracy:
227/750 [======>...... - ETA: 0s - loss: 0.3609 - accuracy:
0.9263
300/750 [=======>.....] - ETA: 0s - loss: 0.3575 - accuracy:
```

```
0.9270
376/750 [==========>.....] - ETA: 0s - loss: 0.3601 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.3610 - accuracy:
0.9251
526/750 [=========>.....] - ETA: 0s - loss: 0.3603 - accuracy:
601/750 [============>.....] - ETA: 0s - loss: 0.3597 - accuracy:
750/750 [============== ] - ETA: 0s - loss: 0.3626 - accuracy:
750/750 [============= ] - 1s 817us/step - loss: 0.3626 - accuracy:
0.9242 - val_loss: 0.4965 - val_accuracy: 0.8812
Epoch 105/220
1/750 [...... - ETA: 0s - loss: 0.4683 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3694 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3650 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3625 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3631 - accuracy:
0.9251
378/750 [=======>>.....] - ETA: 0s - loss: 0.3623 - accuracy:
454/750 [==========>.....] - ETA: 0s - loss: 0.3616 - accuracy:
0.9246
530/750 [==========>.....] - ETA: 0s - loss: 0.3625 - accuracy:
0.9231
0.9229 - val_loss: 0.5030 - val_accuracy: 0.8792
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.4484 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3544 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.3605 - accuracy:
0.9251
225/750 [======>...... - ETA: 0s - loss: 0.3551 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.3530 - accuracy:
```

```
0.9267
372/750 [=========>.....] - ETA: 0s - loss: 0.3570 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.3593 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.3622 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.3625 - accuracy:
0.9241
750/750 [============= ] - ETA: 0s - loss: 0.3621 - accuracy:
0.9241
750/750 [============ ] - 1s 817us/step - loss: 0.3621 - accuracy:
0.9241 - val_loss: 0.4875 - val_accuracy: 0.8842
Epoch 107/220
1/750 [...... - ETA: 0s - loss: 0.3779 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3683 - accuracy:
0.9227
154/750 [====>.....] - ETA: 0s - loss: 0.3686 - accuracy:
0.9227
229/750 [======>.....] - ETA: 0s - loss: 0.3650 - accuracy:
303/750 [========>.....] - ETA: 0s - loss: 0.3661 - accuracy:
380/750 [=======>>.....] - ETA: 0s - loss: 0.3665 - accuracy:
0.9229
455/750 [==========>.....] - ETA: 0s - loss: 0.3664 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.3638 - accuracy:
0.9238 - val_loss: 0.4786 - val_accuracy: 0.8905
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.5064 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3661 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3632 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3632 - accuracy:
0.9244
301/750 [========>.....] - ETA: 0s - loss: 0.3645 - accuracy:
```

```
0.9231
377/750 [==========>.....] - ETA: 0s - loss: 0.3629 - accuracy:
0.9241
452/750 [==========>.....] - ETA: 0s - loss: 0.3621 - accuracy:
0.9246
527/750 [=========>.....] - ETA: 0s - loss: 0.3626 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.3615 - accuracy:
750/750 [============= ] - 1s 813us/step - loss: 0.3620 - accuracy:
0.9244 - val loss: 0.5128 - val accuracy: 0.8751
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.3500 - accuracy:
0.9375
76/750 [==>.....] - ETA: 0s - loss: 0.3500 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9304
227/750 [======>.....] - ETA: 0s - loss: 0.3607 - accuracy:
304/750 [=======>..... - ETA: 0s - loss: 0.3599 - accuracy:
380/750 [========>.....] - ETA: 0s - loss: 0.3618 - accuracy:
455/750 [=========>.....] - ETA: 0s - loss: 0.3635 - accuracy:
0.9236
528/750 [=========>.....] - ETA: 0s - loss: 0.3634 - accuracy:
0.9235 - val_loss: 0.4843 - val_accuracy: 0.8847
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.3138 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3617 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.3645 - accuracy:
0.9216
227/750 [======>.....] - ETA: 0s - loss: 0.3649 - accuracy:
303/750 [========>.....] - ETA: 0s - loss: 0.3638 - accuracy:
```

```
0.9236
378/750 [==========>.....] - ETA: 0s - loss: 0.3631 - accuracy:
0.9237
455/750 [==========>.....] - ETA: 0s - loss: 0.3620 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3611 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.3627 - accuracy:
750/750 [============= ] - 1s 809us/step - loss: 0.3626 - accuracy:
0.9238 - val loss: 0.4902 - val accuracy: 0.8830
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.3652 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3675 - accuracy:
0.9178
152/750 [====>.....] - ETA: 0s - loss: 0.3527 - accuracy:
0.9244
226/750 [======>.....] - ETA: 0s - loss: 0.3511 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3527 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3566 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3568 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3584 - accuracy:
0.9225 - val loss: 0.4932 - val accuracy: 0.8823
Epoch 112/220
1/750 [.....] - ETA: 0s - loss: 0.3007 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9394
225/750 [======>.....] - ETA: 0s - loss: 0.3470 - accuracy:
300/750 [=======>..... - ETA: 0s - loss: 0.3470 - accuracy:
376/750 [==========>.....] - ETA: 0s - loss: 0.3518 - accuracy:
```

```
0.9274
451/750 [==========>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9263
525/750 [=========>.....] - ETA: 0s - loss: 0.3552 - accuracy:
675/750 [============>...] - ETA: 0s - loss: 0.3580 - accuracy:
0.9251
750/750 [============= ] - 1s 817us/step - loss: 0.3588 - accuracy:
0.9248 - val loss: 0.5126 - val accuracy: 0.8788
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.4483 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.3676 - accuracy:
0.9221
151/750 [====>.....] - ETA: 0s - loss: 0.3508 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9287
302/750 [=======>.....] - ETA: 0s - loss: 0.3532 - accuracy:
0.9266
379/750 [========>.....] - ETA: 0s - loss: 0.3534 - accuracy:
453/750 [=========>.....] - ETA: 0s - loss: 0.3524 - accuracy:
0.9268
529/750 [=========>.....] - ETA: 0s - loss: 0.3537 - accuracy:
0.9268
0.9255 - val loss: 0.5052 - val accuracy: 0.8802
Epoch 114/220
1/750 [...... - ETA: 0s - loss: 0.4203 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.3639 - accuracy:
150/750 [=====>......] - ETA: 0s - loss: 0.3635 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3636 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3627 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3596 - accuracy:
```

```
0.9258
451/750 [==========>.....] - ETA: 0s - loss: 0.3603 - accuracy:
0.9244
525/750 [=========>.....] - ETA: 0s - loss: 0.3602 - accuracy:
0.9243
599/750 [=============>.....] - ETA: 0s - loss: 0.3584 - accuracy:
750/750 [============= ] - 1s 816us/step - loss: 0.3575 - accuracy:
0.9252 - val loss: 0.4808 - val accuracy: 0.8867
Epoch 115/220
1/750 [.....] - ETA: 0s - loss: 0.3756 - accuracy:
0.9688
76/750 [==>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9287
153/750 [====>.....] - ETA: 0s - loss: 0.3478 - accuracy:
0.9281
226/750 [======>.....] - ETA: 0s - loss: 0.3522 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3536 - accuracy:
0.9274
379/750 [========>.....] - ETA: 0s - loss: 0.3522 - accuracy:
454/750 [=========>.....] - ETA: 0s - loss: 0.3531 - accuracy:
0.9269
531/750 [=========>.....] - ETA: 0s - loss: 0.3521 - accuracy:
0.9277
606/750 [=============>.....] - ETA: 0s - loss: 0.3536 - accuracy:
0.9261
0.9251 - val loss: 0.4909 - val accuracy: 0.8838
Epoch 116/220
1/750 [.....] - ETA: 0s - loss: 0.2524 - accuracy:
0.9844
77/750 [==>.....] - ETA: 0s - loss: 0.3523 - accuracy:
150/750 [=====>......] - ETA: 0s - loss: 0.3549 - accuracy:
0.9281
226/750 [======>.....] - ETA: 0s - loss: 0.3564 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3527 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.3529 - accuracy:
```

```
0.9272
451/750 [==========>.....] - ETA: 0s - loss: 0.3560 - accuracy:
0.9263
524/750 [===========>.....] - ETA: 0s - loss: 0.3566 - accuracy:
678/750 [=============>...] - ETA: 0s - loss: 0.3586 - accuracy:
0.9257
750/750 [================ ] - 1s 817us/step - loss: 0.3589 - accuracy:
0.9255 - val_loss: 0.5233 - val_accuracy: 0.8741
Epoch 117/220
1/750 [.....] - ETA: 0s - loss: 0.4338 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.3452 - accuracy:
0.9294
153/750 [=====>.....] - ETA: 0s - loss: 0.3465 - accuracy:
0.9277
228/750 [======>.....] - ETA: 0s - loss: 0.3482 - accuracy:
0.9294
304/750 [=======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.3493 - accuracy:
0.9285
458/750 [==========>.....] - ETA: 0s - loss: 0.3539 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.3560 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.3562 - accuracy:
750/750 [=============== ] - 1s 816us/step - loss: 0.3563 - accuracy:
0.9257 - val loss: 0.4846 - val accuracy: 0.8884
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.3726 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9367
153/750 [====>.....] - ETA: 0s - loss: 0.3428 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3479 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9289
380/750 [=======>>..... - ETA: 0s - loss: 0.3511 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.3531 - accuracy:
```

```
0.9277
530/750 [==========>.....] - ETA: 0s - loss: 0.3523 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.3522 - accuracy:
0.9271
750/750 [=============== ] - 1s 812us/step - loss: 0.3541 - accuracy:
0.9260 - val loss: 0.4947 - val accuracy: 0.8798
Epoch 119/220
1/750 [...... - ETA: 0s - loss: 0.3322 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9241
153/750 [=====>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9247
225/750 [======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9268
301/750 [=======>.....] - ETA: 0s - loss: 0.3502 - accuracy:
378/750 [=======>.....] - ETA: 0s - loss: 0.3537 - accuracy:
452/750 [==========>.....] - ETA: 0s - loss: 0.3530 - accuracy:
0.9267
528/750 [==========>.....] - ETA: 0s - loss: 0.3541 - accuracy:
0.9263
676/750 [============>...] - ETA: 0s - loss: 0.3552 - accuracy:
0.9246 - val_loss: 0.4889 - val_accuracy: 0.8833
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.3397 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9346
150/750 [=====>.....] - ETA: 0s - loss: 0.3498 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.3537 - accuracy:
302/750 [========>.....] - ETA: 0s - loss: 0.3534 - accuracy:
375/750 [========>>.....] - ETA: 0s - loss: 0.3555 - accuracy:
0.9276
452/750 [=========>...... - ETA: 0s - loss: 0.3546 - accuracy:
527/750 [=========>:....] - ETA: 0s - loss: 0.3541 - accuracy:
```

```
0.9283
680/750 [============>...] - ETA: 0s - loss: 0.3536 - accuracy:
750/750 [================ ] - 1s 813us/step - loss: 0.3534 - accuracy:
0.9280 - val loss: 0.4863 - val accuracy: 0.8842
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.4374 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3408 - accuracy:
0.9324
150/750 [=====>.....] - ETA: 0s - loss: 0.3418 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3389 - accuracy:
0.9329
299/750 [=======>..... - ETA: 0s - loss: 0.3430 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.3464 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
0.9294
523/750 [===========>.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9272 - val loss: 0.4902 - val accuracy: 0.8821
Epoch 122/220
1/750 [.....] - ETA: 0s - loss: 0.3349 - accuracy:
0.9219
78/750 [==>.....] - ETA: 0s - loss: 0.3396 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.3332 - accuracy:
0.9359
229/750 [======>.....] - ETA: 0s - loss: 0.3372 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3373 - accuracy:
382/750 [========>>.....] - ETA: 0s - loss: 0.3433 - accuracy:
457/750 [=========>...... - ETA: 0s - loss: 0.3475 - accuracy:
0.9291
532/750 [==========>.....] - ETA: 0s - loss: 0.3474 - accuracy:
```

```
0.9293
750/750 [================ ] - 1s 816us/step - loss: 0.3510 - accuracy:
0.9288 - val loss: 0.4924 - val accuracy: 0.8873
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.4675 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3407 - accuracy:
0.9324
150/750 [====>.....] - ETA: 0s - loss: 0.3448 - accuracy:
0.9317
224/750 [======>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9292
300/750 [========>.....] - ETA: 0s - loss: 0.3506 - accuracy:
0.9281
377/750 [========>.....] - ETA: 0s - loss: 0.3485 - accuracy:
0.9283
451/750 [=========>.....] - ETA: 0s - loss: 0.3533 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.3519 - accuracy:
0.9281
0.9281 - val_loss: 0.5015 - val_accuracy: 0.8832
Epoch 124/220
1/750 [.....] - ETA: 0s - loss: 0.3745 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3525 - accuracy:
0.9243
152/750 [=====>.....] - ETA: 0s - loss: 0.3443 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9281
303/750 [=======>.....] - ETA: 0s - loss: 0.3510 - accuracy:
0.9287
377/750 [========>.....] - ETA: 0s - loss: 0.3494 - accuracy:
453/750 [=========>.....] - ETA: 0s - loss: 0.3516 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.3517 - accuracy:
```

```
0.9283
677/750 [============>...] - ETA: 0s - loss: 0.3513 - accuracy:
0.9278
0.9271 - val loss: 0.4930 - val accuracy: 0.8826
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.4182 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3321 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3382 - accuracy:
0.9351
227/750 [======>.....] - ETA: 0s - loss: 0.3430 - accuracy:
0.9327
302/750 [=======>>.....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9307
378/750 [========>.....] - ETA: 0s - loss: 0.3461 - accuracy:
453/750 [=========>.....] - ETA: 0s - loss: 0.3478 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.3498 - accuracy:
0.9277
750/750 [============ ] - 1s 817us/step - loss: 0.3522 - accuracy:
0.9279 - val loss: 0.4952 - val accuracy: 0.8813
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.4527 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3309 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.3310 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9346
299/750 [=======>.....] - ETA: 0s - loss: 0.3382 - accuracy:
0.9336
374/750 [========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9317
448/750 [========>.....] - ETA: 0s - loss: 0.3448 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3486 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.3505 - accuracy:
```

```
0.9291
0.9286
750/750 [================ ] - 1s 821us/step - loss: 0.3515 - accuracy:
0.9286 - val loss: 0.5407 - val accuracy: 0.8625
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.3618 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3314 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3396 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3438 - accuracy:
0.9311
303/750 [========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
378/750 [========>.....] - ETA: 0s - loss: 0.3452 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9281
528/750 [=========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
0.9287
0.9279
0.9285 - val loss: 0.5141 - val accuracy: 0.8754
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.4088 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3534 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.3493 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3491 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.3512 - accuracy:
379/750 [========>>.....] - ETA: 0s - loss: 0.3490 - accuracy:
455/750 [=========>.....] - ETA: 0s - loss: 0.3494 - accuracy:
0.9304
533/750 [=========>.....] - ETA: 0s - loss: 0.3491 - accuracy:
605/750 [============>.....] - ETA: 0s - loss: 0.3496 - accuracy:
```

```
0.9301
750/750 [=============== ] - 1s 812us/step - loss: 0.3518 - accuracy:
0.9289 - val loss: 0.4900 - val accuracy: 0.8828
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.3276 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3393 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.3436 - accuracy:
0.9326
226/750 [======>.....] - ETA: 0s - loss: 0.3490 - accuracy:
300/750 [========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9304
375/750 [=======>>.....] - ETA: 0s - loss: 0.3475 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.3489 - accuracy:
0.9307
523/750 [=========>.....] - ETA: 0s - loss: 0.3483 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.3482 - accuracy:
0.9293 - val loss: 0.5304 - val accuracy: 0.8702
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.3652 - accuracy:
0.9219
75/750 [==>.....] - ETA: 0s - loss: 0.3608 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3560 - accuracy:
0.9274
224/750 [======>.....] - ETA: 0s - loss: 0.3538 - accuracy:
0.9278
295/750 [=======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9279
369/750 [========>.....] - ETA: 0s - loss: 0.3522 - accuracy:
444/750 [========>.....] - ETA: 0s - loss: 0.3486 - accuracy:
0.9293
521/750 [=========>.....] - ETA: 0s - loss: 0.3492 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.3488 - accuracy:
```

```
0.9286
747/750 [==============>.] - ETA: 0s - loss: 0.3490 - accuracy:
0.9281 - val loss: 0.4901 - val accuracy: 0.8832
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.3814 - accuracy:
0.9367
150/750 [=====>.....] - ETA: 0s - loss: 0.3409 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3396 - accuracy:
301/750 [========>.....] - ETA: 0s - loss: 0.3415 - accuracy:
0.9329
376/750 [========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
0.9314
451/750 [=========>.....] - ETA: 0s - loss: 0.3459 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
749/750 [=============>.] - ETA: 0s - loss: 0.3465 - accuracy:
0.9304
0.9303 - val_loss: 0.4869 - val_accuracy: 0.8861
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.3488 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3376 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3519 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3490 - accuracy:
302/750 [========>.....] - ETA: 0s - loss: 0.3464 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9294
453/750 [=========>.....] - ETA: 0s - loss: 0.3463 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3460 - accuracy:
```

```
0.9305
677/750 [============>...] - ETA: 0s - loss: 0.3475 - accuracy:
0.9296
750/750 [================ ] - 1s 812us/step - loss: 0.3467 - accuracy:
0.9300 - val loss: 0.5005 - val accuracy: 0.8791
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.3291 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3368 - accuracy:
0.9319
151/750 [=====>.....] - ETA: 0s - loss: 0.3384 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3420 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3460 - accuracy:
379/750 [========>.....] - ETA: 0s - loss: 0.3455 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3467 - accuracy:
0.9289
527/750 [==========>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9286
0.9278 - val loss: 0.4962 - val accuracy: 0.8813
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.4667 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.3420 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3376 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.3321 - accuracy:
0.9363
299/750 [=======>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9331
372/750 [========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
0.9311
446/750 [========>.....] - ETA: 0s - loss: 0.3458 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3454 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.3459 - accuracy:
```

```
0.9295
0.9286
0.9286 - val loss: 0.5002 - val accuracy: 0.8813
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.3140 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3283 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.3365 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3393 - accuracy:
300/750 [========>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9319
376/750 [========>.....] - ETA: 0s - loss: 0.3386 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3382 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.3421 - accuracy:
0.9298
0.9297 - val loss: 0.4867 - val accuracy: 0.8848
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.3412 - accuracy:
0.9375
77/750 [==>.....] - ETA: 0s - loss: 0.3430 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9317
225/750 [======>.....] - ETA: 0s - loss: 0.3454 - accuracy:
303/750 [========>.....] - ETA: 0s - loss: 0.3447 - accuracy:
378/750 [========>>.....] - ETA: 0s - loss: 0.3459 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.3455 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3444 - accuracy:
```

```
0.9311
0.9308 - val_loss: 0.5039 - val_accuracy: 0.8777
Epoch 137/220
1/750 [.....] - ETA: 0s - loss: 0.4701 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3456 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.3441 - accuracy:
0.9317
225/750 [======>.....] - ETA: 0s - loss: 0.3455 - accuracy:
0.9324
301/750 [========>.....] - ETA: 0s - loss: 0.3483 - accuracy:
375/750 [=======>>.....] - ETA: 0s - loss: 0.3508 - accuracy:
0.9293
449/750 [=========>.....] - ETA: 0s - loss: 0.3516 - accuracy:
0.9291
524/750 [=========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.3489 - accuracy:
0.9306
0.9314 - val loss: 0.4821 - val accuracy: 0.8908
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.2526 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3279 - accuracy:
0.9367
150/750 [====>.....] - ETA: 0s - loss: 0.3356 - accuracy:
0.9346
226/750 [======>.....] - ETA: 0s - loss: 0.3371 - accuracy:
303/750 [========>.....] - ETA: 0s - loss: 0.3396 - accuracy:
0.9326
377/750 [========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9309
528/750 [=========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
```

```
0.9308
0.9296 - val loss: 0.4904 - val accuracy: 0.8867
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.3148 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3374 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.3395 - accuracy:
0.9319
223/750 [======>.....] - ETA: 0s - loss: 0.3395 - accuracy:
0.9318
296/750 [=======>.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.9323
372/750 [=======>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9316
447/750 [=========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3399 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9298 - val loss: 0.5078 - val accuracy: 0.8784
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.2937 - accuracy:
0.9688
77/750 [==>.....] - ETA: 0s - loss: 0.3413 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9324
226/750 [======>.....] - ETA: 0s - loss: 0.3412 - accuracy:
0.9314
303/750 [========>.....] - ETA: 0s - loss: 0.3425 - accuracy:
376/750 [========>>.....] - ETA: 0s - loss: 0.3430 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 0.3410 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3414 - accuracy:
605/750 [============>.....] - ETA: 0s - loss: 0.3420 - accuracy:
```

```
0.9316
0.9305 - val loss: 0.5281 - val accuracy: 0.8748
Epoch 141/220
1/750 [.....] - ETA: 0s - loss: 0.3625 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3498 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.3417 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9332
300/750 [========>.....] - ETA: 0s - loss: 0.3373 - accuracy:
0.9337
375/750 [=======>>.....] - ETA: 0s - loss: 0.3390 - accuracy:
0.9331
451/750 [==========>...... - ETA: 0s - loss: 0.3410 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3415 - accuracy:
0.9319
0.9316
678/750 [============>...] - ETA: 0s - loss: 0.3423 - accuracy:
750/750 [============= ] - 1s 810us/step - loss: 0.3423 - accuracy:
0.9315 - val_loss: 0.4974 - val_accuracy: 0.8802
Epoch 142/220
1/750 [.....] - ETA: 0s - loss: 0.3495 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3480 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3445 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3441 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9321
375/750 [========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
0.9321
452/750 [=========>.....] - ETA: 0s - loss: 0.3415 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3427 - accuracy:
0.9326
600/750 [===========>.....] - ETA: 0s - loss: 0.3452 - accuracy:
0.9316
```

```
0.9305 - val_loss: 0.4911 - val_accuracy: 0.8832
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.4500 - accuracy:
0.8906
63/750 [=>.....] - ETA: 0s - loss: 0.3204 - accuracy:
137/750 [====>...... - ETA: 0s - loss: 0.3322 - accuracy:
213/750 [======>...... - ETA: 0s - loss: 0.3350 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9341
362/750 [=========>.....] - ETA: 0s - loss: 0.3395 - accuracy:
0.9329
439/750 [=========>.....] - ETA: 0s - loss: 0.3404 - accuracy:
0.9324
514/750 [===========>.....] - ETA: 0s - loss: 0.3417 - accuracy:
0.9321
588/750 [===========>.....] - ETA: 0s - loss: 0.3419 - accuracy:
0.9318
739/750 [==============>.] - ETA: 0s - loss: 0.3438 - accuracy:
750/750 [============= ] - 1s 829us/step - loss: 0.3442 - accuracy:
0.9311 - val_loss: 0.5782 - val_accuracy: 0.8599
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.4075 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3375 - accuracy:
0.9324
151/750 [====>.....] - ETA: 0s - loss: 0.3323 - accuracy:
0.9361
223/750 [======>.....] - ETA: 0s - loss: 0.3287 - accuracy:
0.9367
297/750 [=======>.....] - ETA: 0s - loss: 0.3369 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.3383 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3393 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.3407 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.3420 - accuracy:
0.9314
674/750 [=============>....] - ETA: 0s - loss: 0.3417 - accuracy:
```

```
0.9319
0.9313 - val_loss: 0.4985 - val_accuracy: 0.8821
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.4486 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3476 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.3419 - accuracy:
0.9337
226/750 [======>...... - ETA: 0s - loss: 0.3408 - accuracy:
301/750 [========>.....] - ETA: 0s - loss: 0.3406 - accuracy:
0.9325
378/750 [=========>.....] - ETA: 0s - loss: 0.3396 - accuracy:
0.9327
455/750 [=========>...........] - ETA: 0s - loss: 0.3419 - accuracy:
0.9316
529/750 [==========>.....] - ETA: 0s - loss: 0.3431 - accuracy:
0.9306
750/750 [============= ] - 1s 814us/step - loss: 0.3458 - accuracy:
0.9300 - val loss: 0.4940 - val_accuracy: 0.8854
Epoch 146/220
1/750 [...... - loss: 0.2710 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9315
153/750 [=====>.....] - ETA: 0s - loss: 0.3348 - accuracy:
0.9328
229/750 [======>.....] - ETA: 0s - loss: 0.3382 - accuracy:
0.9324
306/750 [=======>.....] - ETA: 0s - loss: 0.3423 - accuracy:
381/750 [========>.....] - ETA: 0s - loss: 0.3412 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.3418 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.3408 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3403 - accuracy:
677/750 [============>...] - ETA: 0s - loss: 0.3410 - accuracy:
0.9317
750/750 [============= ] - 1s 817us/step - loss: 0.3422 - accuracy:
```

```
0.9306 - val_loss: 0.5200 - val_accuracy: 0.8758 
Epoch 147/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4429 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3562 - accuracy:
0.9281
153/750 [====>.....] - ETA: 0s - loss: 0.3415 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3451 - accuracy:
303/750 [=======>.....] - ETA: 0s - loss: 0.3460 - accuracy:
379/750 [=========>.....] - ETA: 0s - loss: 0.3456 - accuracy:
0.9298
454/750 [==========>.....] - ETA: 0s - loss: 0.3461 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3465 - accuracy:
677/750 [============>...] - ETA: 0s - loss: 0.3443 - accuracy:
750/750 [================ ] - 1s 816us/step - loss: 0.3433 - accuracy:
0.9308 - val loss: 0.4939 - val accuracy: 0.8848
Epoch 148/220
1/750 [...... os. - loss: 0.3659 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3247 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9379
226/750 [======>.....] - ETA: 0s - loss: 0.3331 - accuracy:
0.9351
301/750 [=======>..... - ETA: 0s - loss: 0.3416 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.3459 - accuracy:
0.9298
452/750 [=========>.....] - ETA: 0s - loss: 0.3439 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.3431 - accuracy:
0.9311
0.9314
750/750 [============= ] - 1s 816us/step - loss: 0.3427 - accuracy:
0.9314 - val loss: 0.4927 - val accuracy: 0.8850
Epoch 149/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3877 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3301 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3267 - accuracy:
223/750 [=====>>...... - ETA: 0s - loss: 0.3318 - accuracy:
0.9361
297/750 [=======>..... - ETA: 0s - loss: 0.3364 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.3385 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9332
517/750 [==========>.....] - ETA: 0s - loss: 0.3421 - accuracy:
0.9328
591/750 [===========>.....] - ETA: 0s - loss: 0.3410 - accuracy:
665/750 [===============>....] - ETA: 0s - loss: 0.3415 - accuracy:
0.9334
741/750 [===============>.] - ETA: 0s - loss: 0.3414 - accuracy:
0.9334
750/750 [=============== ] - 1s 824us/step - loss: 0.3414 - accuracy:
0.9334 - val loss: 0.4913 - val accuracy: 0.8866
Epoch 150/220
1/750 [.....] - ETA: 0s - loss: 0.2718 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3328 - accuracy:
0.9321
149/750 [====>.....] - ETA: 0s - loss: 0.3403 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3330 - accuracy:
0.9349
300/750 [=======>.....] - ETA: 0s - loss: 0.3320 - accuracy:
0.9357
375/750 [========>.....] - ETA: 0s - loss: 0.3324 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3357 - accuracy:
0.9341
526/750 [==========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
750/750 [============= ] - 1s 817us/step - loss: 0.3418 - accuracy:
0.9314 - val_loss: 0.5169 - val_accuracy: 0.8779
Epoch 151/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3806 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3433 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3361 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.3366 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3373 - accuracy:
0.9351
375/750 [=======>..... - ETA: 0s - loss: 0.3422 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
0.9334
526/750 [=========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
0.9327
602/750 [===========>.....] - ETA: 0s - loss: 0.3421 - accuracy:
0.9320 - val loss: 0.4901 - val accuracy: 0.8871
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.2974 - accuracy:
0.9219
77/750 [==>.....] - ETA: 0s - loss: 0.3309 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3278 - accuracy:
0.9361
225/750 [======>.....] - ETA: 0s - loss: 0.3311 - accuracy:
0.9343
302/750 [=======>.....] - ETA: 0s - loss: 0.3320 - accuracy:
0.9344
375/750 [=======>>.....] - ETA: 0s - loss: 0.3293 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.3314 - accuracy:
0.9348
527/750 [=========>.....] - ETA: 0s - loss: 0.3339 - accuracy:
0.9322 - val_loss: 0.4989 - val_accuracy: 0.8832
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.2351 - accuracy:
```

```
0.9844
75/750 [==>.....] - ETA: 0s - loss: 0.3330 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.3389 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3389 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3400 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3389 - accuracy:
449/750 [========>..... - ETA: 0s - loss: 0.3395 - accuracy:
524/750 [==========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
0.9307
599/750 [===========>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9308
675/750 [============>...] - ETA: 0s - loss: 0.3415 - accuracy:
750/750 [=============== ] - ETA: 0s - loss: 0.3412 - accuracy:
0.9314 - val loss: 0.4934 - val accuracy: 0.8835
Epoch 154/220
 1/750 [.....] - ETA: 0s - loss: 0.3184 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3310 - accuracy:
0.9367
149/750 [====>.....] - ETA: 0s - loss: 0.3339 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3335 - accuracy:
0.9353
299/750 [=======>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9347
374/750 [=======>.....] - ETA: 0s - loss: 0.3332 - accuracy:
0.9344
450/750 [==========>.....] - ETA: 0s - loss: 0.3349 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3361 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
0.9321 - val_loss: 0.4869 - val_accuracy: 0.8849
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.2797 - accuracy:
```

```
0.9688
76/750 [==>.....] - ETA: 0s - loss: 0.3362 - accuracy:
0.9348
151/750 [=====>.....] - ETA: 0s - loss: 0.3440 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3414 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.3399 - accuracy:
0.9341
380/750 [========>.....] - ETA: 0s - loss: 0.3419 - accuracy:
454/750 [=========>...... - ETA: 0s - loss: 0.3426 - accuracy:
529/750 [=========>:....] - ETA: 0s - loss: 0.3417 - accuracy:
0.9328
606/750 [===========>.....] - ETA: 0s - loss: 0.3395 - accuracy:
681/750 [=============>...] - ETA: 0s - loss: 0.3405 - accuracy:
0.9324
0.9322 - val_loss: 0.5069 - val_accuracy: 0.8806
Epoch 156/220
1/750 [...... - ETA: 0s - loss: 0.2512 - accuracy:
0.9844
74/750 [=>.....] - ETA: 0s - loss: 0.3214 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3292 - accuracy:
0.9371
226/750 [======>.....] - ETA: 0s - loss: 0.3250 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.3266 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3321 - accuracy:
452/750 [=========>..........] - ETA: 0s - loss: 0.3325 - accuracy:
528/750 [=========>:....] - ETA: 0s - loss: 0.3371 - accuracy:
0.9336
604/750 [============>.....] - ETA: 0s - loss: 0.3396 - accuracy:
0.9325 - val_loss: 0.5110 - val_accuracy: 0.8808
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.2939 - accuracy:
0.9375
77/750 [==>.....] - ETA: 0s - loss: 0.3443 - accuracy:
```

```
0.9298
150/750 [=====>.....] - ETA: 0s - loss: 0.3370 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3415 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3400 - accuracy:
0.9329
372/750 [=======>.....] - ETA: 0s - loss: 0.3401 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3386 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
0.9341
0.9342 - val loss: 0.4934 - val accuracy: 0.8873
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.3077 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3390 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.3354 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3341 - accuracy:
301/750 [========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
0.9345
377/750 [========>.....] - ETA: 0s - loss: 0.3401 - accuracy:
0.9337
453/750 [==========>.....] - ETA: 0s - loss: 0.3411 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3404 - accuracy:
0.9329
679/750 [============>...] - ETA: 0s - loss: 0.3407 - accuracy:
0.9330 - val loss: 0.4917 - val accuracy: 0.8858
Epoch 159/220
1/750 [.....] - ETA: 0s - loss: 0.4407 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.9365
147/750 [====>.....] - ETA: 0s - loss: 0.3348 - accuracy:
```

```
0.9364
223/750 [======>.....] - ETA: 0s - loss: 0.3375 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.3404 - accuracy:
370/750 [=======>....] - ETA: 0s - loss: 0.3364 - accuracy:
446/750 [========>.....] - ETA: 0s - loss: 0.3380 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.3373 - accuracy:
672/750 [=============>....] - ETA: 0s - loss: 0.3378 - accuracy:
0.9337
0.9337 - val loss: 0.4977 - val accuracy: 0.8853
Epoch 160/220
1/750 [.....] - ETA: 0s - loss: 0.2778 - accuracy:
0.9688
74/750 [=>.....] - ETA: 0s - loss: 0.3184 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9317
227/750 [======>.....] - ETA: 0s - loss: 0.3390 - accuracy:
0.9327
302/750 [========>.....] - ETA: 0s - loss: 0.3374 - accuracy:
380/750 [=========>:....] - ETA: 0s - loss: 0.3359 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.3367 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.3361 - accuracy:
607/750 [=============>.....] - ETA: 0s - loss: 0.3383 - accuracy:
0.9329
681/750 [============>...] - ETA: 0s - loss: 0.3398 - accuracy:
0.9326 - val loss: 0.4969 - val accuracy: 0.8844
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.2407 - accuracy:
0.9688
75/750 [==>.....] - ETA: 0s - loss: 0.3458 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3357 - accuracy:
```

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0.9381
224/750 [======>.....] - ETA: 0s - loss: 0.3393 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.3365 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.3366 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
0.9341
0.9333 - val loss: 0.4909 - val accuracy: 0.8877
Epoch 162/220
1/750 [...... os. - loss: 0.4471 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3366 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.3305 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3301 - accuracy:
0.9361
301/750 [=======>.....] - ETA: 0s - loss: 0.3327 - accuracy:
375/750 [=========>.....] - ETA: 0s - loss: 0.3333 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.3355 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.3351 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.3365 - accuracy:
0.9339
0.9333 - val_loss: 0.5158 - val_accuracy: 0.8793
Epoch 163/220
1/750 [...... 0.2959 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9317
145/750 [====>.....] - ETA: 0s - loss: 0.3338 - accuracy:
0.9336
220/750 [=====>.....] - ETA: 0s - loss: 0.3359 - accuracy:
```

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0.9338
294/750 [=======>.....] - ETA: 0s - loss: 0.3327 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.3354 - accuracy:
446/750 [========>.....] - ETA: 0s - loss: 0.3339 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.3346 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.3341 - accuracy:
674/750 [=============>....] - ETA: 0s - loss: 0.3352 - accuracy:
0.9347
750/750 [============= ] - 1s 822us/step - loss: 0.3369 - accuracy:
0.9339 - val_loss: 0.5021 - val_accuracy: 0.8815
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.2656 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3294 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3372 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9323
302/750 [=======>.....] - ETA: 0s - loss: 0.3378 - accuracy:
375/750 [=======>>.....] - ETA: 0s - loss: 0.3378 - accuracy:
451/750 [=========>..........] - ETA: 0s - loss: 0.3365 - accuracy:
0.9344
526/750 [=========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
0.9351
0.9344 - val_loss: 0.5025 - val_accuracy: 0.8828
Epoch 165/220
1/750 [.....] - ETA: 0s - loss: 0.3062 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3228 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.3243 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.3277 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.3286 - accuracy:
```

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0.9379
383/750 [==========>.....] - ETA: 0s - loss: 0.3287 - accuracy:
0.9379
457/750 [==========>.....] - ETA: 0s - loss: 0.3332 - accuracy:
0.9363
535/750 [==========>.....] - ETA: 0s - loss: 0.3344 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.3346 - accuracy:
750/750 [============= ] - 1s 812us/step - loss: 0.3367 - accuracy:
0.9350 - val loss: 0.4899 - val accuracy: 0.8854
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.2700 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.3414 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3409 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3360 - accuracy:
0.9347
304/750 [=======>.....] - ETA: 0s - loss: 0.3369 - accuracy:
0.9341
380/750 [========>.....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9345
455/750 [=========>.....] - ETA: 0s - loss: 0.3371 - accuracy:
0.9344
529/750 [=========>.....] - ETA: 0s - loss: 0.3369 - accuracy:
0.9347 - val loss: 0.5116 - val accuracy: 0.8811
Epoch 167/220
1/750 [...... - ETA: 0s - loss: 0.3814 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3318 - accuracy:
144/750 [====>....... - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3293 - accuracy:
0.9384
288/750 [=======>..... - ETA: 0s - loss: 0.3303 - accuracy:
0.9379
365/750 [=========>.....] - ETA: 0s - loss: 0.3303 - accuracy:
```

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0.9376
440/750 [=========>.....] - ETA: 0s - loss: 0.3316 - accuracy:
0.9373
516/750 [==========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9363
593/750 [============>.....] - ETA: 0s - loss: 0.3340 - accuracy:
750/750 [============= ] - 1s 821us/step - loss: 0.3356 - accuracy:
0.9358 - val loss: 0.4986 - val accuracy: 0.8863
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.4145 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3291 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.3311 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3355 - accuracy:
0.9357
299/750 [=======>..... - ETA: 0s - loss: 0.3334 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.3347 - accuracy:
0.9351
445/750 [========>.....] - ETA: 0s - loss: 0.3348 - accuracy:
520/750 [==========>.....] - ETA: 0s - loss: 0.3350 - accuracy:
0.9349
595/750 [============>.....] - ETA: 0s - loss: 0.3350 - accuracy:
0.9351
0.9349
0.9350 - val_loss: 0.4927 - val_accuracy: 0.8879
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.2896 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3102 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3258 - accuracy:
0.9380
227/750 [======>...... - ETA: 0s - loss: 0.3332 - accuracy:
0.9361
302/750 [=======>.....] - ETA: 0s - loss: 0.3339 - accuracy:
```

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0.9359
378/750 [==========>.....] - ETA: 0s - loss: 0.3324 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9363
522/750 [=========>.....] - ETA: 0s - loss: 0.3333 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.3348 - accuracy:
745/750 [==============>.] - ETA: 0s - loss: 0.3361 - accuracy:
750/750 [============= ] - 1s 821us/step - loss: 0.3361 - accuracy:
0.9342 - val_loss: 0.4949 - val_accuracy: 0.8796
Epoch 170/220
1/750 [...... - ETA: 0s - loss: 0.2777 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3185 - accuracy:
0.9407
151/750 [====>.....] - ETA: 0s - loss: 0.3207 - accuracy:
0.9416
229/750 [======>.....] - ETA: 0s - loss: 0.3248 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.3260 - accuracy:
379/750 [=======>.....] - ETA: 0s - loss: 0.3282 - accuracy:
0.9382
458/750 [==========>.....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9373
532/750 [==========>.....] - ETA: 0s - loss: 0.3316 - accuracy:
606/750 [=============>.....] - ETA: 0s - loss: 0.3316 - accuracy:
0.9361
0.9360 - val_loss: 0.5228 - val_accuracy: 0.8785
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.3471 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3241 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.3314 - accuracy:
0.9383
230/750 [======>..... - ETA: 0s - loss: 0.3319 - accuracy:
0.9382
306/750 [=======>.....] - ETA: 0s - loss: 0.3338 - accuracy:
```

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0.9366
382/750 [==========>.....] - ETA: 0s - loss: 0.3356 - accuracy:
0.9361
454/750 [==========>.....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9356
527/750 [==========>.....] - ETA: 0s - loss: 0.3351 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.3334 - accuracy:
750/750 [============= ] - 1s 818us/step - loss: 0.3361 - accuracy:
0.9351 - val_loss: 0.5027 - val_accuracy: 0.8843
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.2562 - accuracy:
0.9688
78/750 [==>.....] - ETA: 0s - loss: 0.3152 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3255 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.3256 - accuracy:
0.9380
299/750 [=======>..... - ETA: 0s - loss: 0.3280 - accuracy:
0.9367
373/750 [========>.....] - ETA: 0s - loss: 0.3321 - accuracy:
449/750 [========>..... - ETA: 0s - loss: 0.3313 - accuracy:
524/750 [==========>.....] - ETA: 0s - loss: 0.3329 - accuracy:
0.9361
599/750 [============>.....] - ETA: 0s - loss: 0.3335 - accuracy:
0.9363
0.9361 - val_loss: 0.5107 - val_accuracy: 0.8797
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.4368 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3415 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.3338 - accuracy:
228/750 [======>...... - ETA: 0s - loss: 0.3343 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3416 - accuracy:
```

```
0.9332
377/750 [==========>.....] - ETA: 0s - loss: 0.3382 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.3415 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.3397 - accuracy:
601/750 [============>.....] - ETA: 0s - loss: 0.3380 - accuracy:
750/750 [============== ] - ETA: 0s - loss: 0.3357 - accuracy:
0.9363
750/750 [============= ] - 1s 824us/step - loss: 0.3357 - accuracy:
0.9363 - val_loss: 0.4940 - val_accuracy: 0.8896
Epoch 174/220
1/750 [...... - ETA: 0s - loss: 0.4110 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3232 - accuracy:
153/750 [====>...... - ETA: 0s - loss: 0.3197 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.3284 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.3347 - accuracy:
378/750 [=======>>.....] - ETA: 0s - loss: 0.3370 - accuracy:
455/750 [=========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9354 - val_loss: 0.5044 - val_accuracy: 0.8831
Epoch 175/220
1/750 [.....] - ETA: 0s - loss: 0.3384 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3208 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.3270 - accuracy:
225/750 [======>...... - ETA: 0s - loss: 0.3263 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.3303 - accuracy:
```

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0.9377
377/750 [==========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9377
452/750 [==========>.....] - ETA: 0s - loss: 0.3299 - accuracy:
0.9376
527/750 [==========>.....] - ETA: 0s - loss: 0.3310 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.3332 - accuracy:
750/750 [============= ] - 1s 822us/step - loss: 0.3328 - accuracy:
0.9363 - val loss: 0.4993 - val accuracy: 0.8853
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3345 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3290 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3270 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.3290 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.3280 - accuracy:
0.9383
453/750 [=========>.....] - ETA: 0s - loss: 0.3271 - accuracy:
0.9387
531/750 [=========>.....] - ETA: 0s - loss: 0.3276 - accuracy:
0.9387
0.9362 - val loss: 0.5381 - val accuracy: 0.8756
Epoch 177/220
1/750 [...... - ETA: 0s - loss: 0.3734 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3202 - accuracy:
147/750 [====>......] - ETA: 0s - loss: 0.3226 - accuracy:
0.9401
222/750 [======>.....] - ETA: 0s - loss: 0.3277 - accuracy:
0.9383
296/750 [=======>..... - ETA: 0s - loss: 0.3298 - accuracy:
0.9376
374/750 [========>.....] - ETA: 0s - loss: 0.3313 - accuracy:
```

```
0.9369
449/750 [=========>.....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9370
524/750 [==========>.....] - ETA: 0s - loss: 0.3287 - accuracy:
678/750 [=============>...] - ETA: 0s - loss: 0.3332 - accuracy:
750/750 [=============== ] - 1s 813us/step - loss: 0.3354 - accuracy:
0.9340 - val_loss: 0.5108 - val_accuracy: 0.8783
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.3696 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3344 - accuracy:
0.9338
152/750 [====>...... - ETA: 0s - loss: 0.3314 - accuracy:
0.9363
228/750 [======>..... - ETA: 0s - loss: 0.3311 - accuracy:
0.9373
306/750 [=======>.....] - ETA: 0s - loss: 0.3330 - accuracy:
382/750 [========>..... - ETA: 0s - loss: 0.3358 - accuracy:
0.9348
458/750 [==========>.....] - ETA: 0s - loss: 0.3345 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.3335 - accuracy:
611/750 [============>.....] - ETA: 0s - loss: 0.3333 - accuracy:
674/750 [==============>....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9360 - val loss: 0.5469 - val accuracy: 0.8697
Epoch 179/220
1/750 [...... - ETA: 1s - loss: 0.4272 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.3365 - accuracy:
141/750 [====>....... - accuracy:
0.9384
218/750 [======>.....] - ETA: 0s - loss: 0.3284 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 0.3315 - accuracy:
365/750 [========>.....] - ETA: 0s - loss: 0.3301 - accuracy:
```

```
0.9369
435/750 [=========>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9366
509/750 [==========>.....] - ETA: 0s - loss: 0.3324 - accuracy:
0.9366
585/750 [============>.....] - ETA: 0s - loss: 0.3314 - accuracy:
660/750 [=============>....] - ETA: 0s - loss: 0.3334 - accuracy:
750/750 [============= ] - 1s 832us/step - loss: 0.3340 - accuracy:
0.9351 - val loss: 0.5353 - val accuracy: 0.8739
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.2565 - accuracy:
0.9688
77/750 [==>.....] - ETA: 0s - loss: 0.3113 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3214 - accuracy:
0.9387
228/750 [======>.....] - ETA: 0s - loss: 0.3284 - accuracy:
0.9376
300/750 [=======>..... - ETA: 0s - loss: 0.3301 - accuracy:
0.9378
374/750 [========>.....] - ETA: 0s - loss: 0.3304 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.3292 - accuracy:
0.9381
520/750 [==========>.....] - ETA: 0s - loss: 0.3312 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9363 - val_loss: 0.5120 - val_accuracy: 0.8793
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.3629 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3264 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3281 - accuracy:
0.9386
222/750 [======>.....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9382
296/750 [=======>..... - ETA: 0s - loss: 0.3287 - accuracy:
```

```
0.9379
369/750 [=========>.....] - ETA: 0s - loss: 0.3283 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.3286 - accuracy:
0.9385
512/750 [=========>.....] - ETA: 0s - loss: 0.3287 - accuracy:
585/750 [===========>.....] - ETA: 0s - loss: 0.3290 - accuracy:
0.9381
658/750 [===============>....] - ETA: 0s - loss: 0.3305 - accuracy:
735/750 [==============>.] - ETA: 0s - loss: 0.3318 - accuracy:
750/750 [============= ] - 1s 832us/step - loss: 0.3314 - accuracy:
0.9369 - val_loss: 0.5139 - val_accuracy: 0.8807
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.3442 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3235 - accuracy:
0.9399
143/750 [====>...... - ETA: 0s - loss: 0.3174 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3179 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.3217 - accuracy:
0.9408
363/750 [========>.....] - ETA: 0s - loss: 0.3240 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3254 - accuracy:
0.9403
506/750 [==========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9386
579/750 [============>.....] - ETA: 0s - loss: 0.3305 - accuracy:
651/750 [=============>....] - ETA: 0s - loss: 0.3320 - accuracy:
750/750 [============= ] - 1s 849us/step - loss: 0.3317 - accuracy:
0.9370 - val_loss: 0.5115 - val_accuracy: 0.8788
Epoch 183/220
 1/750 [...... 0.4168 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3298 - accuracy:
0.9377
146/750 [====>.....] - ETA: 0s - loss: 0.3238 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3329 - accuracy:
```

```
0.9368
291/750 [=======>.....] - ETA: 0s - loss: 0.3320 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9380
441/750 [========>..... - ETA: 0s - loss: 0.3279 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.3277 - accuracy:
582/750 [=============>.....] - ETA: 0s - loss: 0.3276 - accuracy:
653/750 [============>....] - ETA: 0s - loss: 0.3293 - accuracy:
0.9381
0.9378
750/750 [============= ] - 1s 845us/step - loss: 0.3319 - accuracy:
0.9373 - val loss: 0.5402 - val accuracy: 0.8717
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.3580 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3184 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.3219 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3245 - accuracy:
295/750 [======>.....] - ETA: 0s - loss: 0.3265 - accuracy:
0.9386
366/750 [=========>.....] - ETA: 0s - loss: 0.3268 - accuracy:
0.9386
438/750 [=========>.....] - ETA: 0s - loss: 0.3284 - accuracy:
0.9386
514/750 [===========>.....] - ETA: 0s - loss: 0.3312 - accuracy:
0.9380
588/750 [===========>.....] - ETA: 0s - loss: 0.3301 - accuracy:
0.9384
663/750 [=============>....] - ETA: 0s - loss: 0.3310 - accuracy:
0.9380
0.9374 - val loss: 0.5017 - val accuracy: 0.8843
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.2933 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3273 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.3284 - accuracy:
```

```
0.9375
215/750 [======>.....] - ETA: 0s - loss: 0.3275 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.3298 - accuracy:
0.9370
359/750 [=======>.....] - ETA: 0s - loss: 0.3289 - accuracy:
0.9378
426/750 [========>.....] - ETA: 0s - loss: 0.3304 - accuracy:
499/750 [==========>.....] - ETA: 0s - loss: 0.3286 - accuracy:
0.9381
573/750 [==========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9377
0.9365 - val loss: 0.5785 - val accuracy: 0.8622
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.4621 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9360
150/750 [=====>.....] - ETA: 0s - loss: 0.3381 - accuracy:
222/750 [=====>.....] - ETA: 0s - loss: 0.3323 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9366
367/750 [=======>.....] - ETA: 0s - loss: 0.3332 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.3327 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.3327 - accuracy:
592/750 [============>.....] - ETA: 0s - loss: 0.3326 - accuracy:
666/750 [=============>....] - ETA: 0s - loss: 0.3322 - accuracy:
0.9367 - val_loss: 0.5139 - val_accuracy: 0.8827
Epoch 187/220
1/750 [.....] - ETA: 0s - loss: 0.3233 - accuracy:
0.9375
72/750 [=>.....] - ETA: 0s - loss: 0.3294 - accuracy:
```

```
0.9382
147/750 [====>.....] - ETA: 0s - loss: 0.3361 - accuracy:
0.9348
222/750 [======>.....] - ETA: 0s - loss: 0.3302 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.3314 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3313 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3326 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9381
579/750 [===========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9375
721/750 [===============>..] - ETA: 0s - loss: 0.3334 - accuracy:
0.9379
0.9374 - val_loss: 0.5157 - val_accuracy: 0.8832
Epoch 188/220
1/750 [...... - ETA: 0s - loss: 0.3377 - accuracy:
72/750 [=>...... - accuracy:
0.9377
142/750 [====>.....] - ETA: 0s - loss: 0.3311 - accuracy:
0.9387
211/750 [======>.....] - ETA: 0s - loss: 0.3340 - accuracy:
0.9366
284/750 [=======>.....] - ETA: 0s - loss: 0.3327 - accuracy:
0.9369
356/750 [========>.....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9379
430/750 [=========>..... - ETA: 0s - loss: 0.3323 - accuracy:
503/750 [==========>.....] - ETA: 0s - loss: 0.3322 - accuracy:
0.9368
578/750 [===========>.....] - ETA: 0s - loss: 0.3323 - accuracy:
0.9371
0.9376 - val_loss: 0.5152 - val_accuracy: 0.8821
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.2302 - accuracy:
```

```
0.9844
77/750 [==>.....] - ETA: 0s - loss: 0.3328 - accuracy:
0.9371
153/750 [=====>.....] - ETA: 0s - loss: 0.3314 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3281 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3277 - accuracy:
379/750 [========>.....] - ETA: 0s - loss: 0.3258 - accuracy:
453/750 [=========>...... - ETA: 0s - loss: 0.3276 - accuracy:
0.9384
529/750 [=========>.....] - ETA: 0s - loss: 0.3300 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3300 - accuracy:
0.9372
681/750 [=============>...] - ETA: 0s - loss: 0.3309 - accuracy:
0.9369
0.9364 - val_loss: 0.5187 - val_accuracy: 0.8811
Epoch 190/220
1/750 [...... - ETA: 0s - loss: 0.4728 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3272 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.3252 - accuracy:
0.9424
224/750 [======>.....] - ETA: 0s - loss: 0.3246 - accuracy:
301/750 [========>.....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9389
375/750 [========>.....] - ETA: 0s - loss: 0.3281 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3309 - accuracy:
0.9381
526/750 [=========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9379
601/750 [===========>.....] - ETA: 0s - loss: 0.3318 - accuracy:
0.9373
0.9379 - val loss: 0.4993 - val accuracy: 0.8847
Epoch 191/220
1/750 [.....] - ETA: 0s - loss: 0.3877 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.3418 - accuracy:
```

```
0.9347
144/750 [====>.....] - ETA: 0s - loss: 0.3277 - accuracy:
0.9388
215/750 [======>.....] - ETA: 0s - loss: 0.3263 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.3270 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.3284 - accuracy:
0.9379
440/750 [=========>.....] - ETA: 0s - loss: 0.3279 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.3281 - accuracy:
0.9387
587/750 [============>.....] - ETA: 0s - loss: 0.3279 - accuracy:
0.9386
660/750 [============>....] - ETA: 0s - loss: 0.3280 - accuracy:
0.9388
0.9384
0.9385 - val_loss: 0.5459 - val_accuracy: 0.8751
Epoch 192/220
1/750 [...... - ETA: 0s - loss: 0.2611 - accuracy:
0.9688
76/750 [==>.....] - ETA: 0s - loss: 0.3253 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3207 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.3227 - accuracy:
300/750 [========>.....] - ETA: 0s - loss: 0.3302 - accuracy:
0.9378
374/750 [========>.....] - ETA: 0s - loss: 0.3309 - accuracy:
0.9370
449/750 [========>..... - ETA: 0s - loss: 0.3317 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3319 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9371
0.9371
0.9369 - val_loss: 0.5580 - val_accuracy: 0.8686
Epoch 193/220
1/750 [.....] - ETA: 0s - loss: 0.2882 - accuracy:
```

```
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.3398 - accuracy:
0.9367
150/750 [=====>.....] - ETA: 0s - loss: 0.3334 - accuracy:
0.9381
223/750 [======>.....] - ETA: 0s - loss: 0.3327 - accuracy:
0.9374
296/750 [=======>..... - ETA: 0s - loss: 0.3317 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.3301 - accuracy:
447/750 [========>...... - ETA: 0s - loss: 0.3296 - accuracy:
521/750 [==========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9373
585/750 [============>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9370
657/750 [============>....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9366
0.9366 - val loss: 0.5080 - val accuracy: 0.8821
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.3072 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3204 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3324 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3266 - accuracy:
0.9401
303/750 [=======>.....] - ETA: 0s - loss: 0.3247 - accuracy:
0.9406
378/750 [========>.....] - ETA: 0s - loss: 0.3237 - accuracy:
0.9406
456/750 [==========>.....] - ETA: 0s - loss: 0.3272 - accuracy:
0.9393
530/750 [=========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9380
674/750 [=============>....] - ETA: 0s - loss: 0.3298 - accuracy:
0.9384
0.9384 - val_loss: 0.5240 - val_accuracy: 0.8802
Epoch 195/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3021 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3065 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.3165 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9386
297/750 [=======>..... - ETA: 0s - loss: 0.3342 - accuracy:
0.9379
373/750 [========>.....] - ETA: 0s - loss: 0.3329 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.3331 - accuracy:
0.9372
516/750 [==========>.....] - ETA: 0s - loss: 0.3347 - accuracy:
0.9369
590/750 [============>.....] - ETA: 0s - loss: 0.3341 - accuracy:
665/750 [==============>....] - ETA: 0s - loss: 0.3334 - accuracy:
0.9373
740/750 [==============>.] - ETA: 0s - loss: 0.3335 - accuracy:
0.9378
0.9376 - val loss: 0.5013 - val accuracy: 0.8840
Epoch 196/220
1/750 [...... os. - loss: 0.2903 - accuracy:
0.9688
76/750 [==>.....] - ETA: 0s - loss: 0.3303 - accuracy:
0.9391
152/750 [=====>.....] - ETA: 0s - loss: 0.3181 - accuracy:
0.9421
227/750 [======>.....] - ETA: 0s - loss: 0.3191 - accuracy:
0.9423
301/750 [=======>.....] - ETA: 0s - loss: 0.3243 - accuracy:
0.9408
375/750 [========>.....] - ETA: 0s - loss: 0.3273 - accuracy:
0.9389
448/750 [=========>.....] - ETA: 0s - loss: 0.3261 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.3282 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.3296 - accuracy:
674/750 [=============>....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9381
750/750 [============= ] - 1s 830us/step - loss: 0.3298 - accuracy:
```

```
0.9381 - val_loss: 0.5413 - val_accuracy: 0.8758 
Epoch 197/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3623 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.3253 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.3329 - accuracy:
217/750 [=====>.....] - ETA: 0s - loss: 0.3282 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3311 - accuracy:
364/750 [=========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9395
438/750 [=========>..... - ETA: 0s - loss: 0.3318 - accuracy:
0.9385
513/750 [=========>.....] - ETA: 0s - loss: 0.3285 - accuracy:
588/750 [=============>.....] - ETA: 0s - loss: 0.3307 - accuracy:
664/750 [==============>....] - ETA: 0s - loss: 0.3301 - accuracy:
0.9391
750/750 [============= ] - 1s 829us/step - loss: 0.3296 - accuracy:
0.9390 - val_loss: 0.4985 - val_accuracy: 0.8846
Epoch 198/220
 1/750 [...... - 0.3181 - accuracy:
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.3187 - accuracy:
0.9398
148/750 [====>.....] - ETA: 0s - loss: 0.3351 - accuracy:
0.9329
222/750 [=====>.....] - ETA: 0s - loss: 0.3302 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9363
375/750 [========>.....] - ETA: 0s - loss: 0.3360 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.3354 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3329 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.3322 - accuracy:
0.9364
675/750 [============>...] - ETA: 0s - loss: 0.3314 - accuracy:
750/750 [============= ] - 1s 820us/step - loss: 0.3322 - accuracy:
```

```
0.9366 - val_loss: 0.5098 - val_accuracy: 0.8819
Epoch 199/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3021 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3253 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.3202 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.3183 - accuracy:
301/750 [=======>..... - ETA: 0s - loss: 0.3193 - accuracy:
375/750 [========>.....] - ETA: 0s - loss: 0.3226 - accuracy:
0.9419
450/750 [=========>.....] - ETA: 0s - loss: 0.3236 - accuracy:
0.9413
526/750 [=========>.....] - ETA: 0s - loss: 0.3259 - accuracy:
676/750 [============>...] - ETA: 0s - loss: 0.3261 - accuracy:
0.9390 - val loss: 0.5171 - val accuracy: 0.8822
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.3980 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9411
148/750 [====>.....] - ETA: 0s - loss: 0.3237 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3222 - accuracy:
0.9444
272/750 [=======>.....] - ETA: 0s - loss: 0.3246 - accuracy:
0.9429
342/750 [========>.....] - ETA: 0s - loss: 0.3243 - accuracy:
417/750 [========>.....] - ETA: 0s - loss: 0.3258 - accuracy:
493/750 [==========>.....] - ETA: 0s - loss: 0.3307 - accuracy:
561/750 [==============>.....] - ETA: 0s - loss: 0.3304 - accuracy:
0.9391
711/750 [===============>..] - ETA: 0s - loss: 0.3310 - accuracy:
750/750 [============= ] - 1s 850us/step - loss: 0.3306 - accuracy:
```

```
0.9390 - val_loss: 0.5090 - val_accuracy: 0.8827 Epoch 201/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3534 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3263 - accuracy:
0.9421
148/750 [====>...... - ETA: 0s - loss: 0.3212 - accuracy:
0.9431
222/750 [=====>.....] - ETA: 0s - loss: 0.3203 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.3202 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.3185 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.3220 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.3239 - accuracy:
0.9411
592/750 [==============>.....] - ETA: 0s - loss: 0.3250 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.3266 - accuracy:
0.9391
750/750 [============= ] - 1s 822us/step - loss: 0.3285 - accuracy:
0.9391 - val_loss: 0.5132 - val_accuracy: 0.8844
Epoch 202/220
1/750 [...... 0.3493 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.3321 - accuracy:
0.9381
152/750 [====>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9380
227/750 [======>.....] - ETA: 0s - loss: 0.3298 - accuracy:
303/750 [=======>.....] - ETA: 0s - loss: 0.3268 - accuracy:
380/750 [========>.....] - ETA: 0s - loss: 0.3301 - accuracy:
454/750 [=========>.....] - ETA: 0s - loss: 0.3272 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.3278 - accuracy:
682/750 [============>...] - ETA: 0s - loss: 0.3292 - accuracy:
750/750 [============= ] - 1s 817us/step - loss: 0.3294 - accuracy:
```

```
0.9389 - val_loss: 0.5204 - val_accuracy: 0.8827 Epoch 203/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3205 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3247 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.3279 - accuracy:
0.9386
222/750 [=====>.....] - ETA: 0s - loss: 0.3251 - accuracy:
299/750 [=======>..... - ETA: 0s - loss: 0.3288 - accuracy:
0.9391
372/750 [========>.....] - ETA: 0s - loss: 0.3304 - accuracy:
0.9388
447/750 [========>.....] - ETA: 0s - loss: 0.3290 - accuracy:
0.9396
524/750 [=========>.....] - ETA: 0s - loss: 0.3287 - accuracy:
599/750 [=============>.....] - ETA: 0s - loss: 0.3299 - accuracy:
673/750 [=============>....] - ETA: 0s - loss: 0.3300 - accuracy:
0.9384
750/750 [============= ] - 1s 817us/step - loss: 0.3293 - accuracy:
0.9385 - val_loss: 0.5489 - val_accuracy: 0.8685
Epoch 204/220
1/750 [...... 0.2919 - accuracy:
0.9688
75/750 [==>.....] - ETA: 0s - loss: 0.3076 - accuracy:
0.9523
150/750 [=====>.....] - ETA: 0s - loss: 0.3222 - accuracy:
0.9433
226/750 [======>.....] - ETA: 0s - loss: 0.3185 - accuracy:
0.9444
301/750 [=======>.....] - ETA: 0s - loss: 0.3218 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.3241 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3240 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3250 - accuracy:
0.9394
675/750 [============>...] - ETA: 0s - loss: 0.3270 - accuracy:
0.9396
```

```
0.9395
0.9396 - val_loss: 0.5150 - val_accuracy: 0.8809
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.2881 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3079 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3184 - accuracy:
225/750 [======>...... - ETA: 0s - loss: 0.3224 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.3195 - accuracy:
375/750 [=========>.....] - ETA: 0s - loss: 0.3202 - accuracy:
0.9424
450/750 [=========>...... - ETA: 0s - loss: 0.3197 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.3223 - accuracy:
0.9423
597/750 [===========>.....] - ETA: 0s - loss: 0.3254 - accuracy:
0.9409
745/750 [===============>.] - ETA: 0s - loss: 0.3258 - accuracy:
0.9397
750/750 [============= ] - 1s 820us/step - loss: 0.3258 - accuracy:
0.9397 - val_loss: 0.5233 - val_accuracy: 0.8825
Epoch 206/220
1/750 [.....] - ETA: 0s - loss: 0.3052 - accuracy:
0.9375
75/750 [==>.....] - ETA: 0s - loss: 0.3271 - accuracy:
0.9383
151/750 [====>.....] - ETA: 0s - loss: 0.3352 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3309 - accuracy:
0.9381
299/750 [=======>.....] - ETA: 0s - loss: 0.3285 - accuracy:
375/750 [=======>.....] - ETA: 0s - loss: 0.3292 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9377
525/750 [=========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9378
600/750 [===========>.....] - ETA: 0s - loss: 0.3322 - accuracy:
676/750 [============>...] - ETA: 0s - loss: 0.3328 - accuracy:
```

```
0.9376
0.9380 - val loss: 0.5146 - val accuracy: 0.8787
Epoch 207/220
1/750 [.....] - ETA: 0s - loss: 0.2592 - accuracy:
0.9844
76/750 [==>.....] - ETA: 0s - loss: 0.3052 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.3172 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3183 - accuracy:
0.9423
303/750 [========>.....] - ETA: 0s - loss: 0.3229 - accuracy:
0.9411
376/750 [=======>>.....] - ETA: 0s - loss: 0.3222 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.3241 - accuracy:
0.9406
530/750 [=========>.....] - ETA: 0s - loss: 0.3238 - accuracy:
0.9409
0.9404
681/750 [============>...] - ETA: 0s - loss: 0.3262 - accuracy:
750/750 [============= ] - 1s 818us/step - loss: 0.3251 - accuracy:
0.9398 - val_loss: 0.5236 - val_accuracy: 0.8783
Epoch 208/220
1/750 [.....] - ETA: 0s - loss: 0.2580 - accuracy:
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.3171 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3166 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.3210 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.3163 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.3167 - accuracy:
449/750 [========>..... - ETA: 0s - loss: 0.3183 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3207 - accuracy:
0.9421
600/750 [===========>.....] - ETA: 0s - loss: 0.3218 - accuracy:
0.9416
675/750 [===========>...] - ETA: 0s - loss: 0.3246 - accuracy:
```

```
0.9405
750/750 [=============== ] - 1s 820us/step - loss: 0.3266 - accuracy:
0.9395 - val_loss: 0.5222 - val_accuracy: 0.8820
Epoch 209/220
 1/750 [.....] - ETA: 0s - loss: 0.4065 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.3110 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.3220 - accuracy:
228/750 [======>...... - ETA: 0s - loss: 0.3227 - accuracy:
302/750 [========>.....] - ETA: 0s - loss: 0.3208 - accuracy:
0.9417
375/750 [=========>.....] - ETA: 0s - loss: 0.3226 - accuracy:
0.9414
451/750 [=========>...... - ETA: 0s - loss: 0.3260 - accuracy:
524/750 [============>.....] - ETA: 0s - loss: 0.3261 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.3268 - accuracy:
0.9397
673/750 [=============>....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9387
750/750 [============= ] - 1s 820us/step - loss: 0.3280 - accuracy:
0.9387 - val_loss: 0.5085 - val_accuracy: 0.8841
Epoch 210/220
 1/750 [.....] - ETA: 0s - loss: 0.5145 - accuracy:
0.8438
75/750 [==>.....] - ETA: 0s - loss: 0.3127 - accuracy:
0.9446
149/750 [====>.....] - ETA: 0s - loss: 0.3206 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.3243 - accuracy:
0.9396
299/750 [=======>.....] - ETA: 0s - loss: 0.3242 - accuracy:
375/750 [=======>.....] - ETA: 0s - loss: 0.3255 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.3269 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.3265 - accuracy:
0.9384
602/750 [===========>.....] - ETA: 0s - loss: 0.3256 - accuracy:
677/750 [===========>...] - ETA: 0s - loss: 0.3265 - accuracy:
```

```
0.9387
0.9388 - val_loss: 0.5172 - val_accuracy: 0.8827
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.2580 - accuracy:
0.9844
77/750 [==>.....] - ETA: 0s - loss: 0.3312 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.3273 - accuracy:
223/750 [======>...... - ETA: 0s - loss: 0.3235 - accuracy:
300/750 [========>.....] - ETA: 0s - loss: 0.3270 - accuracy:
0.9401
372/750 [=========>.....] - ETA: 0s - loss: 0.3247 - accuracy:
0.9404
449/750 [========>...... - ETA: 0s - loss: 0.3259 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.3276 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9388
673/750 [=============>....] - ETA: 0s - loss: 0.3287 - accuracy:
750/750 [============= ] - 1s 822us/step - loss: 0.3279 - accuracy:
0.9395 - val_loss: 0.5746 - val_accuracy: 0.8664
Epoch 212/220
1/750 [.....] - ETA: 0s - loss: 0.2949 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3231 - accuracy:
0.9438
150/750 [====>.....] - ETA: 0s - loss: 0.3249 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3225 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3289 - accuracy:
375/750 [========>.....] - ETA: 0s - loss: 0.3304 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.3301 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3286 - accuracy:
0.9391
598/750 [===========>.....] - ETA: 0s - loss: 0.3266 - accuracy:
671/750 [=============>....] - ETA: 0s - loss: 0.3266 - accuracy:
```

```
0.9399 - val_loss: 0.5399 - val_accuracy: 0.8726
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.3722 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3132 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.3213 - accuracy:
0.9424
224/750 [======>.....] - ETA: 0s - loss: 0.3192 - accuracy:
300/750 [========>.....] - ETA: 0s - loss: 0.3240 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.3229 - accuracy:
0.9406
448/750 [=========>.....] - ETA: 0s - loss: 0.3256 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3265 - accuracy:
0.9394
597/750 [============>.....] - ETA: 0s - loss: 0.3292 - accuracy:
0.9387 - val loss: 0.5140 - val accuracy: 0.8804
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.2841 - accuracy:
0.9375
75/750 [==>.....] - ETA: 0s - loss: 0.3122 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.3106 - accuracy:
0.9468
225/750 [======>.....] - ETA: 0s - loss: 0.3183 - accuracy:
0.9449
300/750 [=======>.....] - ETA: 0s - loss: 0.3189 - accuracy:
375/750 [========>>.....] - ETA: 0s - loss: 0.3206 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.3200 - accuracy:
0.9426
523/750 [=========>.....] - ETA: 0s - loss: 0.3222 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.3240 - accuracy:
```

```
0.9407
750/750 [================ ] - 1s 818us/step - loss: 0.3249 - accuracy:
0.9402 - val loss: 0.5144 - val accuracy: 0.8864
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.2949 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3154 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.3208 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.3242 - accuracy:
303/750 [========>.....] - ETA: 0s - loss: 0.3238 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.3246 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.3223 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.3240 - accuracy:
0.9414
0.9409 - val loss: 0.4927 - val accuracy: 0.8868
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.2870 - accuracy:
0.9375
75/750 [==>.....] - ETA: 0s - loss: 0.2997 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.3199 - accuracy:
0.9456
226/750 [======>.....] - ETA: 0s - loss: 0.3157 - accuracy:
0.9453
298/750 [=======>.....] - ETA: 0s - loss: 0.3182 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.3191 - accuracy:
447/750 [========>..... - ETA: 0s - loss: 0.3196 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3205 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.3216 - accuracy:
```

```
0.9415 - val loss: 0.5156 - val accuracy: 0.8838
Epoch 217/220
1/750 [.....] - ETA: 0s - loss: 0.2960 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3208 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.3167 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.3164 - accuracy:
0.9426
302/750 [========>.....] - ETA: 0s - loss: 0.3257 - accuracy:
0.9401
377/750 [========>.....] - ETA: 0s - loss: 0.3253 - accuracy:
0.9407
451/750 [=========>.....] - ETA: 0s - loss: 0.3272 - accuracy:
0.9396
526/750 [==========>.....] - ETA: 0s - loss: 0.3267 - accuracy:
0.9391
0.9379
0.9379 - val_loss: 0.5133 - val_accuracy: 0.8863
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.3339 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3225 - accuracy:
0.9421
147/750 [====>.....] - ETA: 0s - loss: 0.3219 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3185 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.3225 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.3220 - accuracy:
447/750 [========>..... - ETA: 0s - loss: 0.3227 - accuracy:
0.9396
521/750 [===========>.....] - ETA: 0s - loss: 0.3215 - accuracy:
```

```
0.9404
595/750 [============>.....] - ETA: 0s - loss: 0.3226 - accuracy:
670/750 [============>....] - ETA: 0s - loss: 0.3238 - accuracy:
0.9397
0.9388
0.9388 - val loss: 0.5844 - val accuracy: 0.8592
Epoch 219/220
1/750 [...... - ETA: 0s - loss: 0.3869 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3343 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.3322 - accuracy:
224/750 [======>...... - ETA: 0s - loss: 0.3291 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.3297 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9384
446/750 [========>...... - ETA: 0s - loss: 0.3273 - accuracy:
0.9390
521/750 [===========>.....] - ETA: 0s - loss: 0.3252 - accuracy:
0.9395
593/750 [============>.....] - ETA: 0s - loss: 0.3260 - accuracy:
666/750 [============>....] - ETA: 0s - loss: 0.3260 - accuracy:
750/750 [================ ] - 1s 829us/step - loss: 0.3268 - accuracy:
0.9393 - val loss: 0.5093 - val accuracy: 0.8834
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.4404 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.3302 - accuracy:
0.9377
149/750 [====>.....] - ETA: 0s - loss: 0.3317 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.3216 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.3227 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.3210 - accuracy:
0.9421
447/750 [=========>.....] - ETA: 0s - loss: 0.3226 - accuracy:
```

```
0.9418
521/750 [===========>.....] - ETA: 0s - loss: 0.3244 - accuracy:
0.9411
596/750 [===========>.....] - ETA: 0s - loss: 0.3264 - accuracy:
0.9401
0.9400 - val loss: 0.5068 - val accuracy: 0.8867
1/313 [.....] - ETA: 3s - loss: 0.4295 - accuracy:
107/313 [=======>.....] - ETA: 0s - loss: 0.5261 - accuracy:
0.8841
216/313 [===========>.....] - ETA: 0s - loss: 0.5404 - accuracy:
0.8776
0.8779
Testing loss: 0.5339998006820679
Testing accuracy: 87.79000043869019%
```

Running for Model 5/12

Model: "sequential 5"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 40)	31400
hidden1 (Dense)	(None, 40)	1640
hidden2 (Dense)	(None, 40)	1640
hidden3 (Dense)	(None, 40)	1640
hidden4 (Dense)	(None, 40)	1640
hidden5 (Dense)	(None, 40)	1640
output_layer (Dense)	(None, 10)	410

Total params: 40,010 Trainable params: 40,010 Non-trainable params: 0

```
L2 REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 40,
'activation function': 'relu', 'input shape': (784,)}, {'name': 'hidden1', 'size':
40, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden5', 'size': 40,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation_function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 2:19 - loss: 2.5915 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 2.5760 - accuracy: 0.1027
163/750 [=====>.....] - ETA: 0s - loss: 2.5339 - accuracy:
243/750 [======>.....] - ETA: 0s - loss: 2.4474 - accuracy:
0.2036
324/750 [=======>..... - ETA: 0s - loss: 2.3166 - accuracy:
410/750 [========>.....] - ETA: 0s - loss: 2.1616 - accuracy:
0.3171
491/750 [=========>.....] - ETA: 0s - loss: 2.0246 - accuracy:
574/750 [==========>.....] - ETA: 0s - loss: 1.9093 - accuracy:
0.4103
0.4739
0.4768 - val_loss: 1.0532 - val_accuracy: 0.7131
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 1.0187 - accuracy:
0.7031
78/750 [==>.....] - ETA: 0s - loss: 1.0281 - accuracy:
159/750 [====>.....] - ETA: 0s - loss: 1.0345 - accuracy:
0.7265
243/750 [======>.....] - ETA: 0s - loss: 1.0313 - accuracy:
0.7279
325/750 [=======>.....] - ETA: 0s - loss: 1.0202 - accuracy:
408/750 [========>..... - ETA: 0s - loss: 1.0105 - accuracy:
494/750 [==========>.....] - ETA: 0s - loss: 0.9997 - accuracy:
0.7391
574/750 [==========>.....] - ETA: 0s - loss: 0.9891 - accuracy:
```

```
656/750 [=============>....] - ETA: 0s - loss: 0.9787 - accuracy:
0.7467
0.7487
0.7491 - val_loss: 0.9119 - val_accuracy: 0.7635
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 0.8135 - accuracy:
0.7969
83/750 [==>.....] - ETA: 0s - loss: 0.9081 - accuracy:
0.7786
164/750 [====>.....] - ETA: 0s - loss: 0.9080 - accuracy:
253/750 [======>..... - ETA: 0s - loss: 0.8979 - accuracy:
0.7794
339/750 [========>.....] - ETA: 0s - loss: 0.8886 - accuracy:
0.7819
427/750 [==========>.....] - ETA: 0s - loss: 0.8859 - accuracy:
0.7838
515/750 [=========>.....] - ETA: 0s - loss: 0.8797 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.8740 - accuracy:
0.7887
684/750 [=============>...] - ETA: 0s - loss: 0.8715 - accuracy:
0.7900
0.7912 - val loss: 0.8476 - val accuracy: 0.8021
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 0.9071 - accuracy:
0.7969
83/750 [==>.....] - ETA: 0s - loss: 0.8177 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.8219 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.8199 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.8158 - accuracy:
0.8126
431/750 [=========>..... - ETA: 0s - loss: 0.8126 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.8111 - accuracy:
0.8143
688/750 [============>...] - ETA: 0s - loss: 0.8124 - accuracy:
750/750 [================ ] - 1s 718us/step - loss: 0.8120 - accuracy:
0.8133 - val_loss: 0.7883 - val_accuracy: 0.8249
```

```
1/750 [.....] - ETA: 0s - loss: 0.9971 - accuracy:
0.7344
90/750 [==>.....] - ETA: 0s - loss: 0.7966 - accuracy:
0.8196
174/750 [=====>.....] - ETA: 0s - loss: 0.7879 - accuracy:
0.8207
259/750 [======>..... - ETA: 0s - loss: 0.7881 - accuracy:
0.8190
344/750 [========>......] - ETA: 0s - loss: 0.7814 - accuracy:
0.8227
429/750 [=========>.....] - ETA: 0s - loss: 0.7859 - accuracy:
516/750 [============>.....] - ETA: 0s - loss: 0.7809 - accuracy:
596/750 [=============>.....] - ETA: 0s - loss: 0.7807 - accuracy:
750/750 [================ ] - 1s 722us/step - loss: 0.7776 - accuracy:
0.8236 - val_loss: 0.7928 - val_accuracy: 0.8185
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 0.6665 - accuracy:
0.8281
89/750 [==>.....] - ETA: 0s - loss: 0.7552 - accuracy:
0.8278
172/750 [====>.....] - ETA: 0s - loss: 0.7581 - accuracy:
0.8251
256/750 [=======>.....] - ETA: 0s - loss: 0.7633 - accuracy:
0.8271
343/750 [=======>.....] - ETA: 0s - loss: 0.7588 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.7569 - accuracy:
516/750 [========>.....] - ETA: 0s - loss: 0.7565 - accuracy:
0.8294
597/750 [===========>.....] - ETA: 0s - loss: 0.7551 - accuracy:
0.8322 - val loss: 0.7421 - val accuracy: 0.8357
Epoch 7/220
1/750 [...... 0.6364 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.7167 - accuracy:
```

```
174/750 [====>...... - ETA: 0s - loss: 0.7283 - accuracy:
0.8371
261/750 [=======>.....] - ETA: 0s - loss: 0.7295 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.7333 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.7324 - accuracy:
0.8357
519/750 [=========>.....] - ETA: 0s - loss: 0.7297 - accuracy:
0.8361
605/750 [===========>.....] - ETA: 0s - loss: 0.7285 - accuracy:
750/750 [=============== ] - 1s 713us/step - loss: 0.7264 - accuracy:
0.8385 - val loss: 0.7317 - val accuracy: 0.8374
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 0.8089 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.6916 - accuracy:
165/750 [=====>.....] - ETA: 0s - loss: 0.7023 - accuracy:
252/750 [=======>.....] - ETA: 0s - loss: 0.7101 - accuracy:
341/750 [=======>.....] - ETA: 0s - loss: 0.7117 - accuracy:
426/750 [==========>.....] - ETA: 0s - loss: 0.7111 - accuracy:
0.8459
513/750 [===========>.....] - ETA: 0s - loss: 0.7137 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.7128 - accuracy:
688/750 [============>...] - ETA: 0s - loss: 0.7079 - accuracy:
0.8465 - val_loss: 0.7142 - val_accuracy: 0.8413
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 0.7331 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.7112 - accuracy:
175/750 [=====>...... - ETA: 0s - loss: 0.6981 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.6945 - accuracy:
0.8481
347/750 [=======>.....] - ETA: 0s - loss: 0.6971 - accuracy:
0.8461
```

```
433/750 [=========>.....] - ETA: 0s - loss: 0.6963 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.6945 - accuracy:
0.8487
0.8484
750/750 [============= ] - 1s 713us/step - loss: 0.6908 - accuracy:
0.8485 - val loss: 0.6805 - val accuracy: 0.8526
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 0.7844 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6694 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.6702 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.6748 - accuracy:
350/750 [=======>...... - ETA: 0s - loss: 0.6737 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.6740 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.6739 - accuracy:
0.8545
613/750 [===========>.....] - ETA: 0s - loss: 0.6739 - accuracy:
750/750 [=============== ] - 1s 706us/step - loss: 0.6750 - accuracy:
0.8537 - val_loss: 0.6752 - val_accuracy: 0.8526
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 0.5700 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.6692 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.6555 - accuracy:
0.8591
250/750 [=======>.....] - ETA: 0s - loss: 0.6637 - accuracy:
335/750 [=======>.....] - ETA: 0s - loss: 0.6621 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.6610 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.6632 - accuracy:
590/750 [===========>.....] - ETA: 0s - loss: 0.6655 - accuracy:
0.8546
```

```
678/750 [============>...] - ETA: 0s - loss: 0.6625 - accuracy:
0.8561
750/750 [=============== ] - 1s 726us/step - loss: 0.6610 - accuracy:
0.8567 - val loss: 0.6612 - val accuracy: 0.8576
Epoch 12/220
 1/750 [.....] - ETA: 0s - loss: 0.6661 - accuracy:
0.8594
83/750 [==>.....] - ETA: 0s - loss: 0.6610 - accuracy:
0.8579
169/750 [====>.....] - ETA: 0s - loss: 0.6573 - accuracy:
255/750 [======>.....] - ETA: 0s - loss: 0.6530 - accuracy:
0.8589
341/750 [=======>.....] - ETA: 0s - loss: 0.6487 - accuracy:
0.8609
426/750 [=========>.....] - ETA: 0s - loss: 0.6519 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.6519 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.6489 - accuracy:
0.8604
750/750 [================ ] - 1s 724us/step - loss: 0.6480 - accuracy:
0.8600 - val loss: 0.6654 - val accuracy: 0.8522
Epoch 13/220
 1/750 [................] - ETA: 0s - loss: 0.5864 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.6194 - accuracy:
166/750 [====>.....] - ETA: 0s - loss: 0.6363 - accuracy:
254/750 [======>..... - ETA: 0s - loss: 0.6358 - accuracy:
336/750 [=======>.....] - ETA: 0s - loss: 0.6354 - accuracy:
0.8636
420/750 [========>....] - ETA: 0s - loss: 0.6365 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.6343 - accuracy:
0.8641
592/750 [===========>.....] - ETA: 0s - loss: 0.6350 - accuracy:
0.8624
750/750 [================ ] - 1s 726us/step - loss: 0.6372 - accuracy:
0.8621 - val_loss: 0.6835 - val_accuracy: 0.8475
Epoch 14/220
```

```
1/750 [...... - ETA: 0s - loss: 0.6449 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.6168 - accuracy:
172/750 [=====>......] - ETA: 0s - loss: 0.6077 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.6205 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.6229 - accuracy:
0.8681
430/750 [=========>.....] - ETA: 0s - loss: 0.6236 - accuracy:
515/750 [==========>.....] - ETA: 0s - loss: 0.6273 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 0.6244 - accuracy:
0.8654 - val loss: 0.6392 - val accuracy: 0.8608
Epoch 15/220
1/750 [.....] - ETA: 0s - loss: 0.6276 - accuracy:
0.8594
86/750 [==>.....] - ETA: 0s - loss: 0.6164 - accuracy:
170/750 [====>.....] - ETA: 0s - loss: 0.6169 - accuracy:
0.8677
254/750 [=======>.....] - ETA: 0s - loss: 0.6181 - accuracy:
0.8677
338/750 [========>.....] - ETA: 0s - loss: 0.6212 - accuracy:
425/750 [=========>.....] - ETA: 0s - loss: 0.6217 - accuracy:
0.8663
512/750 [=========>.....] - ETA: 0s - loss: 0.6161 - accuracy:
0.8681
596/750 [===========>.....] - ETA: 0s - loss: 0.6155 - accuracy:
0.8681
681/750 [============>...] - ETA: 0s - loss: 0.6145 - accuracy:
0.8685
750/750 [================ ] - 1s 724us/step - loss: 0.6144 - accuracy:
0.8687 - val loss: 0.6603 - val accuracy: 0.8517
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 0.5169 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.6220 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.6228 - accuracy:
0.8676
```

```
258/750 [=======>.....] - ETA: 0s - loss: 0.6168 - accuracy:
0.8685
345/750 [========>.....] - ETA: 0s - loss: 0.6122 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.6074 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.6069 - accuracy:
0.8706
608/750 [===========>.....] - ETA: 0s - loss: 0.6057 - accuracy:
0.8706
697/750 [============>...] - ETA: 0s - loss: 0.6055 - accuracy:
0.8706
0.8708 - val loss: 0.6474 - val accuracy: 0.8559
Epoch 17/220
1/750 [.....] - ETA: 0s - loss: 0.7792 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6032 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.5957 - accuracy:
0.8698
265/750 [=======>.....] - ETA: 0s - loss: 0.5908 - accuracy:
0.8734
350/750 [=======>.....] - ETA: 0s - loss: 0.5881 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.5932 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.5957 - accuracy:
0.8710 - val_loss: 0.6115 - val_accuracy: 0.8658
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.4632 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.6056 - accuracy:
0.8687
175/750 [=====>.....] - ETA: 0s - loss: 0.5943 - accuracy:
0.8721
263/750 [======>..... - ETA: 0s - loss: 0.5835 - accuracy:
0.8754
351/750 [=======>.....] - ETA: 0s - loss: 0.5872 - accuracy:
436/750 [=========>...... - ETA: 0s - loss: 0.5832 - accuracy:
```

```
526/750 [==========>.....] - ETA: 0s - loss: 0.5868 - accuracy:
0.8739
0.8744
0.8731 - val_loss: 0.6337 - val_accuracy: 0.8565
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 0.7153 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5721 - accuracy:
0.8896
171/750 [====>...... - ETA: 0s - loss: 0.5690 - accuracy:
0.8801
258/750 [=======>.....] - ETA: 0s - loss: 0.5727 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.5748 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5760 - accuracy:
0.8768
520/750 [==========>.....] - ETA: 0s - loss: 0.5758 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.5786 - accuracy:
0.8760 - val_loss: 0.6045 - val_accuracy: 0.8693
Epoch 20/220
1/750 [.....] - ETA: 0s - loss: 0.5610 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5698 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5696 - accuracy:
0.8739
260/750 [======>.....] - ETA: 0s - loss: 0.5733 - accuracy:
0.8716
348/750 [========>.....] - ETA: 0s - loss: 0.5762 - accuracy:
436/750 [==========>.....] - ETA: 0s - loss: 0.5752 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.5716 - accuracy:
0.8743
```

```
0.8750 - val loss: 0.6010 - val accuracy: 0.8648
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 0.4749 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5631 - accuracy:
0.8821
176/750 [=====>...... - ETA: 0s - loss: 0.5591 - accuracy:
0.8818
262/750 [=======>.....] - ETA: 0s - loss: 0.5597 - accuracy:
0.8798
352/750 [=======>.....] - ETA: 0s - loss: 0.5622 - accuracy:
0.8796
438/750 [==========>.....] - ETA: 0s - loss: 0.5627 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.5643 - accuracy:
0.8777
0.8779
0.8783 - val_loss: 0.5911 - val_accuracy: 0.8679
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.5455 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5757 - accuracy:
0.8743
178/750 [=====>.....] - ETA: 0s - loss: 0.5613 - accuracy:
0.8771
262/750 [=======>.....] - ETA: 0s - loss: 0.5591 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.5577 - accuracy:
0.8789
436/750 [========>.....] - ETA: 0s - loss: 0.5579 - accuracy:
0.8774
520/750 [=========>.....] - ETA: 0s - loss: 0.5583 - accuracy:
0.8769
693/750 [===============>...] - ETA: 0s - loss: 0.5553 - accuracy:
0.8788 - val loss: 0.5900 - val accuracy: 0.8673
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.5558 - accuracy:
```

```
88/750 [==>...... - ETA: 0s - loss: 0.5626 - accuracy:
0.8734
175/750 [=====>.....] - ETA: 0s - loss: 0.5643 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.5589 - accuracy:
0.8743
349/750 [=======>.....] - ETA: 0s - loss: 0.5567 - accuracy:
0.8753
439/750 [=========>..... - ETA: 0s - loss: 0.5539 - accuracy:
0.8770
526/750 [=========>.....] - ETA: 0s - loss: 0.5529 - accuracy:
0.8777
0.8795 - val loss: 0.5909 - val_accuracy: 0.8622
Epoch 24/220
1/750 [...... - ETA: 0s - loss: 0.3875 - accuracy:
0.9688
86/750 [==>.....] - ETA: 0s - loss: 0.5398 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5462 - accuracy:
263/750 [======>.....] - ETA: 0s - loss: 0.5427 - accuracy:
0.8821
350/750 [=======>.....] - ETA: 0s - loss: 0.5425 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5428 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.5439 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.5447 - accuracy:
696/750 [============>...] - ETA: 0s - loss: 0.5432 - accuracy:
0.8819
750/750 [============== ] - 1s 709us/step - loss: 0.5444 - accuracy:
0.8819 - val_loss: 0.5790 - val_accuracy: 0.8700
Epoch 25/220
1/750 [...... os - loss: 0.7429 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5375 - accuracy:
0.8876
175/750 [=====>.....] - ETA: 0s - loss: 0.5399 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.5380 - accuracy:
```

```
349/750 [========>.....] - ETA: 0s - loss: 0.5395 - accuracy:
0.8845
436/750 [=========>.....] - ETA: 0s - loss: 0.5358 - accuracy:
0.8854
526/750 [=========>.....] - ETA: 0s - loss: 0.5351 - accuracy:
0.8850
612/750 [===========>.....] - ETA: 0s - loss: 0.5374 - accuracy:
0.8843
699/750 [============>...] - ETA: 0s - loss: 0.5375 - accuracy:
0.8841
750/750 [============= ] - 1s 709us/step - loss: 0.5369 - accuracy:
0.8841 - val_loss: 0.5691 - val_accuracy: 0.8717
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.6848 - accuracy:
0.8281
90/750 [==>....... - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.5354 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.5345 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.5334 - accuracy:
439/750 [=========>..... - ETA: 0s - loss: 0.5317 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.5317 - accuracy:
0.8854
0.8859
0.8861 - val loss: 0.5935 - val accuracy: 0.8609
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.6567 - accuracy:
0.8281
91/750 [==>...... - ETA: 0s - loss: 0.5419 - accuracy:
0.8817
175/750 [=====>.....] - ETA: 0s - loss: 0.5271 - accuracy:
0.8876
262/750 [======>..... - ETA: 0s - loss: 0.5260 - accuracy:
0.8879
352/750 [=======>.....] - ETA: 0s - loss: 0.5252 - accuracy:
0.8876
439/750 [========>.....] - ETA: 0s - loss: 0.5245 - accuracy:
0.8873
527/750 [=========>.....] - ETA: 0s - loss: 0.5241 - accuracy:
0.8872
```

```
614/750 [===========>.....] - ETA: 0s - loss: 0.5241 - accuracy:
0.8863
750/750 [================ ] - 1s 706us/step - loss: 0.5247 - accuracy:
0.8860 - val_loss: 0.5791 - val_accuracy: 0.8690
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.6111 - accuracy:
0.8594
86/750 [==>.....] - ETA: 0s - loss: 0.5264 - accuracy:
0.8877
173/750 [====>.....] - ETA: 0s - loss: 0.5122 - accuracy:
0.8911
257/750 [======>..... - ETA: 0s - loss: 0.5160 - accuracy:
0.8887
345/750 [========>.....] - ETA: 0s - loss: 0.5138 - accuracy:
429/750 [==========>.....] - ETA: 0s - loss: 0.5162 - accuracy:
0.8873
515/750 [=========>.....] - ETA: 0s - loss: 0.5182 - accuracy:
691/750 [=============>...] - ETA: 0s - loss: 0.5197 - accuracy:
0.8859 - val loss: 0.5672 - val accuracy: 0.8687
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.5178 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5005 - accuracy:
0.8924
177/750 [=====>.....] - ETA: 0s - loss: 0.5090 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.5122 - accuracy:
0.8885
346/750 [========>.....] - ETA: 0s - loss: 0.5155 - accuracy:
0.8871
433/750 [=========>..... - ETA: 0s - loss: 0.5147 - accuracy:
519/750 [========>.....] - ETA: 0s - loss: 0.5185 - accuracy:
0.8868
693/750 [============>...] - ETA: 0s - loss: 0.5180 - accuracy:
0.8861
750/750 [================ ] - 1s 713us/step - loss: 0.5159 - accuracy:
0.8867 - val_loss: 0.5601 - val_accuracy: 0.8743
```

```
1/750 [.....] - ETA: 0s - loss: 0.4481 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5095 - accuracy:
0.8897
168/750 [=====>...... - ETA: 0s - loss: 0.5052 - accuracy:
254/750 [======>..... - ETA: 0s - loss: 0.5023 - accuracy:
0.8915
341/750 [========>......] - ETA: 0s - loss: 0.5015 - accuracy:
0.8928
428/750 [=========>.....] - ETA: 0s - loss: 0.5060 - accuracy:
516/750 [============>.....] - ETA: 0s - loss: 0.5076 - accuracy:
750/750 [================ ] - 1s 715us/step - loss: 0.5089 - accuracy:
0.8895 - val_loss: 0.5518 - val_accuracy: 0.8767
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.5054 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4933 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.4980 - accuracy:
0.8928
263/750 [=======>.....] - ETA: 0s - loss: 0.5015 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.4969 - accuracy:
0.8928
438/750 [=========>.....] - ETA: 0s - loss: 0.5003 - accuracy:
524/750 [========>:....] - ETA: 0s - loss: 0.5028 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.5041 - accuracy:
0.8899
0.8897 - val loss: 0.5700 - val accuracy: 0.8681
Epoch 32/220
1/750 [.....] - ETA: 0s - loss: 0.3825 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4853 - accuracy:
0.8895
```

```
171/750 [====>...... - ETA: 0s - loss: 0.5011 - accuracy:
0.8897
257/750 [=======>.....] - ETA: 0s - loss: 0.5020 - accuracy:
0.8898
345/750 [=======>.....] - ETA: 0s - loss: 0.5000 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.4998 - accuracy:
0.8912
519/750 [=========>.....] - ETA: 0s - loss: 0.5009 - accuracy:
0.8905
607/750 [===========>.....] - ETA: 0s - loss: 0.5010 - accuracy:
0.8896
696/750 [============>...] - ETA: 0s - loss: 0.4994 - accuracy:
750/750 [================ ] - 1s 713us/step - loss: 0.5003 - accuracy:
0.8904 - val loss: 0.5605 - val accuracy: 0.8701
Epoch 33/220
 1/750 [.....] - ETA: 0s - loss: 0.5113 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.4799 - accuracy:
0.8993
169/750 [====>.....] - ETA: 0s - loss: 0.4853 - accuracy:
0.8962
254/750 [=======>.....] - ETA: 0s - loss: 0.4922 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.4939 - accuracy:
0.8927
427/750 [==========>.....] - ETA: 0s - loss: 0.4961 - accuracy:
0.8923
512/750 [==========>.....] - ETA: 0s - loss: 0.4961 - accuracy:
0.8917
596/750 [=============>.....] - ETA: 0s - loss: 0.4971 - accuracy:
682/750 [============>...] - ETA: 0s - loss: 0.4971 - accuracy:
0.8916
750/750 [============= ] - 1s 728us/step - loss: 0.4961 - accuracy:
0.8916 - val_loss: 0.5683 - val_accuracy: 0.8671
Epoch 34/220
 1/750 [.....] - ETA: 0s - loss: 0.6133 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.5012 - accuracy:
166/750 [====>...... - ETA: 0s - loss: 0.4986 - accuracy:
0.8924
254/750 [=======>.....] - ETA: 0s - loss: 0.5005 - accuracy:
0.8904
339/750 [=======>.....] - ETA: 0s - loss: 0.4983 - accuracy:
0.8899
```

```
423/750 [========>..... - ETA: 0s - loss: 0.4953 - accuracy:
0.8915
507/750 [===========>.....] - ETA: 0s - loss: 0.4953 - accuracy:
592/750 [============>.....] - ETA: 0s - loss: 0.4925 - accuracy:
0.8920
0.8917
0.8918 - val loss: 0.5902 - val accuracy: 0.8602
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.4060 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.4852 - accuracy:
0.8964
170/750 [====>.....] - ETA: 0s - loss: 0.4898 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.4878 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.4834 - accuracy:
0.8927
428/750 [=========>.....] - ETA: 0s - loss: 0.4853 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.4883 - accuracy:
0.8909
597/750 [=============>.....] - ETA: 0s - loss: 0.4880 - accuracy:
0.8917
0.8923
0.8925 - val_loss: 0.5300 - val_accuracy: 0.8783
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.4372 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.4895 - accuracy:
0.8919
172/750 [====>.....] - ETA: 0s - loss: 0.4880 - accuracy:
0.8920
254/750 [=======>.....] - ETA: 0s - loss: 0.4800 - accuracy:
339/750 [=======>.....] - ETA: 0s - loss: 0.4782 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.4775 - accuracy:
0.8959
510/750 [==========>.....] - ETA: 0s - loss: 0.4833 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.4853 - accuracy:
```

```
0.8938 - val loss: 0.5419 - val accuracy: 0.8732
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.5444 - accuracy:
0.8594
86/750 [==>.....] - ETA: 0s - loss: 0.4751 - accuracy:
0.8970
174/750 [====>.....] - ETA: 0s - loss: 0.4697 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.4696 - accuracy:
0.8985
349/750 [=======>.....] - ETA: 0s - loss: 0.4726 - accuracy:
0.8968
437/750 [=========>.....] - ETA: 0s - loss: 0.4744 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.4774 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.4763 - accuracy:
750/750 [=============== ] - 1s 712us/step - loss: 0.4773 - accuracy:
0.8949 - val loss: 0.5353 - val accuracy: 0.8758
Epoch 38/220
1/750 [................] - ETA: 0s - loss: 0.4286 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.4784 - accuracy:
172/750 [=====>.....] - ETA: 0s - loss: 0.4837 - accuracy:
0.8961
262/750 [=======>..... - ETA: 0s - loss: 0.4815 - accuracy:
349/750 [=======>:....] - ETA: 0s - loss: 0.4817 - accuracy:
0.8939
436/750 [=========>.....] - ETA: 0s - loss: 0.4822 - accuracy:
0.8931
523/750 [=========>.......] - ETA: 0s - loss: 0.4821 - accuracy:
0.8936
612/750 [===========>.....] - ETA: 0s - loss: 0.4788 - accuracy:
700/750 [==============>..] - ETA: 0s - loss: 0.4768 - accuracy:
0.8954
0.8953 - val_loss: 0.5294 - val_accuracy: 0.8773
Epoch 39/220
```

```
1/750 [...... - ETA: 0s - loss: 0.5632 - accuracy:
0.8438
87/750 [==>.....] - ETA: 0s - loss: 0.4868 - accuracy:
0.8931
176/750 [=====>.....] - ETA: 0s - loss: 0.4728 - accuracy:
0.8991
264/750 [=======>......] - ETA: 0s - loss: 0.4706 - accuracy:
0.8993
351/750 [========>.....] - ETA: 0s - loss: 0.4718 - accuracy:
0.8980
434/750 [=========>.....] - ETA: 0s - loss: 0.4730 - accuracy:
0.8968
522/750 [==========>.....] - ETA: 0s - loss: 0.4722 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.4748 - accuracy:
0.8955 - val loss: 0.5438 - val accuracy: 0.8722
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.5558 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4518 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.4615 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.4618 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.4649 - accuracy:
0.8981
432/750 [=========>.....] - ETA: 0s - loss: 0.4649 - accuracy:
0.8979
517/750 [=========>.....] - ETA: 0s - loss: 0.4660 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.4662 - accuracy:
0.8977
686/750 [============>...] - ETA: 0s - loss: 0.4693 - accuracy:
0.8965
750/750 [================ ] - 1s 718us/step - loss: 0.4689 - accuracy:
0.8965 - val loss: 0.5271 - val accuracy: 0.8798
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.5564 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.4572 - accuracy:
169/750 [====>...... - ETA: 0s - loss: 0.4598 - accuracy:
0.9004
```

```
252/750 [=======>..... - ETA: 0s - loss: 0.4615 - accuracy:
0.9007
336/750 [========>.....] - ETA: 0s - loss: 0.4616 - accuracy:
0.9011
420/750 [========>...... - ETA: 0s - loss: 0.4657 - accuracy:
0.8988
506/750 [===========>.....] - ETA: 0s - loss: 0.4647 - accuracy:
0.8986
593/750 [===========>.....] - ETA: 0s - loss: 0.4640 - accuracy:
0.8985
678/750 [============>...] - ETA: 0s - loss: 0.4644 - accuracy:
0.8980
0.8976 - val loss: 0.5237 - val accuracy: 0.8776
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.3620 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4627 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.4573 - accuracy:
0.8998
256/750 [=======>.....] - ETA: 0s - loss: 0.4548 - accuracy:
0.9006
345/750 [========>.....] - ETA: 0s - loss: 0.4540 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.4575 - accuracy:
0.8996
519/750 [===========>.....] - ETA: 0s - loss: 0.4575 - accuracy:
0.8998
609/750 [============:::....] - ETA: 0s - loss: 0.4593 - accuracy:
0.8994
696/750 [===========>...] - ETA: 0s - loss: 0.4602 - accuracy:
0.8990 - val_loss: 0.5258 - val_accuracy: 0.8764
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.4445 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4539 - accuracy:
0.9007
175/750 [=====>.....] - ETA: 0s - loss: 0.4514 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.4582 - accuracy:
0.8991
346/750 [========>.....] - ETA: 0s - loss: 0.4590 - accuracy:
0.8980
432/750 [=========>..... - ETA: 0s - loss: 0.4593 - accuracy:
0.8974
```

```
522/750 [=========>.....] - ETA: 0s - loss: 0.4605 - accuracy:
0.8968
0.8984 - val_loss: 0.5208 - val_accuracy: 0.8808
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.4641 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.4542 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.4434 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.4434 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.4517 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.4547 - accuracy:
0.8998
522/750 [==========>.....] - ETA: 0s - loss: 0.4558 - accuracy:
0.8996
612/750 [============>.....] - ETA: 0s - loss: 0.4560 - accuracy:
0.8990
0.8993 - val_loss: 0.5217 - val_accuracy: 0.8748
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.4133 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.4428 - accuracy:
0.9026
173/750 [====>...... - ETA: 0s - loss: 0.4467 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.4440 - accuracy:
0.9031
343/750 [========>.....] - ETA: 0s - loss: 0.4486 - accuracy:
0.9011
432/750 [=========>..... - ETA: 0s - loss: 0.4501 - accuracy:
0.9011
513/750 [===========>.....] - ETA: 0s - loss: 0.4505 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.4503 - accuracy:
```

```
750/750 [=============== ] - 1s 720us/step - loss: 0.4519 - accuracy:
0.9003 - val loss: 0.5236 - val accuracy: 0.8765
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.4865 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.4627 - accuracy:
0.8948
178/750 [=====>...... - ETA: 0s - loss: 0.4483 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.4452 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.4482 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.4483 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.4491 - accuracy:
703/750 [==============>..] - ETA: 0s - loss: 0.4495 - accuracy:
0.9016 - val_loss: 0.5283 - val_accuracy: 0.8743
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.4245 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.4599 - accuracy:
0.8967
171/750 [=====>.....] - ETA: 0s - loss: 0.4494 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.4465 - accuracy:
0.9003
344/750 [========>.....] - ETA: 0s - loss: 0.4444 - accuracy:
434/750 [========>.....] - ETA: 0s - loss: 0.4439 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.4428 - accuracy:
695/750 [==============>...] - ETA: 0s - loss: 0.4449 - accuracy:
0.9015 - val loss: 0.5121 - val accuracy: 0.8795
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.2777 - accuracy:
```

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86/750 [==>...... - ETA: 0s - loss: 0.4311 - accuracy:
0.9028
174/750 [====>.....] - ETA: 0s - loss: 0.4370 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.4408 - accuracy:
0.9036
438/750 [=========>..... - ETA: 0s - loss: 0.4415 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.4401 - accuracy:
0.9047
750/750 [=============== ] - 1s 704us/step - loss: 0.4441 - accuracy:
0.9028 - val loss: 0.5625 - val_accuracy: 0.8616
Epoch 49/220
1/750 [...... - ETA: 0s - loss: 0.4315 - accuracy:
0.9219
86/750 [==>.....] - ETA: 0s - loss: 0.4437 - accuracy:
0.8993
174/750 [====>.....] - ETA: 0s - loss: 0.4433 - accuracy:
266/750 [======>.....] - ETA: 0s - loss: 0.4477 - accuracy:
0.8984
350/750 [=======>.....] - ETA: 0s - loss: 0.4455 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.4418 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.4410 - accuracy:
614/750 [===========>.....] - ETA: 0s - loss: 0.4402 - accuracy:
703/750 [==============>..] - ETA: 0s - loss: 0.4418 - accuracy:
750/750 [============= ] - 1s 704us/step - loss: 0.4425 - accuracy:
0.9014 - val_loss: 0.5128 - val_accuracy: 0.8807
Epoch 50/220
1/750 [...... 0.5144 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4401 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.4336 - accuracy:
262/750 [=======>..... - ETA: 0s - loss: 0.4338 - accuracy:
```

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351/750 [=======>.....] - ETA: 0s - loss: 0.4372 - accuracy:
0.9035
440/750 [=========>.....] - ETA: 0s - loss: 0.4362 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.4387 - accuracy:
613/750 [===========>.....] - ETA: 0s - loss: 0.4380 - accuracy:
0.9033
699/750 [============>...] - ETA: 0s - loss: 0.4377 - accuracy:
0.9033
750/750 [============= ] - 1s 709us/step - loss: 0.4376 - accuracy:
0.9035 - val_loss: 0.5392 - val_accuracy: 0.8712
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.5331 - accuracy:
89/750 [==>...... - ETA: 0s - loss: 0.4273 - accuracy:
0.9091
175/750 [=====>.....] - ETA: 0s - loss: 0.4361 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.4360 - accuracy:
0.9041
351/750 [=======>.....] - ETA: 0s - loss: 0.4341 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.4343 - accuracy:
0.9049
526/750 [=========>.....] - ETA: 0s - loss: 0.4336 - accuracy:
0.9031
0.9031 - val loss: 0.5082 - val accuracy: 0.8775
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.5076 - accuracy:
0.8750
92/750 [==>.....] - ETA: 0s - loss: 0.4290 - accuracy:
0.9066
179/750 [=====>.....] - ETA: 0s - loss: 0.4285 - accuracy:
0.9067
265/750 [======>.....] - ETA: 0s - loss: 0.4324 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.4346 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.4342 - accuracy:
0.9056
527/750 [=========>.....] - ETA: 0s - loss: 0.4327 - accuracy:
0.9054
```

```
614/750 [===========>.....] - ETA: 0s - loss: 0.4322 - accuracy:
0.9057
750/750 [================ ] - 1s 706us/step - loss: 0.4338 - accuracy:
0.9050 - val_loss: 0.5028 - val_accuracy: 0.8800
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.5329 - accuracy:
0.9375
89/750 [==>.....] - ETA: 0s - loss: 0.4336 - accuracy:
0.9073
177/750 [=====>.....] - ETA: 0s - loss: 0.4243 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.4277 - accuracy:
0.9073
354/750 [========>.....] - ETA: 0s - loss: 0.4291 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.4302 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.4300 - accuracy:
0.9049 - val loss: 0.5118 - val accuracy: 0.8779
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.4706 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.4158 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.4181 - accuracy:
0.9079
259/750 [======>..... - ETA: 0s - loss: 0.4199 - accuracy:
0.9080
348/750 [========>.....] - ETA: 0s - loss: 0.4267 - accuracy:
0.9061
437/750 [=========>.....] - ETA: 0s - loss: 0.4292 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.4311 - accuracy:
698/750 [============>...] - ETA: 0s - loss: 0.4302 - accuracy:
0.9043
0.9045 - val_loss: 0.4973 - val_accuracy: 0.8840
```

```
1/750 [.....] - ETA: 0s - loss: 0.6299 - accuracy:
0.7969
87/750 [==>.....] - ETA: 0s - loss: 0.4239 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.4248 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.4250 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.4256 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.4254 - accuracy:
521/750 [============>.....] - ETA: 0s - loss: 0.4259 - accuracy:
0.9059
750/750 [================ ] - 1s 712us/step - loss: 0.4275 - accuracy:
0.9057 - val_loss: 0.5095 - val_accuracy: 0.8790
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.5345 - accuracy:
0.8281
86/750 [==>.....] - ETA: 0s - loss: 0.4214 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.4249 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.4277 - accuracy:
341/750 [========>.....] - ETA: 0s - loss: 0.4264 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.4251 - accuracy:
0.9051
511/750 [=========>.....] - ETA: 0s - loss: 0.4254 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.4262 - accuracy:
0.9047 - val loss: 0.5016 - val accuracy: 0.8823
Epoch 57/220
1/750 [.....] - ETA: 0s - loss: 0.3560 - accuracy:
0.9688
83/750 [==>.....] - ETA: 0s - loss: 0.4205 - accuracy:
```

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170/750 [====>...... - ETA: 0s - loss: 0.4187 - accuracy:
0.9049
257/750 [======>..... - ETA: 0s - loss: 0.4198 - accuracy:
339/750 [=======>.....] - ETA: 0s - loss: 0.4212 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.4217 - accuracy:
0.9069
513/750 [=========>.....] - ETA: 0s - loss: 0.4219 - accuracy:
0.9071
599/750 [===========>.....] - ETA: 0s - loss: 0.4221 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.4214 - accuracy:
750/750 [================ ] - 1s 718us/step - loss: 0.4216 - accuracy:
0.9071 - val loss: 0.5002 - val accuracy: 0.8815
Epoch 58/220
 1/750 [.....] - ETA: 0s - loss: 0.4118 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.4211 - accuracy:
0.9087
168/750 [====>..... - ETA: 0s - loss: 0.4180 - accuracy:
0.9094
253/750 [=======>.....] - ETA: 0s - loss: 0.4178 - accuracy:
335/750 [========>.....] - ETA: 0s - loss: 0.4147 - accuracy:
0.9097
418/750 [========>.....] - ETA: 0s - loss: 0.4203 - accuracy:
0.9077
505/750 [==========>.....] - ETA: 0s - loss: 0.4221 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.4211 - accuracy:
675/750 [=============>...] - ETA: 0s - loss: 0.4224 - accuracy:
0.9070 - val_loss: 0.4969 - val_accuracy: 0.8818
Epoch 59/220
 1/750 [.....] - ETA: 0s - loss: 0.3237 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4069 - accuracy:
172/750 [====>...... - ETA: 0s - loss: 0.4181 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.4120 - accuracy:
0.9106
345/750 [=======>.....] - ETA: 0s - loss: 0.4151 - accuracy:
0.9097
```

```
431/750 [=========>.....] - ETA: 0s - loss: 0.4160 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.4181 - accuracy:
0.9089
750/750 [============= ] - 1s 725us/step - loss: 0.4178 - accuracy:
0.9087 - val loss: 0.5099 - val accuracy: 0.8761
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.4282 - accuracy:
0.8906
83/750 [==>.....] - ETA: 0s - loss: 0.4221 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.4168 - accuracy:
256/750 [======>.....] - ETA: 0s - loss: 0.4181 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 0.4136 - accuracy:
0.9109
430/750 [=========>.....] - ETA: 0s - loss: 0.4136 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.4140 - accuracy:
0.9097
0.9101
750/750 [============== ] - 1s 712us/step - loss: 0.4161 - accuracy:
0.9089 - val_loss: 0.4935 - val_accuracy: 0.8834
Epoch 61/220
1/750 [.....] - ETA: 0s - loss: 0.5834 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4118 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.4107 - accuracy:
0.9129
258/750 [=======>.....] - ETA: 0s - loss: 0.4127 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 0.4152 - accuracy:
422/750 [========>..... - ETA: 0s - loss: 0.4174 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.4166 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.4164 - accuracy:
0.9084
```

```
0.9079
750/750 [=============== ] - 1s 722us/step - loss: 0.4155 - accuracy:
0.9076 - val loss: 0.5150 - val accuracy: 0.8779
Epoch 62/220
 1/750 [.....] - ETA: 0s - loss: 0.3827 - accuracy:
0.8594
89/750 [==>.....] - ETA: 0s - loss: 0.4179 - accuracy:
0.9066
173/750 [====>.....] - ETA: 0s - loss: 0.4048 - accuracy:
0.9123
257/750 [======>.....] - ETA: 0s - loss: 0.4055 - accuracy:
0.9123
347/750 [=======>.....] - ETA: 0s - loss: 0.4079 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.4094 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.4099 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.4101 - accuracy:
750/750 [============= ] - 1s 733us/step - loss: 0.4127 - accuracy:
0.9095 - val loss: 0.4953 - val accuracy: 0.8810
Epoch 63/220
 1/750 [................] - ETA: 0s - loss: 0.3335 - accuracy:
0.9219
84/750 [==>.....] - ETA: 0s - loss: 0.3948 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3953 - accuracy:
258/750 [=======>..... - ETA: 0s - loss: 0.4013 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.4073 - accuracy:
0.9106
435/750 [=========>.....] - ETA: 0s - loss: 0.4081 - accuracy:
0.9104
523/750 [=========>.....] - ETA: 0s - loss: 0.4095 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.4104 - accuracy:
695/750 [============>...] - ETA: 0s - loss: 0.4106 - accuracy:
0.9091
750/750 [=============== ] - 1s 712us/step - loss: 0.4113 - accuracy:
0.9087 - val_loss: 0.4953 - val_accuracy: 0.8818
Epoch 64/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4879 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4149 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4139 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.4164 - accuracy:
0.9058
349/750 [========>.....] - ETA: 0s - loss: 0.4153 - accuracy:
0.9061
431/750 [=========>.....] - ETA: 0s - loss: 0.4170 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.4157 - accuracy:
0.9083 - val loss: 0.5065 - val accuracy: 0.8759
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.5343 - accuracy:
0.8594
83/750 [==>.....] - ETA: 0s - loss: 0.4169 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.4111 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.4122 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.4128 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.4118 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.4109 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.4099 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.4100 - accuracy:
750/750 [================ ] - 1s 714us/step - loss: 0.4087 - accuracy:
0.9087 - val loss: 0.4893 - val accuracy: 0.8842
Epoch 66/220
1/750 [.....] - ETA: 0s - loss: 0.4211 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3966 - accuracy:
0.9165
177/750 [=====>.....] - ETA: 0s - loss: 0.3960 - accuracy:
```

```
261/750 [======>.....] - ETA: 0s - loss: 0.3977 - accuracy:
0.9147
347/750 [========>.....] - ETA: 0s - loss: 0.4025 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.4022 - accuracy:
0.9126
519/750 [===========>.....] - ETA: 0s - loss: 0.4064 - accuracy:
0.9109
603/750 [===========>.....] - ETA: 0s - loss: 0.4064 - accuracy:
0.9114
689/750 [===========>...] - ETA: 0s - loss: 0.4062 - accuracy:
0.9111
0.9106 - val loss: 0.4915 - val accuracy: 0.8825
Epoch 67/220
1/750 [.....] - ETA: 0s - loss: 0.3929 - accuracy:
0.9062
77/750 [==>.....] - ETA: 0s - loss: 0.4219 - accuracy:
160/750 [====>..... - ETA: 0s - loss: 0.4131 - accuracy:
241/750 [======>.....] - ETA: 0s - loss: 0.4049 - accuracy:
0.9098
329/750 [========>.....] - ETA: 0s - loss: 0.4053 - accuracy:
417/750 [========>.....] - ETA: 0s - loss: 0.4068 - accuracy:
503/750 [===========>.....] - ETA: 0s - loss: 0.4062 - accuracy:
590/750 [============>.....] - ETA: 0s - loss: 0.4048 - accuracy:
678/750 [============>...] - ETA: 0s - loss: 0.4056 - accuracy:
0.9094 - val_loss: 0.5081 - val_accuracy: 0.8779
Epoch 68/220
 1/750 [.....] - ETA: 0s - loss: 0.2409 - accuracy:
0.9844
86/750 [==>.....] - ETA: 0s - loss: 0.4019 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3970 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.3975 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.4001 - accuracy:
0.9119
434/750 [=========>..... - ETA: 0s - loss: 0.3992 - accuracy:
0.9126
```

```
521/750 [===========>.....] - ETA: 0s - loss: 0.3998 - accuracy:
0.9126
0.9104 - val_loss: 0.4852 - val_accuracy: 0.8850
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.2476 - accuracy:
0.9844
88/750 [==>.....] - ETA: 0s - loss: 0.3903 - accuracy:
0.9167
176/750 [=====>.....] - ETA: 0s - loss: 0.3965 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.3956 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.3994 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3993 - accuracy:
521/750 [==========>.....] - ETA: 0s - loss: 0.4009 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.4005 - accuracy:
0.9107
0.9108 - val_loss: 0.4892 - val_accuracy: 0.8832
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.4113 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.4009 - accuracy:
0.9139
178/750 [=====>.....] - ETA: 0s - loss: 0.3978 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3958 - accuracy:
0.9143
350/750 [=======>.....] - ETA: 0s - loss: 0.3990 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3980 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3953 - accuracy:
0.9139
0.9123
```

```
750/750 [=============== ] - 1s 709us/step - loss: 0.3995 - accuracy:
0.9118 - val loss: 0.4990 - val accuracy: 0.8792
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.4633 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3971 - accuracy:
0.9154
176/750 [=====>...... - ETA: 0s - loss: 0.3908 - accuracy:
0.9173
263/750 [=======>.....] - ETA: 0s - loss: 0.3905 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.3927 - accuracy:
0.9157
437/750 [==========>.....] - ETA: 0s - loss: 0.3954 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.3976 - accuracy:
698/750 [============>...] - ETA: 0s - loss: 0.3988 - accuracy:
0.9134 - val_loss: 0.4806 - val_accuracy: 0.8866
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.3270 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4047 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.4020 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.3999 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.3967 - accuracy:
435/750 [========>.....] - ETA: 0s - loss: 0.3962 - accuracy:
0.9151
523/750 [=========>.....] - ETA: 0s - loss: 0.3984 - accuracy:
0.9137
609/750 [===========>.....] - ETA: 0s - loss: 0.3975 - accuracy:
697/750 [===========>...] - ETA: 0s - loss: 0.3974 - accuracy:
0.9131 - val loss: 0.5069 - val accuracy: 0.8772
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.4598 - accuracy:
0.8594
```

```
88/750 [==>...... - ETA: 0s - loss: 0.3944 - accuracy:
0.9134
175/750 [=====>.....] - ETA: 0s - loss: 0.3926 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.3876 - accuracy:
0.9181
347/750 [========>......] - ETA: 0s - loss: 0.3940 - accuracy:
0.9153
433/750 [=========>..... - ETA: 0s - loss: 0.3971 - accuracy:
0.9142
516/750 [=========>.....] - ETA: 0s - loss: 0.3965 - accuracy:
0.9144
750/750 [=============== ] - 1s 710us/step - loss: 0.3951 - accuracy:
0.9149 - val loss: 0.4854 - val_accuracy: 0.8842
Epoch 74/220
1/750 [...... - ETA: 0s - loss: 0.4041 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3996 - accuracy:
0.9073
179/750 [=====>.....] - ETA: 0s - loss: 0.3952 - accuracy:
0.9143
265/750 [======>.....] - ETA: 0s - loss: 0.3944 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.3919 - accuracy:
0.9151
443/750 [=========>.....] - ETA: 0s - loss: 0.3922 - accuracy:
0.9151
532/750 [=========>.....] - ETA: 0s - loss: 0.3928 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.3937 - accuracy:
705/750 [=============>..] - ETA: 0s - loss: 0.3924 - accuracy:
750/750 [============= ] - 1s 705us/step - loss: 0.3934 - accuracy:
0.9146 - val_loss: 0.5047 - val_accuracy: 0.8763
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.3034 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.4030 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.3944 - accuracy:
255/750 [=======>..... - ETA: 0s - loss: 0.3903 - accuracy:
0.9163
```

```
336/750 [========>.....] - ETA: 0s - loss: 0.3898 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.3894 - accuracy:
507/750 [=========>.....] - ETA: 0s - loss: 0.3900 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.3895 - accuracy:
0.9138
680/750 [============>...] - ETA: 0s - loss: 0.3896 - accuracy:
0.9145
750/750 [============= ] - 1s 725us/step - loss: 0.3919 - accuracy:
0.9137 - val_loss: 0.5158 - val_accuracy: 0.8749
Epoch 76/220
 1/750 [.....] - ETA: 0s - loss: 0.3480 - accuracy:
87/750 [==>...... - ETA: 0s - loss: 0.3910 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3935 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.3903 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3895 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.3908 - accuracy:
0.9144
524/750 [=========>.....] - ETA: 0s - loss: 0.3892 - accuracy:
0.9147
750/750 [=============== ] - 1s 714us/step - loss: 0.3917 - accuracy:
0.9140 - val loss: 0.4797 - val accuracy: 0.8857
Epoch 77/220
 1/750 [.....] - ETA: 0s - loss: 0.3414 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.4035 - accuracy:
167/750 [=====>......] - ETA: 0s - loss: 0.3871 - accuracy:
250/750 [======>..... - ETA: 0s - loss: 0.3880 - accuracy:
334/750 [=======>.....] - ETA: 0s - loss: 0.3874 - accuracy:
0.9163
421/750 [========>..... - ETA: 0s - loss: 0.3880 - accuracy:
0.9163
505/750 [=========>.....] - ETA: 0s - loss: 0.3869 - accuracy:
```

```
592/750 [============>.....] - ETA: 0s - loss: 0.3870 - accuracy:
0.9169
0.9167
0.9161 - val_loss: 0.4887 - val_accuracy: 0.8838
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.4446 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.3840 - accuracy:
0.9184
170/750 [====>.....] - ETA: 0s - loss: 0.3862 - accuracy:
257/750 [======>..... - ETA: 0s - loss: 0.3825 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.3870 - accuracy:
0.9151
430/750 [==========>.....] - ETA: 0s - loss: 0.3892 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3900 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.3909 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.3901 - accuracy:
0.9145 - val loss: 0.4887 - val accuracy: 0.8822
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.3056 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3894 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.3901 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.3923 - accuracy:
0.9131
348/750 [========>.....] - ETA: 0s - loss: 0.3904 - accuracy:
0.9136
437/750 [=========>..... - ETA: 0s - loss: 0.3929 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3950 - accuracy:
0.9127
697/750 [============>...] - ETA: 0s - loss: 0.3924 - accuracy:
0.9136
0.9143 - val_loss: 0.4860 - val_accuracy: 0.8825
```

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1/750 [.....] - ETA: 0s - loss: 0.3943 - accuracy:
0.9531
81/750 [==>.....] - ETA: 0s - loss: 0.3925 - accuracy:
0.9136
170/750 [=====>.....] - ETA: 0s - loss: 0.3852 - accuracy:
0.9179
259/750 [======>..... - ETA: 0s - loss: 0.3845 - accuracy:
0.9180
344/750 [========>......] - ETA: 0s - loss: 0.3881 - accuracy:
0.9163
433/750 [=========>.....] - ETA: 0s - loss: 0.3858 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.3854 - accuracy:
750/750 [================ ] - 1s 714us/step - loss: 0.3879 - accuracy:
0.9152 - val_loss: 0.4907 - val_accuracy: 0.8808
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.3258 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3864 - accuracy:
0.9167
175/750 [=====>.....] - ETA: 0s - loss: 0.3797 - accuracy:
0.9170
265/750 [=======>.....] - ETA: 0s - loss: 0.3798 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.3789 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3811 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3837 - accuracy:
0.9159
611/750 [===========>.....] - ETA: 0s - loss: 0.3833 - accuracy:
0.9161
0.9151 - val loss: 0.4907 - val accuracy: 0.8811
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.3624 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3847 - accuracy:
0.9166
```

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176/750 [=====>...... - ETA: 0s - loss: 0.3817 - accuracy:
0.9184
265/750 [=======>.....] - ETA: 0s - loss: 0.3819 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.3813 - accuracy:
0.9176
442/750 [=========>.....] - ETA: 0s - loss: 0.3824 - accuracy:
0.9165
531/750 [=========>.....] - ETA: 0s - loss: 0.3812 - accuracy:
0.9177
616/750 [===========>.....] - ETA: 0s - loss: 0.3809 - accuracy:
750/750 [================ ] - 1s 710us/step - loss: 0.3821 - accuracy:
0.9179 - val loss: 0.4983 - val accuracy: 0.8788
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.4504 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.3807 - accuracy:
160/750 [=====>.....] - ETA: 0s - loss: 0.3717 - accuracy:
246/750 [======>.....] - ETA: 0s - loss: 0.3768 - accuracy:
334/750 [========>.....] - ETA: 0s - loss: 0.3812 - accuracy:
0.9168
420/750 [========>.....] - ETA: 0s - loss: 0.3797 - accuracy:
0.9179
507/750 [==========>.....] - ETA: 0s - loss: 0.3812 - accuracy:
0.9173
596/750 [===========>.....] - ETA: 0s - loss: 0.3803 - accuracy:
681/750 [============>...] - ETA: 0s - loss: 0.3811 - accuracy:
0.9169
0.9156 - val_loss: 0.5086 - val_accuracy: 0.8752
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.3624 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3883 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.3820 - accuracy:
0.9161
264/750 [=======>.....] - ETA: 0s - loss: 0.3824 - accuracy:
352/750 [========>.....] - ETA: 0s - loss: 0.3815 - accuracy:
```

```
437/750 [=========>.....] - ETA: 0s - loss: 0.3814 - accuracy:
0.9159
524/750 [===========>.....] - ETA: 0s - loss: 0.3825 - accuracy:
0.9158
0.9161
750/750 [============= ] - 1s 710us/step - loss: 0.3812 - accuracy:
0.9161 - val loss: 0.4873 - val accuracy: 0.8841
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.3005 - accuracy:
0.9688
87/750 [==>.....] - ETA: 0s - loss: 0.3716 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.3684 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.3732 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3761 - accuracy:
0.9191
434/750 [=========>.....] - ETA: 0s - loss: 0.3750 - accuracy:
0.9201
522/750 [=========>.....] - ETA: 0s - loss: 0.3766 - accuracy:
0.9195
750/750 [=============== ] - 1s 708us/step - loss: 0.3832 - accuracy:
0.9163 - val_loss: 0.5115 - val_accuracy: 0.8763
Epoch 86/220
1/750 [.....] - ETA: 0s - loss: 0.2379 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3739 - accuracy:
0.9213
175/750 [=====>.....] - ETA: 0s - loss: 0.3761 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.3740 - accuracy:
0.9201
351/750 [=======>.....] - ETA: 0s - loss: 0.3769 - accuracy:
435/750 [=========>..... - ETA: 0s - loss: 0.3766 - accuracy:
0.9186
521/750 [==========>.....] - ETA: 0s - loss: 0.3795 - accuracy:
0.9174
603/750 [===========>.....] - ETA: 0s - loss: 0.3791 - accuracy:
0.9173
```

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690/750 [============>...] - ETA: 0s - loss: 0.3797 - accuracy:
0.9172
750/750 [================ ] - 1s 714us/step - loss: 0.3807 - accuracy:
0.9170 - val loss: 0.5132 - val accuracy: 0.8745
Epoch 87/220
 1/750 [.....] - ETA: 0s - loss: 0.3890 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3734 - accuracy:
0.9239
177/750 [=====>.....] - ETA: 0s - loss: 0.3725 - accuracy:
0.9221
263/750 [======>.....] - ETA: 0s - loss: 0.3776 - accuracy:
0.9193
349/750 [=======>.....] - ETA: 0s - loss: 0.3781 - accuracy:
0.9187
429/750 [=========>.....] - ETA: 0s - loss: 0.3806 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.3809 - accuracy:
0.9178
606/750 [===========>.....] - ETA: 0s - loss: 0.3781 - accuracy:
0.9184
750/750 [=============== ] - 1s 713us/step - loss: 0.3793 - accuracy:
0.9181 - val loss: 0.5354 - val accuracy: 0.8660
Epoch 88/220
 1/750 [.................] - ETA: 0s - loss: 0.4743 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3743 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3800 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.3829 - accuracy:
345/750 [=======>.....] - ETA: 0s - loss: 0.3822 - accuracy:
0.9149
434/750 [=========>.....] - ETA: 0s - loss: 0.3839 - accuracy:
0.9149
519/750 [=========>.....] - ETA: 0s - loss: 0.3816 - accuracy:
0.9151
604/750 [===========>.....] - ETA: 0s - loss: 0.3814 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.3809 - accuracy:
0.9161
750/750 [================ ] - 1s 716us/step - loss: 0.3809 - accuracy:
0.9158 - val_loss: 0.4934 - val_accuracy: 0.8788
Epoch 89/220
```

```
1/750 [...... - ETA: 0s - loss: 0.3188 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.3791 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3759 - accuracy:
0.9209
261/750 [======>..... - ETA: 0s - loss: 0.3756 - accuracy:
0.9198
349/750 [=======>.....] - ETA: 0s - loss: 0.3760 - accuracy:
0.9189
436/750 [=========>.....] - ETA: 0s - loss: 0.3749 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.3758 - accuracy:
0.9193
0.9186
0.9181 - val loss: 0.4849 - val accuracy: 0.8822
Epoch 90/220
1/750 [.....] - ETA: 0s - loss: 0.4159 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.3723 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3659 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3705 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.3718 - accuracy:
0.9214
435/750 [========>...... - ETA: 0s - loss: 0.3721 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.3734 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.3746 - accuracy:
0.9201
693/750 [============>...] - ETA: 0s - loss: 0.3764 - accuracy:
0.9187
750/750 [================ ] - 1s 710us/step - loss: 0.3757 - accuracy:
0.9190 - val loss: 0.5024 - val accuracy: 0.8808
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.4538 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3908 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.3803 - accuracy:
```

```
261/750 [=======>.....] - ETA: 0s - loss: 0.3725 - accuracy:
0.9219
348/750 [========>.....] - ETA: 0s - loss: 0.3728 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.3720 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3738 - accuracy:
0.9207
610/750 [============>.....] - ETA: 0s - loss: 0.3747 - accuracy:
0.9204
699/750 [===========>...] - ETA: 0s - loss: 0.3746 - accuracy:
0.9198
0.9197 - val loss: 0.4889 - val accuracy: 0.8829
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.2485 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3586 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.3823 - accuracy:
0.9189
261/750 [=======>.....] - ETA: 0s - loss: 0.3792 - accuracy:
0.9194
350/750 [=======>.....] - ETA: 0s - loss: 0.3775 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3780 - accuracy:
527/750 [==========>.....] - ETA: 0s - loss: 0.3783 - accuracy:
0.9180 - val_loss: 0.4792 - val_accuracy: 0.8842
Epoch 93/220
1/750 [...... 0.2613 - accuracy:
0.9688
89/750 [==>.....] - ETA: 0s - loss: 0.3663 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3717 - accuracy:
0.9197
265/750 [======>.....] - ETA: 0s - loss: 0.3693 - accuracy:
0.9199
353/750 [=======>.....] - ETA: 0s - loss: 0.3713 - accuracy:
440/750 [=========>..... - ETA: 0s - loss: 0.3738 - accuracy:
0.9187
```

```
527/750 [=========>.....] - ETA: 0s - loss: 0.3758 - accuracy:
0.9183
0.9194 - val_loss: 0.4986 - val_accuracy: 0.8810
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.3202 - accuracy:
0.9844
90/750 [==>.....] - ETA: 0s - loss: 0.3715 - accuracy:
0.9181
174/750 [====>...... - ETA: 0s - loss: 0.3640 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3698 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.3719 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.3732 - accuracy:
0.9204
520/750 [==========>.....] - ETA: 0s - loss: 0.3733 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.3738 - accuracy:
0.9209
0.9207 - val_loss: 0.5076 - val_accuracy: 0.8756
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.4312 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3755 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3724 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.3747 - accuracy:
0.9185
350/750 [=======>.....] - ETA: 0s - loss: 0.3736 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.3722 - accuracy:
0.9207
522/750 [===========>.....] - ETA: 0s - loss: 0.3723 - accuracy:
0.9211
0.9206
0.9198
```

```
0.9201 - val loss: 0.5124 - val accuracy: 0.8777
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.4625 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.3747 - accuracy:
0.9196
172/750 [====>...... - ETA: 0s - loss: 0.3658 - accuracy:
0.9216
257/750 [=======>.....] - ETA: 0s - loss: 0.3669 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.3697 - accuracy:
0.9194
432/750 [==========>.....] - ETA: 0s - loss: 0.3699 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.3713 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.3723 - accuracy:
0.9197 - val_loss: 0.4803 - val_accuracy: 0.8848
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.2947 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3596 - accuracy:
0.9224
175/750 [=====>.....] - ETA: 0s - loss: 0.3686 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3710 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3686 - accuracy:
438/750 [========>.....] - ETA: 0s - loss: 0.3680 - accuracy:
0.9189
526/750 [=========>.....] - ETA: 0s - loss: 0.3681 - accuracy:
0.9189
613/750 [===========>.....] - ETA: 0s - loss: 0.3666 - accuracy:
0.9197
699/750 [===========>...] - ETA: 0s - loss: 0.3678 - accuracy:
750/750 [=============== ] - 1s 709us/step - loss: 0.3695 - accuracy:
0.9191 - val loss: 0.4989 - val accuracy: 0.8793
Epoch 98/220
 1/750 [.....] - ETA: 0s - loss: 0.2792 - accuracy:
0.9531
```

```
87/750 [==>...... - ETA: 0s - loss: 0.3692 - accuracy:
0.9179
173/750 [=====>.....] - ETA: 0s - loss: 0.3668 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.3701 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.3702 - accuracy:
0.9188
436/750 [=========>...... - ETA: 0s - loss: 0.3690 - accuracy:
0.9198
521/750 [=========>.....] - ETA: 0s - loss: 0.3675 - accuracy:
0.9206
0.9198
750/750 [=============== ] - 1s 702us/step - loss: 0.3700 - accuracy:
0.9195 - val loss: 0.4782 - val_accuracy: 0.8852
Epoch 99/220
1/750 [...... - ETA: 0s - loss: 0.3361 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3806 - accuracy:
0.9175
174/750 [====>.....] - ETA: 0s - loss: 0.3661 - accuracy:
263/750 [======>.....] - ETA: 0s - loss: 0.3619 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.3646 - accuracy:
0.9239
437/750 [=========>.....] - ETA: 0s - loss: 0.3669 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.3692 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.3679 - accuracy:
699/750 [============>...] - ETA: 0s - loss: 0.3667 - accuracy:
750/750 [============= ] - 1s 710us/step - loss: 0.3681 - accuracy:
0.9220 - val loss: 0.5051 - val accuracy: 0.8780
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.2842 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3656 - accuracy:
0.9187
175/750 [=====>.....] - ETA: 0s - loss: 0.3644 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.3666 - accuracy:
0.9201
```

```
348/750 [========>.....] - ETA: 0s - loss: 0.3700 - accuracy:
0.9188
433/750 [=========>.....] - ETA: 0s - loss: 0.3674 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.3674 - accuracy:
0.9198
602/750 [===========>.....] - ETA: 0s - loss: 0.3698 - accuracy:
0.9190
690/750 [============>...] - ETA: 0s - loss: 0.3674 - accuracy:
0.9203
750/750 [============= ] - 1s 717us/step - loss: 0.3679 - accuracy:
0.9206 - val_loss: 0.4889 - val_accuracy: 0.8811
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.4415 - accuracy:
89/750 [==>....... - ETA: 0s - loss: 0.3543 - accuracy:
0.9271
174/750 [====>.....] - ETA: 0s - loss: 0.3612 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.3635 - accuracy:
0.9226
348/750 [========>.....] - ETA: 0s - loss: 0.3621 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.3625 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.3624 - accuracy:
599/750 [=============>.....] - ETA: 0s - loss: 0.3657 - accuracy:
0.9212 - val loss: 0.4963 - val accuracy: 0.8798
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.3961 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3594 - accuracy:
0.9239
174/750 [====>...... - accuracy:
258/750 [======>..... - ETA: 0s - loss: 0.3643 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.3654 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.3643 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.3643 - accuracy:
```

```
604/750 [===========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
0.9220
0.9214 - val_loss: 0.5126 - val_accuracy: 0.8729
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.3445 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3716 - accuracy:
0.9171
174/750 [====>.....] - ETA: 0s - loss: 0.3676 - accuracy:
0.9189
260/750 [======>..... - ETA: 0s - loss: 0.3716 - accuracy:
0.9171
346/750 [========>.....] - ETA: 0s - loss: 0.3707 - accuracy:
0.9187
431/750 [==========>.....] - ETA: 0s - loss: 0.3687 - accuracy:
0.9201
514/750 [=========>.....] - ETA: 0s - loss: 0.3687 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.3690 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.3691 - accuracy:
0.9206
0.9209 - val loss: 0.4810 - val accuracy: 0.8869
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.5096 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3511 - accuracy:
0.9281
173/750 [====>...... - ETA: 0s - loss: 0.3593 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.3589 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.3597 - accuracy:
0.9238
430/750 [=========>..... - ETA: 0s - loss: 0.3611 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.3653 - accuracy:
0.9214
688/750 [============>...] - ETA: 0s - loss: 0.3648 - accuracy:
0.9217 - val_loss: 0.4891 - val_accuracy: 0.8827
```

```
1/750 [.....] - ETA: 0s - loss: 0.2733 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3708 - accuracy:
0.9179
172/750 [=====>.....] - ETA: 0s - loss: 0.3669 - accuracy:
0.9183
258/750 [======>...... - ETA: 0s - loss: 0.3662 - accuracy:
0.9190
342/750 [========>.....] - ETA: 0s - loss: 0.3670 - accuracy:
0.9193
425/750 [=========>.....] - ETA: 0s - loss: 0.3661 - accuracy:
508/750 [============>.....] - ETA: 0s - loss: 0.3664 - accuracy:
595/750 [=============>.....] - ETA: 0s - loss: 0.3674 - accuracy:
0.9196
0.9199
0.9205 - val_loss: 0.4910 - val_accuracy: 0.8843
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.2985 - accuracy:
0.9844
88/750 [==>.....] - ETA: 0s - loss: 0.3565 - accuracy:
0.9226
170/750 [=====>.....] - ETA: 0s - loss: 0.3577 - accuracy:
0.9224
245/750 [======>.....] - ETA: 0s - loss: 0.3601 - accuracy:
329/750 [========>.....] - ETA: 0s - loss: 0.3593 - accuracy:
415/750 [========>.....] - ETA: 0s - loss: 0.3619 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
0.9219
592/750 [===========>.....] - ETA: 0s - loss: 0.3635 - accuracy:
678/750 [============>...] - ETA: 0s - loss: 0.3633 - accuracy:
0.9210 - val loss: 0.5101 - val accuracy: 0.8781
Epoch 107/220
1/750 [...... 0.3958 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3665 - accuracy:
```

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175/750 [=====>.....] - ETA: 0s - loss: 0.3688 - accuracy:
0.9221
262/750 [=======>.....] - ETA: 0s - loss: 0.3646 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.3642 - accuracy:
433/750 [========>.....] - ETA: 0s - loss: 0.3675 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3652 - accuracy:
0.9228
610/750 [===========>.....] - ETA: 0s - loss: 0.3667 - accuracy:
697/750 [============>...] - ETA: 0s - loss: 0.3657 - accuracy:
750/750 [================ ] - 1s 709us/step - loss: 0.3643 - accuracy:
0.9226 - val loss: 0.4797 - val accuracy: 0.8857
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.3259 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3476 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3496 - accuracy:
0.9285
261/750 [=======>.....] - ETA: 0s - loss: 0.3555 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.3570 - accuracy:
0.9248
437/750 [==========>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9246
525/750 [=========>.....] - ETA: 0s - loss: 0.3605 - accuracy:
613/750 [===========>.....] - ETA: 0s - loss: 0.3610 - accuracy:
700/750 [===============>..] - ETA: 0s - loss: 0.3619 - accuracy:
0.9230 - val_loss: 0.5290 - val_accuracy: 0.8718
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.3662 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3694 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.3640 - accuracy:
255/750 [=======>.....] - ETA: 0s - loss: 0.3599 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.3628 - accuracy:
```

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430/750 [=========>.....] - ETA: 0s - loss: 0.3603 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.3603 - accuracy:
0.9223
0.9225 - val loss: 0.4815 - val accuracy: 0.8859
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.3818 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3612 - accuracy:
0.9263
177/750 [=====>.....] - ETA: 0s - loss: 0.3629 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3574 - accuracy:
352/750 [========>.....] - ETA: 0s - loss: 0.3586 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.3658 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.3657 - accuracy:
0.9231
750/750 [=============== ] - 1s 705us/step - loss: 0.3657 - accuracy:
0.9225 - val_loss: 0.5132 - val_accuracy: 0.8756
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.3375 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3556 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3513 - accuracy:
0.9266
259/750 [=======>.....] - ETA: 0s - loss: 0.3579 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.3597 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.3613 - accuracy:
521/750 [==========>.....] - ETA: 0s - loss: 0.3634 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
```

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696/750 [===========>...] - ETA: 0s - loss: 0.3625 - accuracy:
0.9231
750/750 [================ ] - 1s 706us/step - loss: 0.3629 - accuracy:
0.9226 - val loss: 0.5091 - val accuracy: 0.8760
Epoch 112/220
1/750 [.....] - ETA: 0s - loss: 0.2933 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.3597 - accuracy:
0.9266
179/750 [=====>.....] - ETA: 0s - loss: 0.3562 - accuracy:
0.9274
266/750 [======>.....] - ETA: 0s - loss: 0.3601 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.3572 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.3595 - accuracy:
527/750 [==========>.....] - ETA: 0s - loss: 0.3610 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.3624 - accuracy:
750/750 [============= ] - 1s 713us/step - loss: 0.3629 - accuracy:
0.9233 - val loss: 0.4795 - val accuracy: 0.8833
Epoch 113/220
 1/750 [.................] - ETA: 0s - loss: 0.4498 - accuracy:
0.9531
84/750 [==>.....] - ETA: 0s - loss: 0.3494 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.3503 - accuracy:
0.9283
250/750 [======>..... - ETA: 0s - loss: 0.3551 - accuracy:
338/750 [=======>.....] - ETA: 0s - loss: 0.3557 - accuracy:
423/750 [========>....] - ETA: 0s - loss: 0.3576 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.3581 - accuracy:
0.9247
596/750 [===========>.....] - ETA: 0s - loss: 0.3598 - accuracy:
0.9236 - val_loss: 0.4767 - val_accuracy: 0.8850
Epoch 114/220
```

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1/750 [...... - ETA: 0s - loss: 0.3384 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.3437 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3524 - accuracy:
256/750 [======>.....] - ETA: 0s - loss: 0.3537 - accuracy:
0.9251
339/750 [========>.....] - ETA: 0s - loss: 0.3537 - accuracy:
0.9264
428/750 [=========>.....] - ETA: 0s - loss: 0.3567 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.3571 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.3575 - accuracy:
683/750 [============>...] - ETA: 0s - loss: 0.3575 - accuracy:
0.9240 - val loss: 0.5032 - val accuracy: 0.8777
Epoch 115/220
1/750 [.....] - ETA: 0s - loss: 0.3612 - accuracy:
0.8906
83/750 [==>.....] - ETA: 0s - loss: 0.3587 - accuracy:
0.9247
173/750 [====>.....] - ETA: 0s - loss: 0.3569 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.3564 - accuracy:
0.9271
343/750 [========>.....] - ETA: 0s - loss: 0.3566 - accuracy:
431/750 [========>..... - ETA: 0s - loss: 0.3557 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.3557 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.3557 - accuracy:
0.9256
688/750 [============>...] - ETA: 0s - loss: 0.3571 - accuracy:
0.9254
750/750 [================ ] - 1s 722us/step - loss: 0.3576 - accuracy:
0.9250 - val loss: 0.5252 - val accuracy: 0.8752
Epoch 116/220
1/750 [.....] - ETA: 0s - loss: 0.2848 - accuracy:
0.9688
84/750 [==>....... - ETA: 0s - loss: 0.3430 - accuracy:
172/750 [====>...... - ETA: 0s - loss: 0.3544 - accuracy:
```

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259/750 [======>.....] - ETA: 0s - loss: 0.3515 - accuracy:
0.9269
346/750 [========>.....] - ETA: 0s - loss: 0.3535 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.3543 - accuracy:
0.9263
519/750 [========>:....] - ETA: 0s - loss: 0.3562 - accuracy:
0.9257
607/750 [===========>.....] - ETA: 0s - loss: 0.3577 - accuracy:
692/750 [===========>...] - ETA: 0s - loss: 0.3569 - accuracy:
0.9258 - val loss: 0.5134 - val accuracy: 0.8755
Epoch 117/220
1/750 [.....] - ETA: 0s - loss: 0.3728 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3499 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.3602 - accuracy:
0.9244
263/750 [=======>.....] - ETA: 0s - loss: 0.3556 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3555 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.3554 - accuracy:
0.9247 - val_loss: 0.4911 - val_accuracy: 0.8824
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.3499 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3462 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3472 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.3516 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.3529 - accuracy:
435/750 [=========>...... - ETA: 0s - loss: 0.3543 - accuracy:
```

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523/750 [===========>.....] - ETA: 0s - loss: 0.3552 - accuracy:
0.9269
0.9261
0.9251 - val_loss: 0.4925 - val_accuracy: 0.8813
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.3373 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3387 - accuracy:
0.9289
177/750 [=====>.....] - ETA: 0s - loss: 0.3450 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3465 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3506 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3521 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.3527 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.3543 - accuracy:
705/750 [==============>..] - ETA: 0s - loss: 0.3543 - accuracy:
0.9239 - val_loss: 0.5034 - val_accuracy: 0.8791
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.4168 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3561 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3540 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.3564 - accuracy:
0.9263
345/750 [=======>.....] - ETA: 0s - loss: 0.3566 - accuracy:
427/750 [========>.....] - ETA: 0s - loss: 0.3580 - accuracy:
0.9257
501/750 [===========>.....] - ETA: 0s - loss: 0.3598 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.3597 - accuracy:
0.9257
```

```
0.9257
750/750 [=============== ] - 1s 741us/step - loss: 0.3566 - accuracy:
0.9258 - val loss: 0.4926 - val accuracy: 0.8884
Epoch 121/220
 1/750 [.....] - ETA: 0s - loss: 0.2702 - accuracy:
0.9688
83/750 [==>.....] - ETA: 0s - loss: 0.3515 - accuracy:
0.9258
168/750 [====>.....] - ETA: 0s - loss: 0.3484 - accuracy:
0.9289
254/750 [======>.....] - ETA: 0s - loss: 0.3504 - accuracy:
339/750 [=======>.....] - ETA: 0s - loss: 0.3566 - accuracy:
409/750 [========>.....] - ETA: 0s - loss: 0.3566 - accuracy:
496/750 [==========>.....] - ETA: 0s - loss: 0.3577 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 0.3598 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.3593 - accuracy:
750/750 [============= ] - 1s 729us/step - loss: 0.3580 - accuracy:
0.9255 - val loss: 0.4987 - val accuracy: 0.8792
Epoch 122/220
 1/750 [................] - ETA: 0s - loss: 0.4246 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3416 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.3500 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.3534 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.3563 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.3572 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3561 - accuracy:
589/750 [===========>.....] - ETA: 0s - loss: 0.3558 - accuracy:
0.9254 - val_loss: 0.4999 - val_accuracy: 0.8833
Epoch 123/220
```

```
1/750 [...... - ETA: 0s - loss: 0.3952 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.3478 - accuracy:
0.9277
176/750 [=====>.....] - ETA: 0s - loss: 0.3455 - accuracy:
0.9287
265/750 [======>.....] - ETA: 0s - loss: 0.3520 - accuracy:
0.9272
355/750 [========>.....] - ETA: 0s - loss: 0.3501 - accuracy:
0.9271
440/750 [=========>.....] - ETA: 0s - loss: 0.3493 - accuracy:
0.9272
528/750 [==========>.....] - ETA: 0s - loss: 0.3514 - accuracy:
0.9271
0.9263
689/750 [===========>...] - ETA: 0s - loss: 0.3534 - accuracy:
0.9261
0.9254 - val loss: 0.4964 - val accuracy: 0.8834
Epoch 124/220
1/750 [.....] - ETA: 0s - loss: 0.2902 - accuracy:
0.9375
83/750 [==>.....] - ETA: 0s - loss: 0.3365 - accuracy:
163/750 [====>.....] - ETA: 0s - loss: 0.3395 - accuracy:
245/750 [======>.....] - ETA: 0s - loss: 0.3464 - accuracy:
329/750 [========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
409/750 [========>.....] - ETA: 0s - loss: 0.3473 - accuracy:
492/750 [=========>.....] - ETA: 0s - loss: 0.3499 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.3520 - accuracy:
0.9263
661/750 [============>....] - ETA: 0s - loss: 0.3536 - accuracy:
0.9259
0.9250 - val loss: 0.5313 - val accuracy: 0.8716
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.3199 - accuracy:
86/750 [==>...... - ETA: 0s - loss: 0.3510 - accuracy:
0.9311
```

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167/750 [====>...... - ETA: 0s - loss: 0.3497 - accuracy:
0.9296
251/750 [=======>.....] - ETA: 0s - loss: 0.3501 - accuracy:
336/750 [========>.....] - ETA: 0s - loss: 0.3499 - accuracy:
0.9278
418/750 [========>..... - ETA: 0s - loss: 0.3518 - accuracy:
0.9270
503/750 [=========>.....] - ETA: 0s - loss: 0.3528 - accuracy:
0.9270
584/750 [===========>.....] - ETA: 0s - loss: 0.3515 - accuracy:
667/750 [=============>....] - ETA: 0s - loss: 0.3506 - accuracy:
750/750 [================ ] - 1s 741us/step - loss: 0.3519 - accuracy:
0.9273 - val loss: 0.4903 - val accuracy: 0.8835
Epoch 126/220
 1/750 [.....] - ETA: 0s - loss: 0.4350 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.3627 - accuracy:
0.9236
163/750 [=====>.....] - ETA: 0s - loss: 0.3579 - accuracy:
0.9245
246/750 [======>.....] - ETA: 0s - loss: 0.3572 - accuracy:
330/750 [========>.....] - ETA: 0s - loss: 0.3541 - accuracy:
412/750 [=========>...... - ETA: 0s - loss: 0.3509 - accuracy:
0.9274
495/750 [=========>.....] - ETA: 0s - loss: 0.3515 - accuracy:
0.9273
580/750 [===========>.....] - ETA: 0s - loss: 0.3540 - accuracy:
661/750 [============>....] - ETA: 0s - loss: 0.3540 - accuracy:
745/750 [==============>.] - ETA: 0s - loss: 0.3537 - accuracy:
0.9264
750/750 [============= ] - 1s 740us/step - loss: 0.3540 - accuracy:
0.9264 - val_loss: 0.5064 - val_accuracy: 0.8756
Epoch 127/220
 1/750 [...... o.5273 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3612 - accuracy:
169/750 [=====>.....] - ETA: 0s - loss: 0.3638 - accuracy:
255/750 [======>.....] - ETA: 0s - loss: 0.3604 - accuracy:
```

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339/750 [========>.....] - ETA: 0s - loss: 0.3563 - accuracy:
421/750 [========>.....] - ETA: 0s - loss: 0.3564 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.3540 - accuracy:
0.9261
587/750 [===========>.....] - ETA: 0s - loss: 0.3525 - accuracy:
0.9267
670/750 [=============>....] - ETA: 0s - loss: 0.3540 - accuracy:
0.9264
750/750 [============= ] - 1s 742us/step - loss: 0.3545 - accuracy:
0.9265 - val_loss: 0.4871 - val_accuracy: 0.8852
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.2998 - accuracy:
0.9531
0.9341
176/750 [=====>.....] - ETA: 0s - loss: 0.3498 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.3523 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3526 - accuracy:
442/750 [========>.....] - ETA: 0s - loss: 0.3557 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.3511 - accuracy:
619/750 [===================>.....] - ETA: 0s - loss: 0.3531 - accuracy:
0.9263
0.9268 - val loss: 0.4974 - val accuracy: 0.8830
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.3016 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3559 - accuracy:
0.9261
176/750 [=====>.....] - ETA: 0s - loss: 0.3551 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.3518 - accuracy:
0.9279
352/750 [=======>.....] - ETA: 0s - loss: 0.3541 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.3557 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3553 - accuracy:
```

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613/750 [===========>.....] - ETA: 0s - loss: 0.3524 - accuracy:
0.9265
0.9273
750/750 [=============== ] - 1s 712us/step - loss: 0.3523 - accuracy:
0.9269 - val_loss: 0.5865 - val_accuracy: 0.8512
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.5098 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9247
175/750 [=====>.....] - ETA: 0s - loss: 0.3491 - accuracy:
0.9247
260/750 [======>..... - ETA: 0s - loss: 0.3528 - accuracy:
0.9254
344/750 [========>.....] - ETA: 0s - loss: 0.3519 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.3518 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.3516 - accuracy:
0.9247
691/750 [============>...] - ETA: 0s - loss: 0.3517 - accuracy:
0.9251 - val loss: 0.4900 - val accuracy: 0.8828
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.2747 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3366 - accuracy:
164/750 [====>...... - ETA: 0s - loss: 0.3421 - accuracy:
0.9329
246/750 [======>.....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9317
328/750 [========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9298
416/750 [========>..... - ETA: 0s - loss: 0.3476 - accuracy:
501/750 [========>.....] - ETA: 0s - loss: 0.3503 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.3518 - accuracy:
0.9277
673/750 [============>....] - ETA: 0s - loss: 0.3533 - accuracy:
0.9266
0.9263 - val_loss: 0.5480 - val_accuracy: 0.8716
```

```
1/750 [.....] - ETA: 0s - loss: 0.3204 - accuracy:
0.9219
86/750 [==>.....] - ETA: 0s - loss: 0.3432 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3395 - accuracy:
0.9329
259/750 [======>...... - ETA: 0s - loss: 0.3406 - accuracy:
0.9306
345/750 [========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.3484 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.3501 - accuracy:
750/750 [================ ] - 1s 709us/step - loss: 0.3502 - accuracy:
0.9273 - val_loss: 0.4888 - val_accuracy: 0.8853
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.2683 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3440 - accuracy:
0.9296
172/750 [=====>.....] - ETA: 0s - loss: 0.3452 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.3526 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.3507 - accuracy:
0.9283
438/750 [=========>.....] - ETA: 0s - loss: 0.3499 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.3489 - accuracy:
0.9293
608/750 [===========>.....] - ETA: 0s - loss: 0.3486 - accuracy:
0.9290
0.9276 - val loss: 0.4966 - val accuracy: 0.8836
Epoch 134/220
1/750 [...... 0.2893 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3494 - accuracy:
0.9295
```

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174/750 [====>...... - ETA: 0s - loss: 0.3469 - accuracy:
0.9294
262/750 [=======>.....] - ETA: 0s - loss: 0.3490 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.3470 - accuracy:
0.9286
434/750 [=========>.....] - ETA: 0s - loss: 0.3507 - accuracy:
0.9270
522/750 [=========>.....] - ETA: 0s - loss: 0.3526 - accuracy:
0.9266
608/750 [===========>.....] - ETA: 0s - loss: 0.3526 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.3514 - accuracy:
750/750 [================ ] - 1s 712us/step - loss: 0.3505 - accuracy:
0.9267 - val loss: 0.5149 - val accuracy: 0.8778
Epoch 135/220
 1/750 [.....] - ETA: 0s - loss: 0.3784 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3519 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3484 - accuracy:
0.9297
264/750 [=======>.....] - ETA: 0s - loss: 0.3484 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3487 - accuracy:
0.9287
439/750 [=========>.....] - ETA: 0s - loss: 0.3476 - accuracy:
0.9281
524/750 [==========>.....] - ETA: 0s - loss: 0.3494 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.3516 - accuracy:
699/750 [===========>...] - ETA: 0s - loss: 0.3525 - accuracy:
0.9274 - val_loss: 0.5274 - val_accuracy: 0.8763
Epoch 136/220
 1/750 [.....] - ETA: 0s - loss: 0.3766 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3444 - accuracy:
0.9316
177/750 [=====>...... - ETA: 0s - loss: 0.3427 - accuracy:
0.9309
264/750 [=======>.....] - ETA: 0s - loss: 0.3454 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.3441 - accuracy:
0.9304
```

```
438/750 [=========>.....] - ETA: 0s - loss: 0.3459 - accuracy:
0.9301
528/750 [==========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9280
750/750 [============= ] - 1s 705us/step - loss: 0.3496 - accuracy:
0.9283 - val loss: 0.4855 - val accuracy: 0.8870
Epoch 137/220
1/750 [.....] - ETA: 0s - loss: 0.2900 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3330 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3411 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.3415 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.3427 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3433 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.3462 - accuracy:
0.9318
613/750 [===========>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9311
750/750 [=============== ] - 1s 709us/step - loss: 0.3493 - accuracy:
0.9293 - val_loss: 0.5261 - val_accuracy: 0.8757
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.4216 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3644 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3529 - accuracy:
0.9269
266/750 [=======>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9287
356/750 [=======>.....] - ETA: 0s - loss: 0.3522 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.3507 - accuracy:
0.9267
531/750 [=========>.....] - ETA: 0s - loss: 0.3492 - accuracy:
0.9271
621/750 [============>.....] - ETA: 0s - loss: 0.3497 - accuracy:
```

```
0.9270
750/750 [================ ] - 1s 701us/step - loss: 0.3492 - accuracy:
0.9272 - val loss: 0.4978 - val accuracy: 0.8822
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9688
88/750 [==>.....] - ETA: 0s - loss: 0.3464 - accuracy:
0.9277
175/750 [=====>.....] - ETA: 0s - loss: 0.3504 - accuracy:
252/750 [======>.....] - ETA: 0s - loss: 0.3486 - accuracy:
331/750 [=======>.....] - ETA: 0s - loss: 0.3466 - accuracy:
0.9284
420/750 [========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
504/750 [===========>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9280
588/750 [===========>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9277
750/750 [================ ] - 1s 721us/step - loss: 0.3490 - accuracy:
0.9277 - val loss: 0.5091 - val accuracy: 0.8801
Epoch 140/220
1/750 [.................] - ETA: 0s - loss: 0.3514 - accuracy:
0.9531
85/750 [==>.....] - ETA: 0s - loss: 0.3578 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.3546 - accuracy:
0.9253
257/750 [======>.....] - ETA: 0s - loss: 0.3494 - accuracy:
0.9267
309/750 [=======>.....] - ETA: 0s - loss: 0.3503 - accuracy:
0.9271
385/750 [========>....] - ETA: 0s - loss: 0.3484 - accuracy:
0.9276
470/750 [=========>...... - ETA: 0s - loss: 0.3480 - accuracy:
554/750 [==========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
0.9269 - val_loss: 0.5198 - val_accuracy: 0.8756
```

```
1/750 [.....] - ETA: 0s - loss: 0.2113 - accuracy:
0.9844
89/750 [==>.....] - ETA: 0s - loss: 0.3387 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3425 - accuracy:
0.9311
259/750 [======>..... - ETA: 0s - loss: 0.3429 - accuracy:
0.9302
349/750 [========>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9288
439/750 [=========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3474 - accuracy:
750/750 [================ ] - 1s 702us/step - loss: 0.3486 - accuracy:
0.9285 - val_loss: 0.5532 - val_accuracy: 0.8662
Epoch 142/220
1/750 [.....] - ETA: 0s - loss: 0.2173 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3385 - accuracy:
174/750 [=====>.....] - ETA: 0s - loss: 0.3430 - accuracy:
0.9317
263/750 [=======>.....] - ETA: 0s - loss: 0.3423 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.3437 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3445 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 0.3472 - accuracy:
0.9295
0.9296
0.9288 - val loss: 0.4916 - val accuracy: 0.8842
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.3154 - accuracy:
0.9531
85/750 [==>...... - ETA: 0s - loss: 0.3471 - accuracy:
```

```
173/750 [====>...... - ETA: 0s - loss: 0.3453 - accuracy:
0.9324
261/750 [=======>.....] - ETA: 0s - loss: 0.3420 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3448 - accuracy:
435/750 [========>.....] - ETA: 0s - loss: 0.3477 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.3479 - accuracy:
0.9296
612/750 [===========>.....] - ETA: 0s - loss: 0.3479 - accuracy:
699/750 [===========>...] - ETA: 0s - loss: 0.3467 - accuracy:
750/750 [================ ] - 1s 706us/step - loss: 0.3467 - accuracy:
0.9297 - val loss: 0.5037 - val accuracy: 0.8794
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.2693 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3480 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9287
264/750 [=======>.....] - ETA: 0s - loss: 0.3540 - accuracy:
0.9281
348/750 [========>.....] - ETA: 0s - loss: 0.3504 - accuracy:
0.9291
436/750 [==========>.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9289
524/750 [==========>.....] - ETA: 0s - loss: 0.3471 - accuracy:
696/750 [===========>...] - ETA: 0s - loss: 0.3470 - accuracy:
0.9306 - val loss: 0.4840 - val accuracy: 0.8860
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.2576 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3352 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.3403 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.3405 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3422 - accuracy:
```

```
439/750 [=========>.....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9290
528/750 [==========>.....] - ETA: 0s - loss: 0.3470 - accuracy:
0.9287
0.9281
0.9279 - val loss: 0.5143 - val accuracy: 0.8776
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.4989 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9336
176/750 [=====>.....] - ETA: 0s - loss: 0.3442 - accuracy:
265/750 [======>.....] - ETA: 0s - loss: 0.3513 - accuracy:
355/750 [========>.....] - ETA: 0s - loss: 0.3485 - accuracy:
0.9289
439/750 [=========>.....] - ETA: 0s - loss: 0.3453 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3442 - accuracy:
0.9309
0.9296
0.9297
750/750 [=============== ] - 1s 710us/step - loss: 0.3463 - accuracy:
0.9300 - val_loss: 0.4889 - val_accuracy: 0.8852
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.2670 - accuracy:
0.9688
89/750 [==>.....] - ETA: 0s - loss: 0.3386 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3380 - accuracy:
0.9339
265/750 [=======>.....] - ETA: 0s - loss: 0.3375 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3404 - accuracy:
0.9329
437/750 [=========>..... - ETA: 0s - loss: 0.3434 - accuracy:
0.9311
525/750 [=========>.....] - ETA: 0s - loss: 0.3465 - accuracy:
0.9297
612/750 [============>.....] - ETA: 0s - loss: 0.3454 - accuracy:
```

```
0.9308 - val loss: 0.4932 - val accuracy: 0.8852
Epoch 148/220
 1/750 [.....] - ETA: 0s - loss: 0.4677 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9305
178/750 [=====>.....] - ETA: 0s - loss: 0.3393 - accuracy:
0.9306
263/750 [======>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9297
349/750 [=======>.....] - ETA: 0s - loss: 0.3406 - accuracy:
0.9307
437/750 [=========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.3435 - accuracy:
611/750 [============>.....] - ETA: 0s - loss: 0.3454 - accuracy:
0.9284
750/750 [============= ] - 1s 712us/step - loss: 0.3468 - accuracy:
0.9284 - val loss: 0.4964 - val accuracy: 0.8836
Epoch 149/220
 1/750 [.................] - ETA: 0s - loss: 0.3414 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3472 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.3361 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.3430 - accuracy:
0.9311
352/750 [=======>.....] - ETA: 0s - loss: 0.3493 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
0.9287
529/750 [=========>.....] - ETA: 0s - loss: 0.3462 - accuracy:
617/750 [===========>.....] - ETA: 0s - loss: 0.3459 - accuracy:
704/750 [===============>..] - ETA: 0s - loss: 0.3472 - accuracy:
750/750 [================ ] - 1s 705us/step - loss: 0.3467 - accuracy:
0.9298 - val_loss: 0.4895 - val_accuracy: 0.8885
Epoch 150/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2756 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.3526 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9306
262/750 [======>..... - ETA: 0s - loss: 0.3410 - accuracy:
0.9323
344/750 [========>.....] - ETA: 0s - loss: 0.3410 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.3439 - accuracy:
519/750 [==========>.....] - ETA: 0s - loss: 0.3421 - accuracy:
0.9316
694/750 [============>...] - ETA: 0s - loss: 0.3439 - accuracy:
0.9303 - val loss: 0.6207 - val accuracy: 0.8426
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.4093 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.3279 - accuracy:
0.9373
176/750 [=====>.....] - ETA: 0s - loss: 0.3349 - accuracy:
0.9351
264/750 [=======>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9356
349/750 [========>.....] - ETA: 0s - loss: 0.3376 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3374 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.3407 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.3433 - accuracy:
0.9309
750/750 [=============== ] - 1s 716us/step - loss: 0.3441 - accuracy:
0.9307 - val loss: 0.4967 - val accuracy: 0.8815
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.2896 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.3327 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.3437 - accuracy:
```

```
257/750 [=======>..... - ETA: 0s - loss: 0.3419 - accuracy:
0.9309
342/750 [========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
423/750 [========>...... - ETA: 0s - loss: 0.3405 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.3431 - accuracy:
0.9309
592/750 [===========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
0.9305
678/750 [============>...] - ETA: 0s - loss: 0.3433 - accuracy:
0.9306
0.9306 - val loss: 0.5102 - val accuracy: 0.8817
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.4184 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3361 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.3368 - accuracy:
0.9349
258/750 [=======>.....] - ETA: 0s - loss: 0.3388 - accuracy:
345/750 [=======>.....] - ETA: 0s - loss: 0.3449 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.3455 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.3449 - accuracy:
603/750 [============>.....] - ETA: 0s - loss: 0.3453 - accuracy:
688/750 [============>...] - ETA: 0s - loss: 0.3464 - accuracy:
0.9294 - val_loss: 0.5026 - val_accuracy: 0.8809
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.2787 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.3348 - accuracy:
0.9347
172/750 [====>.....] - ETA: 0s - loss: 0.3358 - accuracy:
0.9331
256/750 [======>..... - ETA: 0s - loss: 0.3398 - accuracy:
0.9324
342/750 [=======>.....] - ETA: 0s - loss: 0.3391 - accuracy:
0.9326
428/750 [=========>..... - ETA: 0s - loss: 0.3406 - accuracy:
```

```
513/750 [===========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9311
0.9300 - val_loss: 0.5069 - val_accuracy: 0.8817
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.2980 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3319 - accuracy:
0.9359
175/750 [=====>.....] - ETA: 0s - loss: 0.3300 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.3354 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.3382 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.3406 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.3416 - accuracy:
0.9316
614/750 [============>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9316
0.9315 - val_loss: 0.5147 - val_accuracy: 0.8777
Epoch 156/220
1/750 [...... o.4092 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.3451 - accuracy:
165/750 [====>.....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9347
252/750 [======>.....] - ETA: 0s - loss: 0.3382 - accuracy:
0.9337
341/750 [=======>.....] - ETA: 0s - loss: 0.3363 - accuracy:
0.9347
429/750 [========>.....] - ETA: 0s - loss: 0.3402 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.3389 - accuracy:
```

```
750/750 [================ ] - 1s 717us/step - loss: 0.3411 - accuracy:
0.9319 - val loss: 0.5536 - val accuracy: 0.8659
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.4824 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3468 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.3456 - accuracy:
0.9276
264/750 [=======>.....] - ETA: 0s - loss: 0.3400 - accuracy:
0.9289
353/750 [========>.....] - ETA: 0s - loss: 0.3435 - accuracy:
0.9279
439/750 [==========>.....] - ETA: 0s - loss: 0.3432 - accuracy:
527/750 [=========>:....] - ETA: 0s - loss: 0.3424 - accuracy:
0.9289 - val_loss: 0.4957 - val_accuracy: 0.8867
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.3408 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3399 - accuracy:
0.9347
162/750 [====>...... - ETA: 0s - loss: 0.3375 - accuracy:
0.9351
245/750 [======>.....] - ETA: 0s - loss: 0.3349 - accuracy:
330/750 [========>.....] - ETA: 0s - loss: 0.3398 - accuracy:
420/750 [=======>.....] - ETA: 0s - loss: 0.3430 - accuracy:
0.9317
506/750 [=========>.....] - ETA: 0s - loss: 0.3461 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.3449 - accuracy:
681/750 [===========>...] - ETA: 0s - loss: 0.3439 - accuracy:
750/750 [=============== ] - 1s 722us/step - loss: 0.3460 - accuracy:
0.9305 - val loss: 0.5083 - val accuracy: 0.8798
Epoch 159/220
 1/750 [.....] - ETA: 0s - loss: 0.2228 - accuracy:
0.9844
```

```
87/750 [==>...... - ETA: 0s - loss: 0.3424 - accuracy:
0.9335
176/750 [=====>.....] - ETA: 0s - loss: 0.3429 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.3357 - accuracy:
0.9364
348/750 [========>......] - ETA: 0s - loss: 0.3402 - accuracy:
0.9344
436/750 [=========>..... - ETA: 0s - loss: 0.3412 - accuracy:
0.9332
523/750 [=========>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9334
0.9336
0.9326
750/750 [=============== ] - 1s 713us/step - loss: 0.3416 - accuracy:
0.9324 - val_loss: 0.5765 - val_accuracy: 0.8615
Epoch 160/220
1/750 [...... - ETA: 0s - loss: 0.3832 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.3364 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3387 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.3365 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.3377 - accuracy:
0.9326
432/750 [=========>.....] - ETA: 0s - loss: 0.3386 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.3396 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.3410 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.3406 - accuracy:
0.9309
750/750 [============== ] - 1s 718us/step - loss: 0.3420 - accuracy:
0.9300 - val_loss: 0.5169 - val_accuracy: 0.8737
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.4364 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.3298 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.3371 - accuracy:
0.9331
259/750 [======>.....] - ETA: 0s - loss: 0.3347 - accuracy:
0.9347
```

```
342/750 [========>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9343
427/750 [=========>.....] - ETA: 0s - loss: 0.3377 - accuracy:
0.9331
508/750 [=========>.....] - ETA: 0s - loss: 0.3399 - accuracy:
0.9326
597/750 [===========>.....] - ETA: 0s - loss: 0.3408 - accuracy:
0.9324
683/750 [=============>...] - ETA: 0s - loss: 0.3400 - accuracy:
0.9324
750/750 [============= ] - 1s 721us/step - loss: 0.3425 - accuracy:
0.9316 - val_loss: 0.4949 - val_accuracy: 0.8852
Epoch 162/220
1/750 [.....] - ETA: 0s - loss: 0.3656 - accuracy:
91/750 [==>....... - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.3338 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.3375 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.3386 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.3424 - accuracy:
0.9311
0.9317
0.9313 - val loss: 0.4881 - val accuracy: 0.8870
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.3510 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9398
174/750 [====>.....] - ETA: 0s - loss: 0.3332 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.3368 - accuracy:
348/750 [=======>.....] - ETA: 0s - loss: 0.3384 - accuracy:
435/750 [========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
0.9337
522/750 [=========>.....] - ETA: 0s - loss: 0.3408 - accuracy:
```

```
607/750 [===========>.....] - ETA: 0s - loss: 0.3449 - accuracy:
0.9307 - val_loss: 0.5059 - val_accuracy: 0.8840
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.3055 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.3284 - accuracy:
0.9364
174/750 [====>...... - ETA: 0s - loss: 0.3401 - accuracy:
262/750 [======>..... - ETA: 0s - loss: 0.3355 - accuracy:
0.9339
349/750 [========>.....] - ETA: 0s - loss: 0.3374 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.3399 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3414 - accuracy:
0.9318
698/750 [=============>...] - ETA: 0s - loss: 0.3407 - accuracy:
0.9312 - val loss: 0.4932 - val accuracy: 0.8863
Epoch 165/220
1/750 [.....] - ETA: 0s - loss: 0.3344 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3370 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.3318 - accuracy:
0.9364
260/750 [======>.....] - ETA: 0s - loss: 0.3303 - accuracy:
0.9367
346/750 [========>.....] - ETA: 0s - loss: 0.3351 - accuracy:
434/750 [=========>...... - ETA: 0s - loss: 0.3369 - accuracy:
0.9347
519/750 [=========>.....] - ETA: 0s - loss: 0.3377 - accuracy:
0.9329
690/750 [============>...] - ETA: 0s - loss: 0.3422 - accuracy:
750/750 [=============== ] - 1s 713us/step - loss: 0.3410 - accuracy:
0.9326 - val_loss: 0.4968 - val_accuracy: 0.8849
```

```
1/750 [.....] - ETA: 0s - loss: 0.3359 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.3457 - accuracy:
0.9296
177/750 [=====>.....] - ETA: 0s - loss: 0.3309 - accuracy:
0.9358
263/750 [======>..... - ETA: 0s - loss: 0.3353 - accuracy:
0.9341
352/750 [=======>.....] - ETA: 0s - loss: 0.3394 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
0.9319
526/750 [===========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9319
750/750 [================ ] - 1s 705us/step - loss: 0.3402 - accuracy:
0.9320 - val_loss: 0.5916 - val_accuracy: 0.8627
Epoch 167/220
1/750 [.....] - ETA: 0s - loss: 0.4476 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3397 - accuracy:
0.9297
173/750 [=====>.....] - ETA: 0s - loss: 0.3352 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.3354 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 0.3332 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9331
517/750 [=========>.....] - ETA: 0s - loss: 0.3357 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9323
750/750 [================ ] - 1s 720us/step - loss: 0.3401 - accuracy:
0.9324 - val loss: 0.4925 - val accuracy: 0.8845
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.3342 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3249 - accuracy:
0.9398
```

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175/750 [=====>...... - ETA: 0s - loss: 0.3344 - accuracy:
0.9362
260/750 [=======>.....] - ETA: 0s - loss: 0.3301 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3339 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9339
523/750 [=========>.....] - ETA: 0s - loss: 0.3392 - accuracy:
0.9325
611/750 [===========>.....] - ETA: 0s - loss: 0.3391 - accuracy:
0.9326
750/750 [=============== ] - 1s 704us/step - loss: 0.3411 - accuracy:
0.9319 - val loss: 0.5179 - val accuracy: 0.8794
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.2798 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.3376 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.3375 - accuracy:
0.9351
255/750 [=======>.....] - ETA: 0s - loss: 0.3371 - accuracy:
341/750 [========>.....] - ETA: 0s - loss: 0.3332 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.3344 - accuracy:
0.9361
515/750 [==========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
0.9345
603/750 [===========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
0.9341
690/750 [============>...] - ETA: 0s - loss: 0.3396 - accuracy:
0.9340 - val_loss: 0.4916 - val_accuracy: 0.8867
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.2852 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3283 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.3276 - accuracy:
0.9398
263/750 [=======>.....] - ETA: 0s - loss: 0.3360 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3416 - accuracy:
```

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436/750 [=========>.....] - ETA: 0s - loss: 0.3403 - accuracy:
0.9334
523/750 [===========>.....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9334
0.9314
0.9317 - val loss: 0.5113 - val accuracy: 0.8785
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.3533 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3423 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.3419 - accuracy:
251/750 [======>.....] - ETA: 0s - loss: 0.3434 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.3426 - accuracy:
0.9299
425/750 [=========>.....] - ETA: 0s - loss: 0.3417 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.3390 - accuracy:
0.9313
0.9317
750/750 [=============== ] - 1s 722us/step - loss: 0.3404 - accuracy:
0.9312 - val_loss: 0.4964 - val_accuracy: 0.8867
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.3483 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3383 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3399 - accuracy:
0.9354
262/750 [=======>.....] - ETA: 0s - loss: 0.3361 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3363 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.3397 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.3406 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.3393 - accuracy:
```

```
0.9334
750/750 [=============== ] - 1s 710us/step - loss: 0.3397 - accuracy:
0.9338 - val loss: 0.4991 - val accuracy: 0.8833
Epoch 173/220
 1/750 [.....] - ETA: 0s - loss: 0.3632 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.3330 - accuracy:
0.9386
174/750 [====>.....] - ETA: 0s - loss: 0.3340 - accuracy:
0.9380
256/750 [======>.....] - ETA: 0s - loss: 0.3372 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.3352 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.3357 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.3379 - accuracy:
0.9357
607/750 [===========>.....] - ETA: 0s - loss: 0.3381 - accuracy:
750/750 [============= ] - 1s 710us/step - loss: 0.3426 - accuracy:
0.9329 - val loss: 0.5024 - val accuracy: 0.8829
Epoch 174/220
 1/750 [.................] - ETA: 0s - loss: 0.3504 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3355 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3342 - accuracy:
262/750 [======>..... - ETA: 0s - loss: 0.3296 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3384 - accuracy:
0.9343
439/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9343
525/750 [=========>.....] - ETA: 0s - loss: 0.3410 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.3399 - accuracy:
0.9331
687/750 [===========>...] - ETA: 0s - loss: 0.3411 - accuracy:
0.9326
750/750 [================ ] - 1s 717us/step - loss: 0.3408 - accuracy:
0.9326 - val_loss: 0.5109 - val_accuracy: 0.8817
Epoch 175/220
```

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1/750 [.....] - ETA: 0s - loss: 0.3292 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.3486 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.3390 - accuracy:
0.9326
258/750 [======>..... - ETA: 0s - loss: 0.3416 - accuracy:
0.9309
343/750 [========>.....] - ETA: 0s - loss: 0.3375 - accuracy:
0.9326
433/750 [=========>.....] - ETA: 0s - loss: 0.3361 - accuracy:
520/750 [==========>.....] - ETA: 0s - loss: 0.3367 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.3389 - accuracy:
0.9328 - val loss: 0.5027 - val accuracy: 0.8859
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.3114 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3248 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.3303 - accuracy:
0.9376
260/750 [=======>.....] - ETA: 0s - loss: 0.3345 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.3353 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.3360 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.3368 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.3380 - accuracy:
0.9334
692/750 [============>...] - ETA: 0s - loss: 0.3389 - accuracy:
0.9331 - val loss: 0.5257 - val accuracy: 0.8783
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.2417 - accuracy:
0.9844
89/750 [==>.....] - ETA: 0s - loss: 0.3199 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3318 - accuracy:
```

```
262/750 [=======>..... - ETA: 0s - loss: 0.3390 - accuracy:
0.9344
351/750 [========>.....] - ETA: 0s - loss: 0.3381 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3366 - accuracy:
0.9348
526/750 [=========>.....] - ETA: 0s - loss: 0.3365 - accuracy:
0.9344
615/750 [===========>.....] - ETA: 0s - loss: 0.3354 - accuracy:
0.9348
704/750 [==============>..] - ETA: 0s - loss: 0.3366 - accuracy:
0.9342 - val loss: 0.5009 - val accuracy: 0.8842
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.2446 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3359 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.3355 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.3349 - accuracy:
346/750 [========>......] - ETA: 0s - loss: 0.3346 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3358 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
610/750 [============>.....] - ETA: 0s - loss: 0.3370 - accuracy:
697/750 [===========>...] - ETA: 0s - loss: 0.3388 - accuracy:
0.9335 - val_loss: 0.4956 - val_accuracy: 0.8855
Epoch 179/220
 1/750 [...... 0.2366 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3280 - accuracy:
0.9407
174/750 [====>.....] - ETA: 0s - loss: 0.3301 - accuracy:
0.9371
263/750 [======>..... - ETA: 0s - loss: 0.3333 - accuracy:
0.9363
348/750 [=======>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9363
434/750 [=========>..... - ETA: 0s - loss: 0.3370 - accuracy:
```

```
524/750 [==========>.....] - ETA: 0s - loss: 0.3374 - accuracy:
0.9346
0.9338 - val_loss: 0.5234 - val_accuracy: 0.8781
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.3046 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3474 - accuracy:
0.9259
178/750 [=====>...... - ETA: 0s - loss: 0.3412 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.3371 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.3365 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
511/750 [==========>.....] - ETA: 0s - loss: 0.3346 - accuracy:
0.9348
598/750 [===========>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9340 - val_loss: 0.4900 - val_accuracy: 0.8886
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.1946 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3400 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.3388 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.3392 - accuracy:
0.9341
348/750 [========>.....] - ETA: 0s - loss: 0.3384 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9341
0.9331
```

```
0.9333 - val loss: 0.4857 - val accuracy: 0.8903
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.2883 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3338 - accuracy:
0.9347
168/750 [====>...... - ETA: 0s - loss: 0.3305 - accuracy:
249/750 [======>.....] - ETA: 0s - loss: 0.3311 - accuracy:
333/750 [========>.....] - ETA: 0s - loss: 0.3298 - accuracy:
0.9364
419/750 [=========>.....] - ETA: 0s - loss: 0.3303 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.3320 - accuracy:
594/750 [============>.....] - ETA: 0s - loss: 0.3332 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.3342 - accuracy:
0.9349 - val_loss: 0.5935 - val_accuracy: 0.8554
Epoch 183/220
1/750 [.....] - ETA: 0s - loss: 0.4327 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3289 - accuracy:
0.9379
177/750 [=====>.....] - ETA: 0s - loss: 0.3376 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9363
352/750 [=======>.....] - ETA: 0s - loss: 0.3313 - accuracy:
438/750 [========>.....] - ETA: 0s - loss: 0.3352 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.3381 - accuracy:
684/750 [===========>...] - ETA: 0s - loss: 0.3385 - accuracy:
0.9333 - val loss: 0.5670 - val accuracy: 0.8637
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.5013 - accuracy:
```

```
88/750 [==>...... - ETA: 0s - loss: 0.3318 - accuracy:
0.9368
173/750 [====>.....] - ETA: 0s - loss: 0.3341 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.3306 - accuracy:
341/750 [=======>.....] - ETA: 0s - loss: 0.3318 - accuracy:
0.9370
431/750 [=========>..... - ETA: 0s - loss: 0.3345 - accuracy:
0.9353
514/750 [=========>.....] - ETA: 0s - loss: 0.3340 - accuracy:
0.9354
0.9348
0.9348 - val loss: 0.5145 - val_accuracy: 0.8823
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.2640 - accuracy:
0.9531
87/750 [==>...... - ETA: 0s - loss: 0.3111 - accuracy:
0.9438
175/750 [=====>.....] - ETA: 0s - loss: 0.3205 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.3256 - accuracy:
0.9387
350/750 [=======>.....] - ETA: 0s - loss: 0.3309 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.3316 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.3331 - accuracy:
614/750 [===========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9351
698/750 [============>...] - ETA: 0s - loss: 0.3353 - accuracy:
0.9346
750/750 [============== ] - 1s 720us/step - loss: 0.3358 - accuracy:
0.9346 - val_loss: 0.5440 - val_accuracy: 0.8727
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.3611 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3277 - accuracy:
0.9364
177/750 [=====>...... - ETA: 0s - loss: 0.3281 - accuracy:
265/750 [=======>..... - ETA: 0s - loss: 0.3303 - accuracy:
```

```
350/750 [========>.....] - ETA: 0s - loss: 0.3346 - accuracy:
0.9345
439/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.3367 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.3371 - accuracy:
701/750 [==============>..] - ETA: 0s - loss: 0.3368 - accuracy:
0.9331
750/750 [============= ] - 1s 708us/step - loss: 0.3371 - accuracy:
0.9331 - val_loss: 0.5351 - val_accuracy: 0.8754
Epoch 187/220
1/750 [.....] - ETA: 0s - loss: 0.3995 - accuracy:
87/750 [==>....... - ETA: 0s - loss: 0.3637 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.3526 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.3406 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3407 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.3391 - accuracy:
0.9339
528/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
0.9341
0.9342 - val loss: 0.5194 - val accuracy: 0.8808
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.2972 - accuracy:
0.9531
83/750 [==>.....] - ETA: 0s - loss: 0.3151 - accuracy:
167/750 [====>.....] - ETA: 0s - loss: 0.3247 - accuracy:
251/750 [======>..... - ETA: 0s - loss: 0.3278 - accuracy:
0.9387
338/750 [=======>.....] - ETA: 0s - loss: 0.3302 - accuracy:
0.9367
426/750 [========>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9357
513/750 [=========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9351
```

```
579/750 [===========>.....] - ETA: 0s - loss: 0.3330 - accuracy:
0.9356
665/750 [=============>....] - ETA: 0s - loss: 0.3359 - accuracy:
750/750 [=============== ] - 1s 733us/step - loss: 0.3363 - accuracy:
0.9348 - val_loss: 0.5121 - val_accuracy: 0.8819
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.3426 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.3252 - accuracy:
0.9366
171/750 [====>.....] - ETA: 0s - loss: 0.3326 - accuracy:
0.9356
255/750 [======>..... - ETA: 0s - loss: 0.3329 - accuracy:
0.9354
340/750 [========>.....] - ETA: 0s - loss: 0.3352 - accuracy:
0.9347
425/750 [==========>.....] - ETA: 0s - loss: 0.3376 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.3357 - accuracy:
590/750 [============>.....] - ETA: 0s - loss: 0.3361 - accuracy:
675/750 [============>...] - ETA: 0s - loss: 0.3369 - accuracy:
0.9335 - val loss: 0.5821 - val accuracy: 0.8581
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.4274 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.3440 - accuracy:
160/750 [====>...... - ETA: 0s - loss: 0.3386 - accuracy:
244/750 [======>.....] - ETA: 0s - loss: 0.3415 - accuracy:
0.9315
332/750 [========>.....] - ETA: 0s - loss: 0.3384 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.3373 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3362 - accuracy:
594/750 [============>.....] - ETA: 0s - loss: 0.3360 - accuracy:
0.9339
679/750 [============>...] - ETA: 0s - loss: 0.3366 - accuracy:
0.9338 - val_loss: 0.5035 - val_accuracy: 0.8875
```

```
1/750 [.....] - ETA: 0s - loss: 0.2191 - accuracy:
0.9844
88/750 [==>.....] - ETA: 0s - loss: 0.3463 - accuracy:
0.9284
170/750 [=====>.....] - ETA: 0s - loss: 0.3407 - accuracy:
257/750 [======>...... - ETA: 0s - loss: 0.3400 - accuracy:
0.9326
343/750 [========>>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9346
428/750 [=========>.....] - ETA: 0s - loss: 0.3332 - accuracy:
0.9352
516/750 [===========>.....] - ETA: 0s - loss: 0.3333 - accuracy:
0.9351
750/750 [================ ] - 1s 716us/step - loss: 0.3333 - accuracy:
0.9348 - val_loss: 0.5115 - val_accuracy: 0.8855
Epoch 192/220
1/750 [.....] - ETA: 0s - loss: 0.2889 - accuracy:
0.9375
86/750 [==>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9301
172/750 [=====>.....] - ETA: 0s - loss: 0.3461 - accuracy:
0.9311
257/750 [=======>.....] - ETA: 0s - loss: 0.3438 - accuracy:
0.9317
347/750 [========>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9326
432/750 [=========>.....] - ETA: 0s - loss: 0.3396 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.3386 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.3375 - accuracy:
0.9332 - val loss: 0.5080 - val accuracy: 0.8821
Epoch 193/220
1/750 [...... 0.3562 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.3226 - accuracy:
```

```
173/750 [====>...... - ETA: 0s - loss: 0.3313 - accuracy:
0.9375
256/750 [=======>.....] - ETA: 0s - loss: 0.3315 - accuracy:
0.9374
343/750 [=======>.....] - ETA: 0s - loss: 0.3312 - accuracy:
0.9367
413/750 [========>...............] - ETA: 0s - loss: 0.3347 - accuracy:
498/750 [=========>.....] - ETA: 0s - loss: 0.3346 - accuracy:
0.9356
584/750 [===========>.....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9361
672/750 [=============>....] - ETA: 0s - loss: 0.3336 - accuracy:
0.9355 - val loss: 0.5121 - val accuracy: 0.8834
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.2752 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3310 - accuracy:
0.9401
178/750 [=====>.....] - ETA: 0s - loss: 0.3333 - accuracy:
0.9382
264/750 [=======>.....] - ETA: 0s - loss: 0.3317 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3334 - accuracy:
0.9376
439/750 [=========>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9366
526/750 [=========>.....] - ETA: 0s - loss: 0.3332 - accuracy:
0.9369
616/750 [===========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9359 - val_loss: 0.5199 - val_accuracy: 0.8805
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.2655 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.3297 - accuracy:
0.9381
172/750 [====>...... - ETA: 0s - loss: 0.3317 - accuracy:
248/750 [======>.....] - ETA: 0s - loss: 0.3305 - accuracy:
336/750 [=======>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9381
```

```
426/750 [=========>.....] - ETA: 0s - loss: 0.3339 - accuracy:
0.9364
501/750 [===========>.....] - ETA: 0s - loss: 0.3329 - accuracy:
0.9363
586/750 [============>.....] - ETA: 0s - loss: 0.3338 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.3332 - accuracy:
750/750 [============= ] - 1s 729us/step - loss: 0.3350 - accuracy:
0.9354 - val loss: 0.5210 - val accuracy: 0.8796
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.2900 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9331
175/750 [=====>.....] - ETA: 0s - loss: 0.3333 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.3365 - accuracy:
348/750 [========>...... - ETA: 0s - loss: 0.3341 - accuracy:
0.9344
434/750 [=========>.....] - ETA: 0s - loss: 0.3344 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.3359 - accuracy:
0.9353
0.9347
0.9344
750/750 [=============== ] - 1s 712us/step - loss: 0.3393 - accuracy:
0.9340 - val_loss: 0.4953 - val_accuracy: 0.8889
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.2282 - accuracy:
0.9844
84/750 [==>...... - ETA: 0s - loss: 0.3381 - accuracy:
0.9356
171/750 [====>.....] - ETA: 0s - loss: 0.3301 - accuracy:
0.9379
257/750 [=======>.....] - ETA: 0s - loss: 0.3354 - accuracy:
341/750 [=======>.....] - ETA: 0s - loss: 0.3369 - accuracy:
428/750 [=========>..... - ETA: 0s - loss: 0.3380 - accuracy:
0.9346
511/750 [=========>.....] - ETA: 0s - loss: 0.3350 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.3335 - accuracy:
```

```
679/750 [============>...] - ETA: 0s - loss: 0.3337 - accuracy:
750/750 [================ ] - 1s 725us/step - loss: 0.3350 - accuracy:
0.9353 - val loss: 0.5432 - val accuracy: 0.8708
Epoch 198/220
 1/750 [.....] - ETA: 0s - loss: 0.2775 - accuracy:
0.9688
85/750 [==>.....] - ETA: 0s - loss: 0.3187 - accuracy:
0.9434
171/750 [====>.....] - ETA: 0s - loss: 0.3311 - accuracy:
255/750 [======>.....] - ETA: 0s - loss: 0.3287 - accuracy:
0.9403
341/750 [=======>.....] - ETA: 0s - loss: 0.3356 - accuracy:
0.9369
428/750 [=========>.....] - ETA: 0s - loss: 0.3370 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.3363 - accuracy:
0.9364
598/750 [===========>.....] - ETA: 0s - loss: 0.3358 - accuracy:
750/750 [============= ] - 1s 722us/step - loss: 0.3374 - accuracy:
0.9354 - val loss: 0.4952 - val accuracy: 0.8904
Epoch 199/220
 1/750 [................] - ETA: 0s - loss: 0.2837 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.3156 - accuracy:
167/750 [====>.....] - ETA: 0s - loss: 0.3220 - accuracy:
0.9411
254/750 [======>..... - ETA: 0s - loss: 0.3213 - accuracy:
337/750 [=======>.....] - ETA: 0s - loss: 0.3225 - accuracy:
0.9414
420/750 [========>....] - ETA: 0s - loss: 0.3246 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.3280 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.3299 - accuracy:
678/750 [============>...] - ETA: 0s - loss: 0.3312 - accuracy:
0.9376
0.9367 - val_loss: 0.5053 - val_accuracy: 0.8823
Epoch 200/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3582 - accuracy:
0.9219
85/750 [==>.....] - ETA: 0s - loss: 0.3296 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.3222 - accuracy:
0.9382
258/750 [======>.....] - ETA: 0s - loss: 0.3260 - accuracy:
0.9379
339/750 [========>.....] - ETA: 0s - loss: 0.3278 - accuracy:
0.9375
426/750 [=========>.....] - ETA: 0s - loss: 0.3289 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.3304 - accuracy:
0.9376
597/750 [============>.....] - ETA: 0s - loss: 0.3299 - accuracy:
0.9363 - val loss: 0.5044 - val accuracy: 0.8867
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.2854 - accuracy:
0.9375
89/750 [==>.....] - ETA: 0s - loss: 0.3255 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.3322 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.3346 - accuracy:
0.9366
354/750 [=======>.....] - ETA: 0s - loss: 0.3341 - accuracy:
0.9364
443/750 [=========>..... - ETA: 0s - loss: 0.3321 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.3319 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.3330 - accuracy:
0.9368
707/750 [==============>..] - ETA: 0s - loss: 0.3338 - accuracy:
0.9366
750/750 [================ ] - 1s 701us/step - loss: 0.3332 - accuracy:
0.9370 - val loss: 0.4997 - val accuracy: 0.8870
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.2997 - accuracy:
0.9219
88/750 [==>.....] - ETA: 0s - loss: 0.3112 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3252 - accuracy:
```

```
264/750 [=======>.....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9372
352/750 [=======>.....] - ETA: 0s - loss: 0.3326 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.3309 - accuracy:
0.9361
528/750 [=========>.....] - ETA: 0s - loss: 0.3344 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9354
701/750 [==============>..] - ETA: 0s - loss: 0.3365 - accuracy:
0.9349
0.9345 - val loss: 0.5102 - val accuracy: 0.8803
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.3140 - accuracy:
0.9375
88/750 [==>.....] - ETA: 0s - loss: 0.3343 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.3295 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.3328 - accuracy:
0.9383
346/750 [========>.....] - ETA: 0s - loss: 0.3362 - accuracy:
0.9367
432/750 [=========>.....] - ETA: 0s - loss: 0.3351 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.3342 - accuracy:
608/750 [============>.....] - ETA: 0s - loss: 0.3343 - accuracy:
695/750 [===========>...] - ETA: 0s - loss: 0.3333 - accuracy:
0.9361 - val_loss: 0.5131 - val_accuracy: 0.8816
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.3453 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.3144 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.3235 - accuracy:
0.9386
263/750 [======>..... - ETA: 0s - loss: 0.3275 - accuracy:
0.9376
350/750 [=======>.....] - ETA: 0s - loss: 0.3312 - accuracy:
0.9370
431/750 [=========>..... - ETA: 0s - loss: 0.3298 - accuracy:
```

```
510/750 [===========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9371
0.9362
0.9367 - val_loss: 0.5166 - val_accuracy: 0.8804
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.3472 - accuracy:
81/750 [==>.....] - ETA: 0s - loss: 0.3160 - accuracy:
0.9444
165/750 [====>...... - ETA: 0s - loss: 0.3265 - accuracy:
248/750 [======>.....] - ETA: 0s - loss: 0.3285 - accuracy:
0.9389
332/750 [========>.....] - ETA: 0s - loss: 0.3278 - accuracy:
414/750 [========>.....] - ETA: 0s - loss: 0.3262 - accuracy:
499/750 [=========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9379
750/750 [=============== ] - 1s 741us/step - loss: 0.3318 - accuracy:
0.9379 - val_loss: 0.5175 - val_accuracy: 0.8849
Epoch 206/220
1/750 [.....] - ETA: 0s - loss: 0.2633 - accuracy:
0.9531
83/750 [==>.....] - ETA: 0s - loss: 0.3309 - accuracy:
167/750 [====>...... - ETA: 0s - loss: 0.3354 - accuracy:
0.9366
251/750 [=======>.....] - ETA: 0s - loss: 0.3319 - accuracy:
336/750 [=======>.....] - ETA: 0s - loss: 0.3330 - accuracy:
0.9364
419/750 [========>..... - ETA: 0s - loss: 0.3332 - accuracy:
0.9363
500/750 [===========>.....] - ETA: 0s - loss: 0.3320 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.3320 - accuracy:
```

```
664/750 [============>....] - ETA: 0s - loss: 0.3323 - accuracy:
0.9374
0.9365 - val_loss: 0.5092 - val_accuracy: 0.8845
Epoch 207/220
1/750 [.....] - ETA: 0s - loss: 0.3958 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.3233 - accuracy:
166/750 [====>.....] - ETA: 0s - loss: 0.3286 - accuracy:
0.9385
248/750 [======>..... - ETA: 0s - loss: 0.3315 - accuracy:
332/750 [========>.....] - ETA: 0s - loss: 0.3279 - accuracy:
414/750 [=========>...... - ETA: 0s - loss: 0.3273 - accuracy:
0.9384
501/750 [========>>.....] - ETA: 0s - loss: 0.3264 - accuracy:
0.9387
587/750 [===========>.....] - ETA: 0s - loss: 0.3299 - accuracy:
0.9374
673/750 [=============>....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9379
0.9369 - val loss: 0.5470 - val accuracy: 0.8711
Epoch 208/220
1/750 [.....] - ETA: 0s - loss: 0.3955 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.3310 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.3323 - accuracy:
256/750 [======>..... - ETA: 0s - loss: 0.3311 - accuracy:
0.9366
340/750 [========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9354
424/750 [========>..... - ETA: 0s - loss: 0.3307 - accuracy:
0.9367
512/750 [=========>.....] - ETA: 0s - loss: 0.3320 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.3347 - accuracy:
680/750 [============>...] - ETA: 0s - loss: 0.3337 - accuracy:
0.9361
0.9354 - val_loss: 0.5389 - val_accuracy: 0.8794
```

```
1/750 [.....] - ETA: 0s - loss: 0.4159 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3231 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9378
259/750 [======>..... - ETA: 0s - loss: 0.3261 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.3246 - accuracy:
0.9411
430/750 [=========>.....] - ETA: 0s - loss: 0.3279 - accuracy:
0.9395
518/750 [============>.....] - ETA: 0s - loss: 0.3275 - accuracy:
0.9391
750/750 [=============== ] - 1s 718us/step - loss: 0.3304 - accuracy:
0.9386 - val_loss: 0.5362 - val_accuracy: 0.8731
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.3283 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3188 - accuracy:
0.9411
170/750 [=====>.....] - ETA: 0s - loss: 0.3171 - accuracy:
252/750 [=======>.....] - ETA: 0s - loss: 0.3293 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.3327 - accuracy:
422/750 [========>...... - ETA: 0s - loss: 0.3317 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.3326 - accuracy:
592/750 [===========>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9381
0.9378 - val loss: 0.5947 - val accuracy: 0.8598
Epoch 211/220
1/750 [...... 0.4016 - accuracy:
0.8906
88/750 [==>...... - ETA: 0s - loss: 0.3211 - accuracy:
0.9371
```

```
171/750 [====>.....] - ETA: 0s - loss: 0.3269 - accuracy:
0.9366
256/750 [=======>.....] - ETA: 0s - loss: 0.3303 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.3309 - accuracy:
430/750 [========>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9368
515/750 [=========>.....] - ETA: 0s - loss: 0.3328 - accuracy:
0.9361
600/750 [===========>.....] - ETA: 0s - loss: 0.3324 - accuracy:
685/750 [============>...] - ETA: 0s - loss: 0.3323 - accuracy:
750/750 [=============== ] - 1s 718us/step - loss: 0.3313 - accuracy:
0.9370 - val loss: 0.5165 - val accuracy: 0.8819
Epoch 212/220
1/750 [.....] - ETA: 0s - loss: 0.2942 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3254 - accuracy:
0.9363
171/750 [=====>.....] - ETA: 0s - loss: 0.3314 - accuracy:
255/750 [=======>.....] - ETA: 0s - loss: 0.3313 - accuracy:
339/750 [========>.....] - ETA: 0s - loss: 0.3388 - accuracy:
419/750 [========>.....] - ETA: 0s - loss: 0.3376 - accuracy:
0.9346
507/750 [==========>.....] - ETA: 0s - loss: 0.3350 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.3353 - accuracy:
678/750 [=============>...] - ETA: 0s - loss: 0.3337 - accuracy:
0.9358 - val_loss: 0.5160 - val_accuracy: 0.8799
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.2905 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3216 - accuracy:
171/750 [====>...... - ETA: 0s - loss: 0.3207 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.3188 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.3215 - accuracy:
```

```
430/750 [=========>.....] - ETA: 0s - loss: 0.3239 - accuracy:
0.9398
514/750 [===========>.....] - ETA: 0s - loss: 0.3258 - accuracy:
0.9391
0.9378
0.9375
750/750 [============== ] - 1s 717us/step - loss: 0.3308 - accuracy:
0.9375 - val loss: 0.4956 - val accuracy: 0.8852
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.3304 - accuracy:
81/750 [==>.....] - ETA: 0s - loss: 0.3179 - accuracy:
160/750 [====>.....] - ETA: 0s - loss: 0.3207 - accuracy:
0.9421
247/750 [======>.....] - ETA: 0s - loss: 0.3294 - accuracy:
334/750 [=======>...... - ETA: 0s - loss: 0.3296 - accuracy:
0.9388
414/750 [========>.....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9389
501/750 [=========>.....] - ETA: 0s - loss: 0.3298 - accuracy:
0.9378
589/750 [============>.....] - ETA: 0s - loss: 0.3307 - accuracy:
674/750 [=====================>....] - ETA: 0s - loss: 0.3315 - accuracy:
0.9374
750/750 [=============== ] - 1s 730us/step - loss: 0.3324 - accuracy:
0.9373 - val_loss: 0.5051 - val_accuracy: 0.8845
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.3183 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.3595 - accuracy:
0.9276
172/750 [====>.....] - ETA: 0s - loss: 0.3404 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.3360 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.3338 - accuracy:
0.9363
427/750 [=========>..... - ETA: 0s - loss: 0.3337 - accuracy:
0.9364
511/750 [=========>.....] - ETA: 0s - loss: 0.3316 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.3311 - accuracy:
0.9376
```

```
681/750 [============>...] - ETA: 0s - loss: 0.3336 - accuracy:
0.9361
0.9361 - val loss: 0.5177 - val accuracy: 0.8827
Epoch 216/220
 1/750 [.....] - ETA: 0s - loss: 0.3978 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.3189 - accuracy:
0.9445
171/750 [=====>.....] - ETA: 0s - loss: 0.3303 - accuracy:
255/750 [======>.....] - ETA: 0s - loss: 0.3277 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9381
427/750 [=========>.....] - ETA: 0s - loss: 0.3296 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9369
602/750 [===========>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9361
750/750 [=============== ] - 1s 721us/step - loss: 0.3334 - accuracy:
0.9362 - val loss: 0.5034 - val accuracy: 0.8849
Epoch 217/220
 1/750 [................] - ETA: 0s - loss: 0.2381 - accuracy:
0.9688
86/750 [==>.....] - ETA: 0s - loss: 0.3182 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.3233 - accuracy:
258/750 [=======>..... - ETA: 0s - loss: 0.3241 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.3255 - accuracy:
0.9401
429/750 [=========>.....] - ETA: 0s - loss: 0.3266 - accuracy:
0.9398
515/750 [=========>.....] - ETA: 0s - loss: 0.3282 - accuracy:
0.9389
601/750 [===========>.....] - ETA: 0s - loss: 0.3309 - accuracy:
685/750 [===========>...] - ETA: 0s - loss: 0.3299 - accuracy:
750/750 [=============== ] - 1s 724us/step - loss: 0.3301 - accuracy:
0.9376 - val_loss: 0.5475 - val_accuracy: 0.8751
Epoch 218/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2610 - accuracy:
0.9688
82/750 [==>.....] - ETA: 0s - loss: 0.3279 - accuracy:
0.9381
166/750 [====>.....] - ETA: 0s - loss: 0.3253 - accuracy:
0.9377
252/750 [======>.....] - ETA: 0s - loss: 0.3250 - accuracy:
0.9387
338/750 [========>...... - ETA: 0s - loss: 0.3261 - accuracy:
0.9382
424/750 [========>...... - ETA: 0s - loss: 0.3266 - accuracy:
0.9386
509/750 [==========>.....] - ETA: 0s - loss: 0.3280 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9367 - val loss: 0.5170 - val accuracy: 0.8832
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.3051 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.3249 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.3237 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.3236 - accuracy:
0.9401
348/750 [========>.....] - ETA: 0s - loss: 0.3331 - accuracy:
429/750 [========>.....] - ETA: 0s - loss: 0.3346 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.3327 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.3310 - accuracy:
0.9380
686/750 [===========>...] - ETA: 0s - loss: 0.3316 - accuracy:
0.9367 - val loss: 0.5177 - val accuracy: 0.8867
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.2421 - accuracy:
0.9844
86/750 [==>.....] - ETA: 0s - loss: 0.3127 - accuracy:
0.9426
170/750 [====>...... - ETA: 0s - loss: 0.3175 - accuracy:
0.9421
```

```
256/750 [=======>.....] - ETA: 0s - loss: 0.3210 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9381
427/750 [=========>..... - ETA: 0s - loss: 0.3342 - accuracy:
0.9371
513/750 [=========>.....] - ETA: 0s - loss: 0.3328 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9368
685/750 [===========>...] - ETA: 0s - loss: 0.3353 - accuracy:
0.9364
0.9359 - val loss: 0.5294 - val accuracy: 0.8802
 1/313 [...... o.4603 - accuracy:
0.9375
110/313 [=======>...... - ETA: 0s - loss: 0.5863 - accuracy:
0.8668
226/313 [===========>.....] - ETA: 0s - loss: 0.5938 - accuracy:
0.8637
0.8671
Testing loss: 0.5731228590011597
Testing accuracy: 86.71000003814697%
```

Running for Model 6/12

Model: "sequential_6"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 50)	39250
hidden1 (Dense)	(None, 50)	2550
hidden2 (Dense)	(None, 50)	2550
hidden3 (Dense)	(None, 50)	2550
hidden4 (Dense)	(None, 50)	2550
hidden5 (Dense)	(None, 50)	2550
output_layer (Dense)	(None, 10)	510

Total params: 52,510 Trainable params: 52,510 Non-trainable params: 0

```
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.01 and
L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 50,
'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size':
50, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden5', 'size': 50,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation_function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 2:20 - loss: 2.6880 - accuracy:
64/750 [=>.....] - ETA: 0s - loss: 2.6420 - accuracy: 0.1062
130/750 [====>......] - ETA: 0s - loss: 2.6081 - accuracy:
0.1541
198/750 [=====>.....] - ETA: 0s - loss: 2.5488 - accuracy:
0.1968
268/750 [======>..... - ETA: 0s - loss: 2.4532 - accuracy:
0.2393
335/750 [=======>.....] - ETA: 0s - loss: 2.3483 - accuracy:
0.2904
405/750 [========>.....] - ETA: 0s - loss: 2.2342 - accuracy:
0.3343
475/750 [=========>.....] - ETA: 0s - loss: 2.1192 - accuracy:
0.3778
543/750 [==========>.....] - ETA: 0s - loss: 2.0137 - accuracy:
0.4167
0.4899
0.5034 - val loss: 1.0822 - val accuracy: 0.7300
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 0.9271 - accuracy:
67/750 [=>.....] - ETA: 0s - loss: 1.0425 - accuracy:
133/750 [====>.....] - ETA: 0s - loss: 1.0448 - accuracy:
202/750 [======>.....] - ETA: 0s - loss: 1.0332 - accuracy:
271/750 [======>.....] - ETA: 0s - loss: 1.0246 - accuracy:
340/750 [========>.....] - ETA: 0s - loss: 1.0173 - accuracy:
```

```
0.7585
405/750 [========>.....] - ETA: 0s - loss: 1.0111 - accuracy:
0.7605
476/750 [=========>.....] - ETA: 0s - loss: 1.0044 - accuracy:
546/750 [==========>.....] - ETA: 0s - loss: 0.9981 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.9911 - accuracy:
0.7683
750/750 [============= ] - 1s 889us/step - loss: 0.9814 - accuracy:
0.7720 - val loss: 0.9199 - val accuracy: 0.7993
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 0.8524 - accuracy:
0.8125
71/750 [=>.....] - ETA: 0s - loss: 0.9142 - accuracy:
0.7896
143/750 [====>...... - ETA: 0s - loss: 0.9228 - accuracy:
0.7924
215/750 [======>.....] - ETA: 0s - loss: 0.9241 - accuracy:
0.7916
285/750 [=======>..... - ETA: 0s - loss: 0.9126 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.9073 - accuracy:
0.7989
426/750 [=========>.....] - ETA: 0s - loss: 0.9057 - accuracy:
0.7999
496/750 [=========>.....] - ETA: 0s - loss: 0.9028 - accuracy:
566/750 [============>.....] - ETA: 0s - loss: 0.9014 - accuracy:
0.8017
0.8944
0.8044 - val_loss: 0.8614 - val_accuracy: 0.8143
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 1.0201 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.8467 - accuracy:
139/750 [====>.....] - ETA: 0s - loss: 0.8531 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.8504 - accuracy:
283/750 [=======>.....] - ETA: 0s - loss: 0.8526 - accuracy:
```

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351/750 [=========>.....] - ETA: 0s - loss: 0.8548 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.8551 - accuracy:
492/750 [=========>.....] - ETA: 0s - loss: 0.8517 - accuracy:
565/750 [==========>.....] - ETA: 0s - loss: 0.8500 - accuracy:
702/750 [==============>..] - ETA: 0s - loss: 0.8447 - accuracy:
750/750 [============= ] - 1s 869us/step - loss: 0.8426 - accuracy:
0.8239 - val_loss: 0.8256 - val_accuracy: 0.8265
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 0.9206 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8338 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.8309 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.8208 - accuracy:
0.8337
290/750 [=======>.....] - ETA: 0s - loss: 0.8175 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.8155 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.8121 - accuracy:
507/750 [==========>.....] - ETA: 0s - loss: 0.8102 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.8092 - accuracy:
750/750 [============= ] - 1s 850us/step - loss: 0.8056 - accuracy:
0.8358 - val_loss: 0.8026 - val_accuracy: 0.8341
Epoch 6/220
1/750 [...... 0.8030 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7921 - accuracy:
0.8394
146/750 [====>.....] - ETA: 0s - loss: 0.7956 - accuracy:
0.8386
218/750 [======>.....] - ETA: 0s - loss: 0.7920 - accuracy:
```

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0.8387
289/750 [=======>.....] - ETA: 0s - loss: 0.7873 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.7875 - accuracy:
0.8409
435/750 [========>.....] - ETA: 0s - loss: 0.7856 - accuracy:
507/750 [========>>.....] - ETA: 0s - loss: 0.7857 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.7831 - accuracy:
649/750 [============>....] - ETA: 0s - loss: 0.7820 - accuracy:
0.8428
750/750 [============== ] - 1s 846us/step - loss: 0.7777 - accuracy:
0.8434 - val loss: 0.7980 - val accuracy: 0.8338
Epoch 7/220
1/750 [...... os - loss: 0.7751 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.7528 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.7502 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7514 - accuracy:
0.8501
288/750 [=======>..... - ETA: 0s - loss: 0.7513 - accuracy:
0.8511
362/750 [=========>.....] - ETA: 0s - loss: 0.7517 - accuracy:
0.8514
433/750 [=========>.....] - ETA: 0s - loss: 0.7519 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.7532 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 0.7568 - accuracy:
0.8499
652/750 [=============>....] - ETA: 0s - loss: 0.7598 - accuracy:
726/750 [==============>.] - ETA: 0s - loss: 0.7589 - accuracy:
0.8488 - val loss: 0.7547 - val_accuracy: 0.8493
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 0.7817 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7373 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7444 - accuracy:
```

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0.8539
216/750 [======>.....] - ETA: 0s - loss: 0.7438 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.7383 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.7402 - accuracy:
434/750 [========>.....] - ETA: 0s - loss: 0.7402 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.7415 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 0.7381 - accuracy:
0.8529
654/750 [==============>....] - ETA: 0s - loss: 0.7375 - accuracy:
0.8536
0.8538
750/750 [============== ] - 1s 844us/step - loss: 0.7370 - accuracy:
0.8539 - val loss: 0.7302 - val accuracy: 0.8581
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 0.7166 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6988 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.7117 - accuracy:
220/750 [=====>..... - ETA: 0s - loss: 0.7118 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.7178 - accuracy:
0.8699
364/750 [=======>.....] - ETA: 0s - loss: 0.7214 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.7197 - accuracy:
0.8591
507/750 [=========>.....] - ETA: 0s - loss: 0.7201 - accuracy:
0.8594
578/750 [============>.....] - ETA: 0s - loss: 0.7196 - accuracy:
0.8589
0.8583
0.8584 - val_loss: 0.7178 - val_accuracy: 0.8598
Epoch 10/220
1/750 [.....] - ETA: 1s - loss: 0.6485 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.6972 - accuracy:
```

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0.8678
145/750 [====>.....] - ETA: 0s - loss: 0.7037 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.7028 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.7060 - accuracy:
0.8629
362/750 [=======>.....] - ETA: 0s - loss: 0.7049 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.7051 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.7066 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.7062 - accuracy:
0.8615
655/750 [=============>....] - ETA: 0s - loss: 0.7061 - accuracy:
0.8609
0.8607 - val_loss: 0.7075 - val_accuracy: 0.8635
Epoch 11/220
1/750 [...... - ETA: 0s - loss: 0.6335 - accuracy:
0.8996
72/750 [=>...... - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.6883 - accuracy:
0.8629
220/750 [=====>>...... - ETA: 0s - loss: 0.6915 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.6916 - accuracy:
0.8636
367/750 [=======>.....] - ETA: 0s - loss: 0.6943 - accuracy:
0.8628
442/750 [=========>..... - ETA: 0s - loss: 0.6936 - accuracy:
0.8624
514/750 [===========>.....] - ETA: 0s - loss: 0.6955 - accuracy:
0.8624
586/750 [===========>.....] - ETA: 0s - loss: 0.6965 - accuracy:
0.8636 - val_loss: 0.7077 - val_accuracy: 0.8573
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 0.8292 - accuracy:
```

```
0.7812
74/750 [=>.....] - ETA: 0s - loss: 0.6946 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.6874 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6854 - accuracy:
0.8654
294/750 [=======>..... - ETA: 0s - loss: 0.6839 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.6841 - accuracy:
0.8669
438/750 [=========>..... - ETA: 0s - loss: 0.6827 - accuracy:
0.8674
511/750 [===========>.....] - ETA: 0s - loss: 0.6805 - accuracy:
0.8675
583/750 [============>.....] - ETA: 0s - loss: 0.6802 - accuracy:
0.8670
657/750 [==============>....] - ETA: 0s - loss: 0.6810 - accuracy:
0.8663
0.8663 - val loss: 0.7029 - val accuracy: 0.8589
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 0.6891 - accuracy:
0.8996
73/750 [=>.....] - ETA: 0s - loss: 0.6674 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.6679 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6701 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.6698 - accuracy:
0.8701
364/750 [=======>.....] - ETA: 0s - loss: 0.6689 - accuracy:
0.8698
437/750 [=========>.....] - ETA: 0s - loss: 0.6688 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.6678 - accuracy:
0.8691
584/750 [===========>.....] - ETA: 0s - loss: 0.6683 - accuracy:
657/750 [==============>....] - ETA: 0s - loss: 0.6687 - accuracy:
0.8696 - val loss: 0.6998 - val accuracy: 0.8572
Epoch 14/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5531 - accuracy:
0.8906
76/750 [==>....... - accuracy:
0.8616
149/750 [====>.....] - ETA: 0s - loss: 0.6682 - accuracy:
222/750 [=====>.....] - ETA: 0s - loss: 0.6720 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.6682 - accuracy:
0.8646
368/750 [========>.....] - ETA: 0s - loss: 0.6646 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.6638 - accuracy:
0.8676
513/750 [==========>.....] - ETA: 0s - loss: 0.6609 - accuracy:
0.8691
583/750 [============>.....] - ETA: 0s - loss: 0.6603 - accuracy:
0.8697
658/750 [===============>....] - ETA: 0s - loss: 0.6599 - accuracy:
729/750 [=============>.] - ETA: 0s - loss: 0.6582 - accuracy:
750/750 [================ ] - 1s 841us/step - loss: 0.6573 - accuracy:
0.8711 - val loss: 0.6963 - val accuracy: 0.8543
Epoch 15/220
 1/750 [................] - ETA: 0s - loss: 0.5587 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6336 - accuracy:
0.8789
147/750 [====>.....] - ETA: 0s - loss: 0.6364 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.6438 - accuracy:
0.8724
294/750 [=======>..... - ETA: 0s - loss: 0.6424 - accuracy:
0.8729
369/750 [========>.....] - ETA: 0s - loss: 0.6444 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.6442 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.6444 - accuracy:
588/750 [=============>.....] - ETA: 0s - loss: 0.6458 - accuracy:
0.8731
660/750 [=============>....] - ETA: 0s - loss: 0.6460 - accuracy:
0.8726
750/750 [============= ] - 1s 842us/step - loss: 0.6462 - accuracy:
```

```
0.8727 - val_loss: 0.6782 - val_accuracy: 0.8598 Epoch 16/220
```

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1/750 [.....] - ETA: 0s - loss: 0.5956 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.6367 - accuracy:
0.8763
146/750 [====>...... - ETA: 0s - loss: 0.6316 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6302 - accuracy:
0.8771
289/750 [=======>..... - ETA: 0s - loss: 0.6350 - accuracy:
361/750 [=========>.....] - ETA: 0s - loss: 0.6329 - accuracy:
0.8758
435/750 [========>.....] - ETA: 0s - loss: 0.6355 - accuracy:
0.8744
506/750 [=========>.....] - ETA: 0s - loss: 0.6358 - accuracy:
0.8745
579/750 [=============>.....] - ETA: 0s - loss: 0.6359 - accuracy:
651/750 [==============>....] - ETA: 0s - loss: 0.6374 - accuracy:
0.8739
750/750 [============= ] - 1s 842us/step - loss: 0.6374 - accuracy:
0.8743 - val_loss: 0.6561 - val_accuracy: 0.8680
Epoch 17/220
 1/750 [...... 0.6690 - accuracy:
0.8281
75/750 [==>.....] - ETA: 0s - loss: 0.6309 - accuracy:
0.8746
146/750 [====>.....] - ETA: 0s - loss: 0.6296 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.6311 - accuracy:
0.8766
294/750 [=======>.....] - ETA: 0s - loss: 0.6323 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.6328 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.6277 - accuracy:
0.8778
513/750 [=========>.....] - ETA: 0s - loss: 0.6269 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.6274 - accuracy:
0.8771
660/750 [============>....] - ETA: 0s - loss: 0.6268 - accuracy:
```

```
0.8776
750/750 [================ ] - 1s 838us/step - loss: 0.6275 - accuracy:
0.8777 - val_loss: 0.6476 - val_accuracy: 0.8685
Epoch 18/220
 1/750 [.....] - ETA: 0s - loss: 0.6762 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.6255 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.6196 - accuracy:
219/750 [======>...... - ETA: 0s - loss: 0.6151 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.6145 - accuracy:
0.8814
363/750 [=========>.....] - ETA: 0s - loss: 0.6138 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.6153 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.6147 - accuracy:
585/750 [===========>.....] - ETA: 0s - loss: 0.6158 - accuracy:
0.8799
657/750 [============>....] - ETA: 0s - loss: 0.6168 - accuracy:
0.8791
0.8784
750/750 [============= ] - 1s 842us/step - loss: 0.6174 - accuracy:
0.8785 - val_loss: 0.6395 - val_accuracy: 0.8712
Epoch 19/220
 1/750 [.....] - ETA: 0s - loss: 0.6503 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.6036 - accuracy:
0.8844
146/750 [====>.....] - ETA: 0s - loss: 0.6077 - accuracy:
0.8826
219/750 [======>.....] - ETA: 0s - loss: 0.6095 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.6097 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.6096 - accuracy:
439/750 [=========>..... - ETA: 0s - loss: 0.6118 - accuracy:
0.8797
512/750 [=========>.....] - ETA: 0s - loss: 0.6136 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.6139 - accuracy:
0.8781
659/750 [============>....] - ETA: 0s - loss: 0.6125 - accuracy:
```

```
0.8783
750/750 [=============== ] - 1s 838us/step - loss: 0.6102 - accuracy:
0.8789 - val loss: 0.6317 - val accuracy: 0.8733
Epoch 20/220
 1/750 [.....] - ETA: 0s - loss: 0.6396 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6114 - accuracy:
0.8780
146/750 [====>...... - ETA: 0s - loss: 0.6060 - accuracy:
0.8807
219/750 [======>.....] - ETA: 0s - loss: 0.6041 - accuracy:
0.8798
293/750 [=======>.....] - ETA: 0s - loss: 0.6032 - accuracy:
0.8801
364/750 [=======>.....] - ETA: 0s - loss: 0.6029 - accuracy:
438/750 [==========>...... - ETA: 0s - loss: 0.6017 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.6025 - accuracy:
0.8804
584/750 [=============>.....] - ETA: 0s - loss: 0.6016 - accuracy:
658/750 [============>....] - ETA: 0s - loss: 0.6010 - accuracy:
0.8896
750/750 [=============== ] - 1s 837us/step - loss: 0.6014 - accuracy:
0.8806 - val_loss: 0.6330 - val_accuracy: 0.8717
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 0.5866 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.5863 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5955 - accuracy:
0.8848
220/750 [======>.....] - ETA: 0s - loss: 0.5921 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.5937 - accuracy:
367/750 [========>.....] - ETA: 0s - loss: 0.5990 - accuracy:
0.8814
438/750 [=========>.....] - ETA: 0s - loss: 0.5968 - accuracy:
0.8814
511/750 [=========>.....] - ETA: 0s - loss: 0.5966 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.5953 - accuracy:
```

```
0.8817
658/750 [==============>....] - ETA: 0s - loss: 0.5940 - accuracy:
0.8826
750/750 [================ ] - 1s 837us/step - loss: 0.5931 - accuracy:
0.8824 - val loss: 0.6622 - val accuracy: 0.8562
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.7134 - accuracy:
0.8281
74/750 [=>.....] - ETA: 0s - loss: 0.6022 - accuracy:
0.8782
144/750 [====>.....] - ETA: 0s - loss: 0.6030 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.5934 - accuracy:
0.8832
290/750 [=======>..... - ETA: 0s - loss: 0.5931 - accuracy:
0.8831
357/750 [=======>.....] - ETA: 0s - loss: 0.5901 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.5879 - accuracy:
502/750 [===========>.....] - ETA: 0s - loss: 0.5857 - accuracy:
576/750 [============>.....] - ETA: 0s - loss: 0.5860 - accuracy:
0.8845
721/750 [===============>..] - ETA: 0s - loss: 0.5863 - accuracy:
0.8843 - val_loss: 0.6103 - val_accuracy: 0.8734
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.5662 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8874
147/750 [====>.....] - ETA: 0s - loss: 0.5762 - accuracy:
0.8871
217/750 [=====>.....] - ETA: 0s - loss: 0.5767 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.5792 - accuracy:
366/750 [========>.....] - ETA: 0s - loss: 0.5749 - accuracy:
0.8873
438/750 [=========>...... - ETA: 0s - loss: 0.5779 - accuracy:
0.8861
512/750 [===========>.....] - ETA: 0s - loss: 0.5772 - accuracy:
```

```
0.8857
585/750 [=============>.....] - ETA: 0s - loss: 0.5760 - accuracy:
656/750 [=============>....] - ETA: 0s - loss: 0.5764 - accuracy:
0.8857
0.8859 - val loss: 0.6093 - val accuracy: 0.8756
Epoch 24/220
1/750 [.....] - ETA: 0s - loss: 0.5150 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5745 - accuracy:
0.8906
146/750 [====>.....] - ETA: 0s - loss: 0.5689 - accuracy:
0.8883
221/750 [======>...... - ETA: 0s - loss: 0.5754 - accuracy:
293/750 [=======>...... - ETA: 0s - loss: 0.5737 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.5746 - accuracy:
0.8854
443/750 [==========>.....] - ETA: 0s - loss: 0.5748 - accuracy:
0.8851
515/750 [===========>.....] - ETA: 0s - loss: 0.5715 - accuracy:
0.8861
662/750 [=============>....] - ETA: 0s - loss: 0.5731 - accuracy:
0.8857
750/750 [=============== ] - 1s 837us/step - loss: 0.5713 - accuracy:
0.8865 - val loss: 0.6023 - val accuracy: 0.8751
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.4470 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5438 - accuracy:
0.8966
147/750 [====>.....] - ETA: 0s - loss: 0.5550 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.5667 - accuracy:
0.8894
294/750 [=======>.....] - ETA: 0s - loss: 0.5677 - accuracy:
0.8879
365/750 [=======>.....] - ETA: 0s - loss: 0.5653 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.5658 - accuracy:
```

```
0.8884
512/750 [===========>.....] - ETA: 0s - loss: 0.5676 - accuracy:
0.8875
586/750 [============>.....] - ETA: 0s - loss: 0.5659 - accuracy:
0.8869
0.8864 - val_loss: 0.6086 - val_accuracy: 0.8714
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.5117 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.5567 - accuracy:
0.8872
149/750 [====>.....] - ETA: 0s - loss: 0.5581 - accuracy:
0.8889
220/750 [=====>.....] - ETA: 0s - loss: 0.5584 - accuracy:
0.8893
292/750 [=======>..... - ETA: 0s - loss: 0.5601 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.5601 - accuracy:
0.8886
439/750 [=========>.....] - ETA: 0s - loss: 0.5615 - accuracy:
0.8872
512/750 [===========>.....] - ETA: 0s - loss: 0.5584 - accuracy:
0.8883
585/750 [===========>.....] - ETA: 0s - loss: 0.5583 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.5577 - accuracy:
0.8892 - val loss: 0.6011 - val accuracy: 0.8719
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.7256 - accuracy:
0.8438
70/750 [=>.....] - ETA: 0s - loss: 0.5496 - accuracy:
0.8929
143/750 [====>......] - ETA: 0s - loss: 0.5494 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.5533 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 0.5564 - accuracy:
0.8879
360/750 [=======>.....] - ETA: 0s - loss: 0.5539 - accuracy:
```

```
0.8888
431/750 [=========>.....] - ETA: 0s - loss: 0.5531 - accuracy:
0.8894
505/750 [==========>.....] - ETA: 0s - loss: 0.5544 - accuracy:
0.8886
579/750 [============>.....] - ETA: 0s - loss: 0.5537 - accuracy:
650/750 [=============>....] - ETA: 0s - loss: 0.5530 - accuracy:
750/750 [============= ] - 1s 860us/step - loss: 0.5530 - accuracy:
0.8894 - val loss: 0.6250 - val accuracy: 0.8637
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.5249 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.5415 - accuracy:
0.8941
143/750 [====>...... - ETA: 0s - loss: 0.5418 - accuracy:
0.8924
216/750 [======>.....] - ETA: 0s - loss: 0.5479 - accuracy:
0.8913
288/750 [=======>..... - ETA: 0s - loss: 0.5468 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.5478 - accuracy:
0.8911
436/750 [=========>.....] - ETA: 0s - loss: 0.5449 - accuracy:
0.8925
508/750 [=========>.....] - ETA: 0s - loss: 0.5455 - accuracy:
0.8916
582/750 [============>.....] - ETA: 0s - loss: 0.5459 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.5463 - accuracy:
0.8908
0.8910 - val_loss: 0.5840 - val_accuracy: 0.8767
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.5898 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5317 - accuracy:
0.8944
146/750 [====>.....] - ETA: 0s - loss: 0.5398 - accuracy:
0.8901
218/750 [======>.....] - ETA: 0s - loss: 0.5384 - accuracy:
0.8880
292/750 [=======>.....] - ETA: 0s - loss: 0.5374 - accuracy:
```

```
0.8898
366/750 [=========>.....] - ETA: 0s - loss: 0.5420 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.5415 - accuracy:
0.8886
511/750 [=========>.....] - ETA: 0s - loss: 0.5383 - accuracy:
583/750 [===========>.....] - ETA: 0s - loss: 0.5388 - accuracy:
657/750 [=============>....] - ETA: 0s - loss: 0.5384 - accuracy:
0.8906
750/750 [============= ] - 1s 844us/step - loss: 0.5396 - accuracy:
0.8908 - val_loss: 0.5797 - val_accuracy: 0.8762
Epoch 30/220
1/750 [...... - ETA: 0s - loss: 0.4361 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5343 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5344 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5311 - accuracy:
0.8961
292/750 [=======>.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8959
365/750 [=======>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8951
440/750 [=========>.....] - ETA: 0s - loss: 0.5322 - accuracy:
0.8945
512/750 [===========>.....] - ETA: 0s - loss: 0.5318 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.5337 - accuracy:
658/750 [============>....] - ETA: 0s - loss: 0.5346 - accuracy:
0.8929 - val_loss: 0.5902 - val_accuracy: 0.8684
Epoch 31/220
1/750 [...... 0.5765 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5251 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5225 - accuracy:
219/750 [=====>.....] - ETA: 0s - loss: 0.5291 - accuracy:
```

```
0.8921
292/750 [=======>.....] - ETA: 0s - loss: 0.5267 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.5274 - accuracy:
0.8934
439/750 [========>.....] - ETA: 0s - loss: 0.5258 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.5261 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.5286 - accuracy:
658/750 [============>....] - ETA: 0s - loss: 0.5284 - accuracy:
0.8937
0.8935
0.8937 - val loss: 0.5751 - val accuracy: 0.8789
Epoch 32/220
1/750 [...... os. - loss: 0.4932 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5246 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.5285 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.5337 - accuracy:
0.8891
288/750 [=======>..... - ETA: 0s - loss: 0.5310 - accuracy:
361/750 [=========>.....] - ETA: 0s - loss: 0.5274 - accuracy:
0.8927
434/750 [=========>.....] - ETA: 0s - loss: 0.5255 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.5261 - accuracy:
582/750 [===========>.....] - ETA: 0s - loss: 0.5254 - accuracy:
0.8926
655/750 [=============>....] - ETA: 0s - loss: 0.5245 - accuracy:
0.8931
0.8929
0.8929 - val loss: 0.5733 - val accuracy: 0.8793
Epoch 33/220
1/750 [.....] - ETA: 0s - loss: 0.3860 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5075 - accuracy:
0.8935
147/750 [====>.....] - ETA: 0s - loss: 0.5117 - accuracy:
```

```
0.8949
221/750 [======>.....] - ETA: 0s - loss: 0.5102 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.5147 - accuracy:
0.8949
368/750 [=======>.....] - ETA: 0s - loss: 0.5129 - accuracy:
0.8951
441/750 [=========>..... - ETA: 0s - loss: 0.5153 - accuracy:
0.8951
514/750 [===========>.....] - ETA: 0s - loss: 0.5157 - accuracy:
586/750 [===========>.....] - ETA: 0s - loss: 0.5162 - accuracy:
660/750 [=============>....] - ETA: 0s - loss: 0.5168 - accuracy:
0.8946
0.8945
0.8939 - val loss: 0.5588 - val accuracy: 0.8807
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.5043 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5075 - accuracy:
0.9021
149/750 [====>.....] - ETA: 0s - loss: 0.5072 - accuracy:
0.9006
221/750 [======>.....] - ETA: 0s - loss: 0.5101 - accuracy:
0.8993
293/750 [=======>.....] - ETA: 0s - loss: 0.5082 - accuracy:
367/750 [=========>.....] - ETA: 0s - loss: 0.5096 - accuracy:
0.8983
441/750 [=========>.....] - ETA: 0s - loss: 0.5128 - accuracy:
0.8974
512/750 [=========>.....] - ETA: 0s - loss: 0.5135 - accuracy:
586/750 [============>.....] - ETA: 0s - loss: 0.5136 - accuracy:
0.8964
658/750 [=============>....] - ETA: 0s - loss: 0.5134 - accuracy:
0.8963
0.8961 - val_loss: 0.5622 - val_accuracy: 0.8794
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.5160 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.5019 - accuracy:
```

```
0.9003
147/750 [====>.....] - ETA: 0s - loss: 0.5000 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.4998 - accuracy:
293/750 [=======>..... - ETA: 0s - loss: 0.5084 - accuracy:
0.8979
365/750 [=======>.....] - ETA: 0s - loss: 0.5042 - accuracy:
0.8996
439/750 [=========>.....] - ETA: 0s - loss: 0.5029 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.5070 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.5071 - accuracy:
0.8973
658/750 [=============>....] - ETA: 0s - loss: 0.5084 - accuracy:
0.8964
0.8963
0.8963 - val_loss: 0.5554 - val_accuracy: 0.8798
Epoch 36/220
1/750 [...... - ETA: 0s - loss: 0.5354 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.4987 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4964 - accuracy:
0.8968
218/750 [======>.....] - ETA: 0s - loss: 0.4973 - accuracy:
0.8971
293/750 [=======>.....] - ETA: 0s - loss: 0.5001 - accuracy:
0.8973
365/750 [========>.....] - ETA: 0s - loss: 0.5008 - accuracy:
0.8981
437/750 [=========>..... - ETA: 0s - loss: 0.5035 - accuracy:
0.8968
508/750 [===========>.....] - ETA: 0s - loss: 0.5071 - accuracy:
0.8954
581/750 [===========>.....] - ETA: 0s - loss: 0.5065 - accuracy:
656/750 [==============>....] - ETA: 0s - loss: 0.5059 - accuracy:
0.8965 - val_loss: 0.5557 - val_accuracy: 0.8793
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.4685 - accuracy:
```

```
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.4777 - accuracy:
0.9099
148/750 [====>.....] - ETA: 0s - loss: 0.4829 - accuracy:
0.9073
221/750 [======>.....] - ETA: 0s - loss: 0.4916 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.4937 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.4970 - accuracy:
439/750 [=========>..... - ETA: 0s - loss: 0.4963 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.4957 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.4964 - accuracy:
656/750 [============>....] - ETA: 0s - loss: 0.4979 - accuracy:
0.8996
0.8991
0.8991 - val loss: 0.5524 - val accuracy: 0.8782
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.4080 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5076 - accuracy:
0.8937
144/750 [====>.....] - ETA: 0s - loss: 0.5032 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.5038 - accuracy:
0.8962
289/750 [=======>.....] - ETA: 0s - loss: 0.5015 - accuracy:
0.8975
361/750 [=======>.....] - ETA: 0s - loss: 0.4970 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.4955 - accuracy:
0.8998
507/750 [=========>.....] - ETA: 0s - loss: 0.4964 - accuracy:
0.8991
578/750 [============>.....] - ETA: 0s - loss: 0.4960 - accuracy:
0.8990
653/750 [===============>....] - ETA: 0s - loss: 0.4956 - accuracy:
725/750 [==============>.] - ETA: 0s - loss: 0.4943 - accuracy:
0.8995
0.8990 - val loss: 0.5512 - val accuracy: 0.8810
Epoch 39/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7533 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.4894 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4875 - accuracy:
0.9007
222/750 [======>.....] - ETA: 0s - loss: 0.4857 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.4902 - accuracy:
0.8994
369/750 [=======>.....] - ETA: 0s - loss: 0.4898 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.4894 - accuracy:
0.9003
514/750 [===========>.....] - ETA: 0s - loss: 0.4896 - accuracy:
0.9006
587/750 [============>.....] - ETA: 0s - loss: 0.4915 - accuracy:
0.8999
0.8995
750/750 [=============== ] - 1s 837us/step - loss: 0.4917 - accuracy:
0.8996 - val loss: 0.5876 - val accuracy: 0.8682
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.4179 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.4802 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.4890 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.4860 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.4854 - accuracy:
0.9014
362/750 [========>.....] - ETA: 0s - loss: 0.4853 - accuracy:
435/750 [=========>...... - ETA: 0s - loss: 0.4881 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.4881 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.4891 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.4903 - accuracy:
0.8994
0.8994
750/750 [============= ] - 1s 838us/step - loss: 0.4886 - accuracy:
```

```
0.8996 - val_loss: 0.5703 - val_accuracy: 0.8713 Epoch 41/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8594
74/750 [=>.....] - ETA: 0s - loss: 0.4787 - accuracy:
0.9041
147/750 [====>...... - ETA: 0s - loss: 0.4765 - accuracy:
220/750 [=====>.....] - ETA: 0s - loss: 0.4744 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.4778 - accuracy:
0.9044
365/750 [=========>.....] - ETA: 0s - loss: 0.4828 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.4802 - accuracy:
0.9034
512/750 [=========>.....] - ETA: 0s - loss: 0.4820 - accuracy:
584/750 [==============>.....] - ETA: 0s - loss: 0.4826 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.4832 - accuracy:
0.9013
750/750 [============= ] - 1s 846us/step - loss: 0.4839 - accuracy:
0.9011 - val_loss: 0.5448 - val_accuracy: 0.8781
Epoch 42/220
1/750 [...... 0.5666 - accuracy:
0.8125
75/750 [==>.....] - ETA: 0s - loss: 0.4769 - accuracy:
0.9025
151/750 [====>.....] - ETA: 0s - loss: 0.4765 - accuracy:
0.9026
222/750 [=====>.....] - ETA: 0s - loss: 0.4756 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.4752 - accuracy:
0.9026
368/750 [========>.....] - ETA: 0s - loss: 0.4736 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.4739 - accuracy:
0.9033
516/750 [=========>.....] - ETA: 0s - loss: 0.4761 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.4754 - accuracy:
662/750 [============>....] - ETA: 0s - loss: 0.4783 - accuracy:
```

```
0.9018
750/750 [================ ] - 1s 837us/step - loss: 0.4790 - accuracy:
0.9019 - val_loss: 0.5421 - val_accuracy: 0.8792
Epoch 43/220
 1/750 [.....] - ETA: 0s - loss: 0.4433 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.4778 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.4762 - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.4761 - accuracy:
0.9044
289/750 [=======>.....] - ETA: 0s - loss: 0.4775 - accuracy:
0.9036
363/750 [=========>.....] - ETA: 0s - loss: 0.4769 - accuracy:
433/750 [=========>...... - ETA: 0s - loss: 0.4741 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.4732 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 0.4740 - accuracy:
0.9029
654/750 [=============>....] - ETA: 0s - loss: 0.4738 - accuracy:
750/750 [============= ] - 1s 841us/step - loss: 0.4746 - accuracy:
0.9024 - val_loss: 0.5441 - val_accuracy: 0.8792
Epoch 44/220
 1/750 [.....] - ETA: 0s - loss: 0.4337 - accuracy:
0.9219
76/750 [==>.....] - ETA: 0s - loss: 0.4557 - accuracy:
0.9091
149/750 [====>.....] - ETA: 0s - loss: 0.4602 - accuracy:
0.9074
220/750 [======>.....] - ETA: 0s - loss: 0.4597 - accuracy:
0.9077
294/750 [=======>.....] - ETA: 0s - loss: 0.4658 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.4689 - accuracy:
443/750 [========>.....] - ETA: 0s - loss: 0.4685 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.4702 - accuracy:
0.9043
590/750 [===========>.....] - ETA: 0s - loss: 0.4708 - accuracy:
661/750 [=============>....] - ETA: 0s - loss: 0.4706 - accuracy:
```

```
0.9035
750/750 [=============== ] - 1s 834us/step - loss: 0.4712 - accuracy:
0.9036 - val_loss: 0.5320 - val_accuracy: 0.8826
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.4019 - accuracy:
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.4622 - accuracy:
0.9077
145/750 [====>...... - ETA: 0s - loss: 0.4730 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.4682 - accuracy:
0.9051
295/750 [=======>.....] - ETA: 0s - loss: 0.4719 - accuracy:
0.9014
366/750 [=======>.....] - ETA: 0s - loss: 0.4697 - accuracy:
439/750 [==========>.....] - ETA: 0s - loss: 0.4715 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.4723 - accuracy:
585/750 [=============>.....] - ETA: 0s - loss: 0.4707 - accuracy:
0.9029
0.9024 - val loss: 0.5406 - val accuracy: 0.8773
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.4589 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4415 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.4561 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.4618 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.4625 - accuracy:
366/750 [========>.....] - ETA: 0s - loss: 0.4611 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.4617 - accuracy:
0.9044
512/750 [=========>.....] - ETA: 0s - loss: 0.4622 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.4619 - accuracy:
```

```
0.9048
0.9037 - val loss: 0.5315 - val accuracy: 0.8842
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.4525 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4356 - accuracy:
0.9163
145/750 [====>.....] - ETA: 0s - loss: 0.4546 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.4584 - accuracy:
0.9067
292/750 [=======>..... - ETA: 0s - loss: 0.4592 - accuracy:
0.9076
364/750 [=======>.....] - ETA: 0s - loss: 0.4596 - accuracy:
435/750 [========>.....] - ETA: 0s - loss: 0.4602 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.4590 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.4597 - accuracy:
0.9064
0.9054
0.9053 - val loss: 0.5251 - val accuracy: 0.8842
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.4035 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.4472 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4550 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.4587 - accuracy:
0.9013
293/750 [=======>.....] - ETA: 0s - loss: 0.4570 - accuracy:
0.9017
366/750 [========>.....] - ETA: 0s - loss: 0.4564 - accuracy:
437/750 [=========>..... - ETA: 0s - loss: 0.4571 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.4590 - accuracy:
```

```
583/750 [============>.....] - ETA: 0s - loss: 0.4600 - accuracy:
657/750 [=============>....] - ETA: 0s - loss: 0.4601 - accuracy:
0.9037
0.9039 - val loss: 0.5508 - val accuracy: 0.8779
Epoch 49/220
1/750 [.....] - ETA: 0s - loss: 0.4274 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4586 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4572 - accuracy:
219/750 [======>...... - ETA: 0s - loss: 0.4571 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.4566 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.4567 - accuracy:
0.9067
440/750 [==========>.....] - ETA: 0s - loss: 0.4564 - accuracy:
0.9063
515/750 [===========>.....] - ETA: 0s - loss: 0.4548 - accuracy:
588/750 [============>.....] - ETA: 0s - loss: 0.4533 - accuracy:
662/750 [=============>....] - ETA: 0s - loss: 0.4550 - accuracy:
750/750 [================ ] - 1s 836us/step - loss: 0.4557 - accuracy:
0.9071 - val loss: 0.5296 - val accuracy: 0.8825
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.4642 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.4461 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.4550 - accuracy:
0.9070
221/750 [======>.....] - ETA: 0s - loss: 0.4587 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.4504 - accuracy:
0.9094
364/750 [=======>.....] - ETA: 0s - loss: 0.4521 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.4527 - accuracy:
```

```
0.9076
512/750 [===========>.....] - ETA: 0s - loss: 0.4546 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.4541 - accuracy:
0.9073
0.9072 - val_loss: 0.5533 - val_accuracy: 0.8689
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.5095 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.4301 - accuracy:
0.9117
148/750 [====>...... - ETA: 0s - loss: 0.4403 - accuracy:
0.9116
220/750 [=====>.....] - ETA: 0s - loss: 0.4386 - accuracy:
294/750 [======>..... - ETA: 0s - loss: 0.4437 - accuracy:
0.9096
368/750 [=======>.....] - ETA: 0s - loss: 0.4459 - accuracy:
0.9091
441/750 [=========>.....] - ETA: 0s - loss: 0.4459 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.4468 - accuracy:
0.9089
588/750 [===========>.....] - ETA: 0s - loss: 0.4468 - accuracy:
661/750 [==============>....] - ETA: 0s - loss: 0.4475 - accuracy:
0.9075 - val loss: 0.5344 - val accuracy: 0.8782
Epoch 52/220
1/750 [...... - ETA: 0s - loss: 0.4571 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4457 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.4487 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.4473 - accuracy:
0.9075
364/750 [========>.....] - ETA: 0s - loss: 0.4471 - accuracy:
```

```
0.9075
438/750 [=========>.....] - ETA: 0s - loss: 0.4469 - accuracy:
0.9078
511/750 [===========>.....] - ETA: 0s - loss: 0.4483 - accuracy:
0.9077
584/750 [=============>.....] - ETA: 0s - loss: 0.4467 - accuracy:
750/750 [============= ] - 1s 840us/step - loss: 0.4460 - accuracy:
0.9090 - val loss: 0.5280 - val accuracy: 0.8805
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9219
75/750 [==>.....] - ETA: 0s - loss: 0.4440 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.4433 - accuracy:
219/750 [=====>>.....] - ETA: 0s - loss: 0.4376 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.4372 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.4402 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.4431 - accuracy:
506/750 [==========>.....] - ETA: 0s - loss: 0.4428 - accuracy:
0.9086
577/750 [===========>.....] - ETA: 0s - loss: 0.4417 - accuracy:
0.9077
0.9075 - val_loss: 0.5205 - val_accuracy: 0.8801
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.4308 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4432 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.4408 - accuracy:
0.9096
217/750 [======>.....] - ETA: 0s - loss: 0.4400 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.4418 - accuracy:
```

```
0.9083
362/750 [=========>.....] - ETA: 0s - loss: 0.4391 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.4394 - accuracy:
0.9101
506/750 [========>.....] - ETA: 0s - loss: 0.4397 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.4412 - accuracy:
725/750 [==============>.] - ETA: 0s - loss: 0.4418 - accuracy:
750/750 [============= ] - 1s 842us/step - loss: 0.4405 - accuracy:
0.9094 - val_loss: 0.5136 - val_accuracy: 0.8841
Epoch 55/220
1/750 [...... - ETA: 0s - loss: 0.3586 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.4351 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.4311 - accuracy:
0.9096
218/750 [======>...... - ETA: 0s - loss: 0.4332 - accuracy:
0.9104
292/750 [=======>.....] - ETA: 0s - loss: 0.4320 - accuracy:
0.9118
355/750 [=======>.....] - ETA: 0s - loss: 0.4343 - accuracy:
0.9098
426/750 [=========>.....] - ETA: 0s - loss: 0.4363 - accuracy:
0.9094
496/750 [=========>.....] - ETA: 0s - loss: 0.4339 - accuracy:
570/750 [============>.....] - ETA: 0s - loss: 0.4356 - accuracy:
0.9096
0.9093 - val_loss: 0.5324 - val_accuracy: 0.8771
Epoch 56/220
1/750 [...... 0.3832 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.4295 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.4352 - accuracy:
0.9129
220/750 [=====>>.....] - ETA: 0s - loss: 0.4393 - accuracy:
```

```
0.9112
293/750 [=======>.....] - ETA: 0s - loss: 0.4382 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.4403 - accuracy:
0.9084
438/750 [========>.....] - ETA: 0s - loss: 0.4370 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.4346 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.4343 - accuracy:
657/750 [============>....] - ETA: 0s - loss: 0.4350 - accuracy:
0.9107
0.9099
750/750 [============= ] - 1s 841us/step - loss: 0.4360 - accuracy:
0.9100 - val loss: 0.5206 - val accuracy: 0.8772
Epoch 57/220
1/750 [...... os. - loss: 0.3703 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.4303 - accuracy:
0.9158
145/750 [====>...... - ETA: 0s - loss: 0.4252 - accuracy:
0.9166
218/750 [======>.....] - ETA: 0s - loss: 0.4215 - accuracy:
289/750 [======>..... - ETA: 0s - loss: 0.4211 - accuracy:
0.9161
363/750 [=========>.....] - ETA: 0s - loss: 0.4300 - accuracy:
0.9131
436/750 [=========>.....] - ETA: 0s - loss: 0.4326 - accuracy:
509/750 [===========>.....] - ETA: 0s - loss: 0.4313 - accuracy:
0.9121
579/750 [===========>.....] - ETA: 0s - loss: 0.4306 - accuracy:
650/750 [==============>....] - ETA: 0s - loss: 0.4317 - accuracy:
0.9123
750/750 [================ ] - 1s 849us/step - loss: 0.4321 - accuracy:
0.9123 - val loss: 0.5098 - val accuracy: 0.8832
Epoch 58/220
1/750 [.....] - ETA: 0s - loss: 0.5359 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4149 - accuracy:
0.9146
146/750 [====>.....] - ETA: 0s - loss: 0.4206 - accuracy:
```

```
0.9152
218/750 [======>.....] - ETA: 0s - loss: 0.4256 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.4302 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.4317 - accuracy:
0.9117
434/750 [========>.....] - ETA: 0s - loss: 0.4305 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.4320 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.4331 - accuracy:
0.9107
650/750 [=============>....] - ETA: 0s - loss: 0.4325 - accuracy:
0.9107
750/750 [============== ] - 1s 841us/step - loss: 0.4315 - accuracy:
0.9109 - val loss: 0.5277 - val accuracy: 0.8784
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.5407 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.4135 - accuracy:
0.9148
143/750 [====>.....] - ETA: 0s - loss: 0.4115 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.4148 - accuracy:
0.9157
288/750 [=======>.....] - ETA: 0s - loss: 0.4180 - accuracy:
363/750 [=========>.....] - ETA: 0s - loss: 0.4250 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.4267 - accuracy:
0.9117
511/750 [=========>.....] - ETA: 0s - loss: 0.4273 - accuracy:
0.9114
583/750 [============>.....] - ETA: 0s - loss: 0.4264 - accuracy:
0.9119
655/750 [=============>....] - ETA: 0s - loss: 0.4275 - accuracy:
0.9113
750/750 [============= ] - 1s 842us/step - loss: 0.4281 - accuracy:
0.9116 - val_loss: 0.5348 - val_accuracy: 0.8722
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.3880 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.4132 - accuracy:
```

```
0.9174
145/750 [====>.....] - ETA: 0s - loss: 0.4169 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.4183 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.4184 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.4181 - accuracy:
0.9169
436/750 [=========>.....] - ETA: 0s - loss: 0.4210 - accuracy:
510/750 [=========>...... - ETA: 0s - loss: 0.4218 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.4239 - accuracy:
657/750 [=============>....] - ETA: 0s - loss: 0.4251 - accuracy:
0.9133 - val_loss: 0.5081 - val_accuracy: 0.8836
Epoch 61/220
1/750 [...... - ETA: 0s - loss: 0.3239 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.4493 - accuracy:
0.9047
146/750 [====>...... - ETA: 0s - loss: 0.4351 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.4298 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.4255 - accuracy:
0.9126
367/750 [=======>.....] - ETA: 0s - loss: 0.4296 - accuracy:
0.9114
438/750 [=========>..... - ETA: 0s - loss: 0.4308 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.4302 - accuracy:
0.9104
584/750 [===========>.....] - ETA: 0s - loss: 0.4269 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.4268 - accuracy:
0.9111
0.9115 - val_loss: 0.5281 - val_accuracy: 0.8758
Epoch 62/220
1/750 [.....] - ETA: 0s - loss: 0.3467 - accuracy:
```

```
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.4079 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4173 - accuracy:
0.9186
221/750 [======>.....] - ETA: 0s - loss: 0.4187 - accuracy:
0.9186
291/750 [=======>..... - ETA: 0s - loss: 0.4182 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.4179 - accuracy:
440/750 [=========>..... - ETA: 0s - loss: 0.4180 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.4214 - accuracy:
0.9153
584/750 [============>.....] - ETA: 0s - loss: 0.4224 - accuracy:
657/750 [============>....] - ETA: 0s - loss: 0.4226 - accuracy:
0.9147
0.9145 - val loss: 0.5378 - val accuracy: 0.8741
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.6304 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.4200 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.4168 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.4136 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.4175 - accuracy:
0.9144
364/750 [=======>.....] - ETA: 0s - loss: 0.4179 - accuracy:
0.9148
436/750 [=========>.....] - ETA: 0s - loss: 0.4187 - accuracy:
0.9146
510/750 [=========>.....] - ETA: 0s - loss: 0.4196 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.4199 - accuracy:
658/750 [===============>....] - ETA: 0s - loss: 0.4197 - accuracy:
0.9136
0.9134 - val_loss: 0.5247 - val_accuracy: 0.8779
Epoch 64/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3723 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.4114 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4109 - accuracy:
0.9185
220/750 [=====>>.....] - ETA: 0s - loss: 0.4103 - accuracy:
0.9179
293/750 [=======>..... - ETA: 0s - loss: 0.4108 - accuracy:
0.9176
366/750 [========>.....] - ETA: 0s - loss: 0.4128 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.4151 - accuracy:
0.9151
513/750 [===========>.....] - ETA: 0s - loss: 0.4146 - accuracy:
586/750 [============>.....] - ETA: 0s - loss: 0.4159 - accuracy:
0.9146
0.9149
750/750 [================ ] - 1s 844us/step - loss: 0.4155 - accuracy:
0.9148 - val loss: 0.5023 - val accuracy: 0.8856
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.4142 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.3963 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4069 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.4098 - accuracy:
0.9166
293/750 [=======>..... - ETA: 0s - loss: 0.4151 - accuracy:
364/750 [========>.....] - ETA: 0s - loss: 0.4151 - accuracy:
0.9156
438/750 [=========>..... - ETA: 0s - loss: 0.4153 - accuracy:
509/750 [===========>.....] - ETA: 0s - loss: 0.4164 - accuracy:
0.9153
581/750 [=============>.....] - ETA: 0s - loss: 0.4165 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.4151 - accuracy:
0.9154
750/750 [============= ] - 1s 840us/step - loss: 0.4141 - accuracy:
```

```
0.9154 - val_loss: 0.5113 - val_accuracy: 0.8824 Epoch 66/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4114 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.4019 - accuracy:
0.9217
147/750 [====>.....] - ETA: 0s - loss: 0.4076 - accuracy:
0.9179
220/750 [=====>.....] - ETA: 0s - loss: 0.4088 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.4165 - accuracy:
0.9146
366/750 [=========>.....] - ETA: 0s - loss: 0.4152 - accuracy:
0.9144
441/750 [=========>.....] - ETA: 0s - loss: 0.4142 - accuracy:
0.9149
515/750 [=========>.....] - ETA: 0s - loss: 0.4164 - accuracy:
586/750 [=============>.....] - ETA: 0s - loss: 0.4158 - accuracy:
660/750 [==============>....] - ETA: 0s - loss: 0.4134 - accuracy:
0.9141
750/750 [============= ] - 1s 834us/step - loss: 0.4140 - accuracy:
0.9138 - val_loss: 0.5084 - val_accuracy: 0.8834
Epoch 67/220
 1/750 [...... os. - loss: 0.4741 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.4020 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.4064 - accuracy:
0.9179
220/750 [=====>.....] - ETA: 0s - loss: 0.4064 - accuracy:
0.9179
291/750 [=======>.....] - ETA: 0s - loss: 0.4037 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.4064 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.4052 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.4073 - accuracy:
583/750 [===========>.....] - ETA: 0s - loss: 0.4112 - accuracy:
654/750 [============>....] - ETA: 0s - loss: 0.4096 - accuracy:
0.9161
```

```
750/750 [================ ] - 1s 841us/step - loss: 0.4090 - accuracy:
0.9161 - val_loss: 0.5055 - val_accuracy: 0.8820
Epoch 68/220
 1/750 [.....] - ETA: 0s - loss: 0.5179 - accuracy:
76/750 [==>...... - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.4095 - accuracy:
221/750 [======>...... - ETA: 0s - loss: 0.4027 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.4047 - accuracy:
0.9191
366/750 [=========>.....] - ETA: 0s - loss: 0.4083 - accuracy:
0.9170
440/750 [=========>...... - ETA: 0s - loss: 0.4064 - accuracy:
0.9176
513/750 [============>.....] - ETA: 0s - loss: 0.4051 - accuracy:
0.9184
587/750 [===========>.....] - ETA: 0s - loss: 0.4073 - accuracy:
0.9178
661/750 [============>....] - ETA: 0s - loss: 0.4080 - accuracy:
0.9173
750/750 [============= ] - 1s 838us/step - loss: 0.4083 - accuracy:
0.9176 - val_loss: 0.5141 - val_accuracy: 0.8758
Epoch 69/220
 1/750 [.....] - ETA: 0s - loss: 0.4436 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.3874 - accuracy:
0.9234
148/750 [====>.....] - ETA: 0s - loss: 0.3971 - accuracy:
0.9189
221/750 [======>.....] - ETA: 0s - loss: 0.3966 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.3989 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.4009 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.4053 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.4065 - accuracy:
0.9159
587/750 [===========>.....] - ETA: 0s - loss: 0.4058 - accuracy:
0.9163
658/750 [============>....] - ETA: 0s - loss: 0.4066 - accuracy:
```

```
0.9162
0.9161 - val loss: 0.4993 - val accuracy: 0.8841
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.5062 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.4005 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.3977 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.4011 - accuracy:
0.9192
294/750 [=======>.....] - ETA: 0s - loss: 0.3977 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.4007 - accuracy:
441/750 [==========>.....] - ETA: 0s - loss: 0.4030 - accuracy:
0.9179
514/750 [=========>.....] - ETA: 0s - loss: 0.4028 - accuracy:
0.9184
589/750 [===========>.....] - ETA: 0s - loss: 0.4030 - accuracy:
0.9176
0.9178 - val_loss: 0.5195 - val_accuracy: 0.8777
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.3626 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.4068 - accuracy:
0.9178
146/750 [====>.....] - ETA: 0s - loss: 0.3956 - accuracy:
0.9201
219/750 [======>.....] - ETA: 0s - loss: 0.3969 - accuracy:
0.9188
290/750 [=======>.....] - ETA: 0s - loss: 0.3998 - accuracy:
0.9173
359/750 [========>.....] - ETA: 0s - loss: 0.4018 - accuracy:
0.9167
430/750 [=========>.....] - ETA: 0s - loss: 0.4028 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.4023 - accuracy:
0.9167
573/750 [============>.....] - ETA: 0s - loss: 0.4030 - accuracy:
```

```
0.9167
750/750 [=============== ] - 1s 850us/step - loss: 0.4023 - accuracy:
0.9168 - val loss: 0.5195 - val accuracy: 0.8770
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.4019 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3935 - accuracy:
0.9169
145/750 [====>.....] - ETA: 0s - loss: 0.3905 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3923 - accuracy:
0.9207
292/750 [=======>..... - ETA: 0s - loss: 0.3962 - accuracy:
0.9201
367/750 [=======>.....] - ETA: 0s - loss: 0.3981 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.3990 - accuracy:
0.9185
509/750 [=========>.....] - ETA: 0s - loss: 0.3998 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.3999 - accuracy:
0.9183
720/750 [===============>..] - ETA: 0s - loss: 0.4031 - accuracy:
0.9168
0.9168 - val_loss: 0.5216 - val_accuracy: 0.8773
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.4345 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3877 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.3886 - accuracy:
0.9227
220/750 [=====>.....] - ETA: 0s - loss: 0.3921 - accuracy:
0.9211
292/750 [=======>.....] - ETA: 0s - loss: 0.3967 - accuracy:
0.9197
365/750 [========>.....] - ETA: 0s - loss: 0.3957 - accuracy:
0.9204
439/750 [=========>..... - ETA: 0s - loss: 0.3972 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.3971 - accuracy:
```

```
0.9196
583/750 [=============>.....] - ETA: 0s - loss: 0.3975 - accuracy:
653/750 [=============>....] - ETA: 0s - loss: 0.3976 - accuracy:
0.9191
0.9185 - val loss: 0.5315 - val accuracy: 0.8756
Epoch 74/220
1/750 [...... - ETA: 0s - loss: 0.4325 - accuracy:
75/750 [==>....... - accuracy:
0.9167
148/750 [====>.....] - ETA: 0s - loss: 0.3982 - accuracy:
0.9185
219/750 [======>...... - ETA: 0s - loss: 0.4031 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.4012 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.4022 - accuracy:
428/750 [==========>.....] - ETA: 0s - loss: 0.3995 - accuracy:
0.9167
500/750 [===========>.....] - ETA: 0s - loss: 0.3996 - accuracy:
0.9169
572/750 [============>.....] - ETA: 0s - loss: 0.3983 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.3976 - accuracy:
750/750 [================ ] - 1s 848us/step - loss: 0.4000 - accuracy:
0.9169 - val loss: 0.5373 - val accuracy: 0.8749
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.5373 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3989 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.3922 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3921 - accuracy:
0.9196
291/750 [=======>..... - ETA: 0s - loss: 0.3862 - accuracy:
0.9211
366/750 [=======>.....] - ETA: 0s - loss: 0.3894 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.3887 - accuracy:
```

```
0.9204
514/750 [===========>.....] - ETA: 0s - loss: 0.3909 - accuracy:
0.9199
588/750 [============>.....] - ETA: 0s - loss: 0.3908 - accuracy:
750/750 [================ ] - 1s 840us/step - loss: 0.3967 - accuracy:
0.9173 - val_loss: 0.5588 - val_accuracy: 0.8637
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.4120 - accuracy:
0.9126
145/750 [====>...... - ETA: 0s - loss: 0.3993 - accuracy:
0.9186
215/750 [======>.....] - ETA: 0s - loss: 0.3935 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.3906 - accuracy:
0.9199
356/750 [=======>.....] - ETA: 0s - loss: 0.3935 - accuracy:
0.9185
431/750 [=========>.....] - ETA: 0s - loss: 0.3937 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.3916 - accuracy:
574/750 [==========>.....] - ETA: 0s - loss: 0.3923 - accuracy:
0.9198 - val loss: 0.5085 - val accuracy: 0.8847
Epoch 77/220
1/750 [...... - ETA: 0s - loss: 0.3718 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3863 - accuracy:
145/750 [====>......] - ETA: 0s - loss: 0.3855 - accuracy:
0.9251
220/750 [======>.....] - ETA: 0s - loss: 0.3839 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3870 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3859 - accuracy:
```

```
439/750 [=========>.....] - ETA: 0s - loss: 0.3862 - accuracy:
0.9227
512/750 [==========>.....] - ETA: 0s - loss: 0.3857 - accuracy:
0.9231
584/750 [=============>.....] - ETA: 0s - loss: 0.3904 - accuracy:
657/750 [=============>....] - ETA: 0s - loss: 0.3913 - accuracy:
750/750 [============= ] - 1s 839us/step - loss: 0.3932 - accuracy:
0.9198 - val loss: 0.4943 - val accuracy: 0.8881
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.2316 - accuracy:
0.9844
72/750 [=>.....] - ETA: 0s - loss: 0.3811 - accuracy:
142/750 [====>...... - ETA: 0s - loss: 0.3844 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.3882 - accuracy:
285/750 [=======>..... - ETA: 0s - loss: 0.3883 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.3896 - accuracy:
0.9197
431/750 [=========>..... - ETA: 0s - loss: 0.3890 - accuracy:
0.9201
504/750 [==========>.....] - ETA: 0s - loss: 0.3896 - accuracy:
0.9198
576/750 [============>.....] - ETA: 0s - loss: 0.3905 - accuracy:
0.9198
0.9202 - val_loss: 0.5252 - val_accuracy: 0.8769
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.3321 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3917 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.3850 - accuracy:
0.9213
219/750 [======>.....] - ETA: 0s - loss: 0.3876 - accuracy:
0.9207
293/750 [=======>..... - ETA: 0s - loss: 0.3898 - accuracy:
```

```
0.9192
366/750 [=========>.....] - ETA: 0s - loss: 0.3892 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3914 - accuracy:
0.9183
511/750 [=========>.....] - ETA: 0s - loss: 0.3905 - accuracy:
586/750 [==========>.....] - ETA: 0s - loss: 0.3892 - accuracy:
657/750 [=============>....] - ETA: 0s - loss: 0.3888 - accuracy:
750/750 [============= ] - 1s 840us/step - loss: 0.3897 - accuracy:
0.9193 - val_loss: 0.5018 - val_accuracy: 0.8823
Epoch 80/220
1/750 [...... - ETA: 0s - loss: 0.3218 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3822 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.3871 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3848 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.3842 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.3885 - accuracy:
0.9196
439/750 [=========>.....] - ETA: 0s - loss: 0.3903 - accuracy:
0.9190
512/750 [===========>.....] - ETA: 0s - loss: 0.3895 - accuracy:
0.9190
585/750 [============>.....] - ETA: 0s - loss: 0.3889 - accuracy:
659/750 [============>....] - ETA: 0s - loss: 0.3894 - accuracy:
0.9194
750/750 [============= ] - 1s 841us/step - loss: 0.3890 - accuracy:
0.9195 - val_loss: 0.4961 - val_accuracy: 0.8878
Epoch 81/220
 1/750 [...... 0.3998 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3948 - accuracy:
0.9129
149/750 [====>.....] - ETA: 0s - loss: 0.3797 - accuracy:
0.9207
222/750 [======>.....] - ETA: 0s - loss: 0.3821 - accuracy:
```

```
0.9217
296/750 [=======>.....] - ETA: 0s - loss: 0.3868 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.3854 - accuracy:
0.9214
439/750 [========>.....] - ETA: 0s - loss: 0.3878 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.3875 - accuracy:
0.9197
586/750 [============>.....] - ETA: 0s - loss: 0.3873 - accuracy:
659/750 [============>....] - ETA: 0s - loss: 0.3888 - accuracy:
0.9193
750/750 [============= ] - 1s 837us/step - loss: 0.3873 - accuracy:
0.9201 - val loss: 0.4931 - val accuracy: 0.8852
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.3690 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3762 - accuracy:
0.9251
146/750 [====>...... - ETA: 0s - loss: 0.3834 - accuracy:
0.9217
219/750 [======>.....] - ETA: 0s - loss: 0.3826 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.3887 - accuracy:
0.9197
365/750 [=========>.....] - ETA: 0s - loss: 0.3855 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3846 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.3837 - accuracy:
0.9217
583/750 [===========>.....] - ETA: 0s - loss: 0.3840 - accuracy:
657/750 [============>....] - ETA: 0s - loss: 0.3839 - accuracy:
0.9219
0.9207 - val loss: 0.4960 - val accuracy: 0.8841
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.2615 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3855 - accuracy:
0.9227
147/750 [====>.....] - ETA: 0s - loss: 0.3845 - accuracy:
```

```
0.9208
219/750 [======>.....] - ETA: 0s - loss: 0.3886 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.3878 - accuracy:
0.9204
364/750 [=======>.....] - ETA: 0s - loss: 0.3857 - accuracy:
0.9214
438/750 [=========>.....] - ETA: 0s - loss: 0.3865 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.3853 - accuracy:
583/750 [===========>.....] - ETA: 0s - loss: 0.3841 - accuracy:
0.9216
0.9220 - val loss: 0.5029 - val accuracy: 0.8851
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.3852 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3889 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.3808 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3794 - accuracy:
0.9239
291/750 [=======>.....] - ETA: 0s - loss: 0.3786 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.3827 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3827 - accuracy:
0.9221
510/750 [=========>.....] - ETA: 0s - loss: 0.3819 - accuracy:
0.9226
583/750 [============>.....] - ETA: 0s - loss: 0.3838 - accuracy:
656/750 [============>....] - ETA: 0s - loss: 0.3834 - accuracy:
0.9220 - val_loss: 0.5191 - val_accuracy: 0.8770
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.3873 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.3644 - accuracy:
```

```
0.9308
147/750 [====>.....] - ETA: 0s - loss: 0.3728 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3726 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3723 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3764 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.3773 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.3784 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.3787 - accuracy:
0.9236
657/750 [============>....] - ETA: 0s - loss: 0.3799 - accuracy:
0.9231
0.9221 - val_loss: 0.5144 - val_accuracy: 0.8787
Epoch 86/220
1/750 [...... - ETA: 0s - loss: 0.3205 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3860 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.3810 - accuracy:
0.9223
218/750 [======>.....] - ETA: 0s - loss: 0.3834 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.3846 - accuracy:
0.9193
365/750 [========>.....] - ETA: 0s - loss: 0.3843 - accuracy:
0.9193
439/750 [=========>..... - ETA: 0s - loss: 0.3851 - accuracy:
0.9197
510/750 [===========>.....] - ETA: 0s - loss: 0.3851 - accuracy:
0.9201
584/750 [===========>.....] - ETA: 0s - loss: 0.3827 - accuracy:
658/750 [===============>....] - ETA: 0s - loss: 0.3822 - accuracy:
0.9217 - val_loss: 0.5134 - val_accuracy: 0.8817
Epoch 87/220
1/750 [.....] - ETA: 0s - loss: 0.3095 - accuracy:
```

```
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3763 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.3802 - accuracy:
220/750 [=====>>.....] - ETA: 0s - loss: 0.3784 - accuracy:
0.9244
292/750 [=======>.....] - ETA: 0s - loss: 0.3809 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3783 - accuracy:
440/750 [=========>..... - ETA: 0s - loss: 0.3773 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.3783 - accuracy:
588/750 [============>.....] - ETA: 0s - loss: 0.3786 - accuracy:
0.9238
659/750 [============>....] - ETA: 0s - loss: 0.3783 - accuracy:
0.9237 - val loss: 0.5034 - val accuracy: 0.8800
Epoch 88/220
1/750 [.....] - ETA: 0s - loss: 0.5089 - accuracy:
0.8996
74/750 [=>.....] - ETA: 0s - loss: 0.3798 - accuracy:
0.9187
145/750 [====>.....] - ETA: 0s - loss: 0.3734 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3757 - accuracy:
0.9231
291/750 [=======>.....] - ETA: 0s - loss: 0.3778 - accuracy:
0.9226
365/750 [=======>.....] - ETA: 0s - loss: 0.3773 - accuracy:
0.9231
439/750 [=========>.....] - ETA: 0s - loss: 0.3774 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.3761 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.3786 - accuracy:
0.9226
653/750 [===============>....] - ETA: 0s - loss: 0.3786 - accuracy:
727/750 [==============>.] - ETA: 0s - loss: 0.3798 - accuracy:
0.9221
0.9220 - val loss: 0.4917 - val accuracy: 0.8865
Epoch 89/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5934 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.3725 - accuracy:
0.9297
148/750 [====>.....] - ETA: 0s - loss: 0.3787 - accuracy:
0.9241
221/750 [======>.....] - ETA: 0s - loss: 0.3770 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.3785 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.3786 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3778 - accuracy:
0.9226
426/750 [=========>.....] - ETA: 0s - loss: 0.3779 - accuracy:
0.9226
496/750 [=========>.....] - ETA: 0s - loss: 0.3780 - accuracy:
0.9231
566/750 [==============>.....] - ETA: 0s - loss: 0.3791 - accuracy:
0.9224
0.9225 - val_loss: 0.5011 - val_accuracy: 0.8827
Epoch 90/220
1/750 [...... 0.3570 - accuracy:
0.9531
71/750 [=>.....] - ETA: 0s - loss: 0.3709 - accuracy:
0.9256
140/750 [====>.....] - ETA: 0s - loss: 0.3652 - accuracy:
0.9279
214/750 [=====>.....] - ETA: 0s - loss: 0.3686 - accuracy:
0.9267
286/750 [=======>.....] - ETA: 0s - loss: 0.3735 - accuracy:
0.9247
361/750 [========>.....] - ETA: 0s - loss: 0.3738 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3735 - accuracy:
507/750 [========>>.....] - ETA: 0s - loss: 0.3754 - accuracy:
579/750 [============>.....] - ETA: 0s - loss: 0.3752 - accuracy:
0.9236
652/750 [============>....] - ETA: 0s - loss: 0.3755 - accuracy:
```

```
0.9229
0.9228 - val_loss: 0.5019 - val_accuracy: 0.8863
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.4669 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.3657 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.3667 - accuracy:
219/750 [======>...... - ETA: 0s - loss: 0.3645 - accuracy:
0.9284
294/750 [=======>.....] - ETA: 0s - loss: 0.3643 - accuracy:
0.9291
367/750 [========>.....] - ETA: 0s - loss: 0.3658 - accuracy:
0.9279
439/750 [=========>...... - ETA: 0s - loss: 0.3660 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.3691 - accuracy:
0.9264
585/750 [===========>.....] - ETA: 0s - loss: 0.3729 - accuracy:
0.9253
750/750 [============= ] - 1s 837us/step - loss: 0.3734 - accuracy:
0.9254 - val_loss: 0.4845 - val_accuracy: 0.8881
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.4369 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.3592 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3672 - accuracy:
0.9279
220/750 [======>.....] - ETA: 0s - loss: 0.3713 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3714 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.3710 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.3721 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.3738 - accuracy:
0.9254
586/750 [===========>.....] - ETA: 0s - loss: 0.3726 - accuracy:
658/750 [============>....] - ETA: 0s - loss: 0.3711 - accuracy:
```

```
0.9257
750/750 [=============== ] - 1s 837us/step - loss: 0.3724 - accuracy:
0.9255 - val loss: 0.5023 - val accuracy: 0.8849
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.3747 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3619 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.3673 - accuracy:
0.9236
218/750 [======>.....] - ETA: 0s - loss: 0.3701 - accuracy:
0.9237
291/750 [=======>.....] - ETA: 0s - loss: 0.3703 - accuracy:
0.9239
363/750 [=======>.....] - ETA: 0s - loss: 0.3696 - accuracy:
436/750 [==========>.....] - ETA: 0s - loss: 0.3708 - accuracy:
0.9236
510/750 [=========>.....] - ETA: 0s - loss: 0.3708 - accuracy:
0.9236
583/750 [============>.....] - ETA: 0s - loss: 0.3702 - accuracy:
0.9231
0.9232 - val loss: 0.5088 - val accuracy: 0.8830
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.3647 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3751 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.3716 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3698 - accuracy:
0.9256
292/750 [=======>.....] - ETA: 0s - loss: 0.3684 - accuracy:
365/750 [========>.....] - ETA: 0s - loss: 0.3706 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.3715 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3721 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.3726 - accuracy:
```

```
0.9246
750/750 [================ ] - 1s 841us/step - loss: 0.3703 - accuracy:
0.9258 - val loss: 0.4901 - val accuracy: 0.8847
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.3196 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9334
145/750 [====>.....] - ETA: 0s - loss: 0.3581 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3574 - accuracy:
0.9308
291/750 [=======>..... - ETA: 0s - loss: 0.3581 - accuracy:
0.9299
363/750 [=======>.....] - ETA: 0s - loss: 0.3607 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.3641 - accuracy:
0.9277
508/750 [===========>.....] - ETA: 0s - loss: 0.3660 - accuracy:
571/750 [============>.....] - ETA: 0s - loss: 0.3664 - accuracy:
718/750 [==============>..] - ETA: 0s - loss: 0.3672 - accuracy:
0.9263 - val_loss: 0.5219 - val_accuracy: 0.8806
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.4502 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3597 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3558 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3571 - accuracy:
0.9301
281/750 [=======>.....] - ETA: 0s - loss: 0.3605 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3657 - accuracy:
0.9279
423/750 [========>..... - ETA: 0s - loss: 0.3678 - accuracy:
498/750 [==========>.....] - ETA: 0s - loss: 0.3692 - accuracy:
```

```
0.9266
570/750 [============>.....] - ETA: 0s - loss: 0.3715 - accuracy:
0.9259
0.9259 - val loss: 0.5221 - val accuracy: 0.8792
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.3226 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3615 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.3636 - accuracy:
0.9247
218/750 [======>...... - ETA: 0s - loss: 0.3666 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.3693 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.3673 - accuracy:
0.9244
422/750 [========>...... - ETA: 0s - loss: 0.3681 - accuracy:
493/750 [==========>.....] - ETA: 0s - loss: 0.3687 - accuracy:
566/750 [============>.....] - ETA: 0s - loss: 0.3690 - accuracy:
637/750 [============>....] - ETA: 0s - loss: 0.3687 - accuracy:
0.9247
0.9247 - val loss: 0.5094 - val accuracy: 0.8798
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.2213 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9358
147/750 [====>.....] - ETA: 0s - loss: 0.3603 - accuracy:
0.9293
211/750 [======>.....] - ETA: 0s - loss: 0.3565 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.3621 - accuracy:
0.9291
349/750 [=======>.....] - ETA: 0s - loss: 0.3604 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 0.3619 - accuracy:
```

```
0.9277
494/750 [==========>.....] - ETA: 0s - loss: 0.3679 - accuracy:
0.9264
566/750 [===========>.....] - ETA: 0s - loss: 0.3674 - accuracy:
0.9264
0.9271 - val_loss: 0.5036 - val_accuracy: 0.8842
Epoch 99/220
1/750 [.....] - ETA: 0s - loss: 0.3171 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3670 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.3600 - accuracy:
0.9296
222/750 [=====>.....] - ETA: 0s - loss: 0.3595 - accuracy:
0.9293
293/750 [======>..... - ETA: 0s - loss: 0.3629 - accuracy:
0.9283
367/750 [=======>.....] - ETA: 0s - loss: 0.3656 - accuracy:
0.9272
439/750 [=========>.....] - ETA: 0s - loss: 0.3650 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.3637 - accuracy:
0.9287
580/750 [===========>.....] - ETA: 0s - loss: 0.3645 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.3647 - accuracy:
0.9269 - val loss: 0.4988 - val accuracy: 0.8832
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.2988 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3622 - accuracy:
146/750 [====>......] - ETA: 0s - loss: 0.3613 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3652 - accuracy:
0.9226
290/750 [=======>..... - ETA: 0s - loss: 0.3644 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.3640 - accuracy:
```

```
0.9253
432/750 [=========>.....] - ETA: 0s - loss: 0.3660 - accuracy:
503/750 [==========>.....] - ETA: 0s - loss: 0.3643 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.3634 - accuracy:
649/750 [============>....] - ETA: 0s - loss: 0.3641 - accuracy:
750/750 [============= ] - 1s 846us/step - loss: 0.3657 - accuracy:
0.9256 - val loss: 0.5114 - val accuracy: 0.8841
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.2743 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3556 - accuracy:
0.9277
144/750 [====>...... - ETA: 0s - loss: 0.3501 - accuracy:
0.9317
218/750 [======>.....] - ETA: 0s - loss: 0.3564 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.3599 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.3598 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3609 - accuracy:
513/750 [=========>>.....] - ETA: 0s - loss: 0.3597 - accuracy:
0.9296
586/750 [============>.....] - ETA: 0s - loss: 0.3608 - accuracy:
0.9289
0.9278
0.9279 - val_loss: 0.4960 - val_accuracy: 0.8827
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.3035 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.3588 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.3585 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3590 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3598 - accuracy:
```

```
0.9282
368/750 [=========>.....] - ETA: 0s - loss: 0.3606 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.3621 - accuracy:
0.9276
513/750 [=========>.....] - ETA: 0s - loss: 0.3651 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.3658 - accuracy:
0.9261
0.9267
750/750 [============= ] - 1s 840us/step - loss: 0.3634 - accuracy:
0.9269 - val_loss: 0.4969 - val_accuracy: 0.8834
Epoch 103/220
1/750 [...... - ETA: 0s - loss: 0.3996 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3531 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3609 - accuracy:
0.9276
221/750 [======>.....] - ETA: 0s - loss: 0.3654 - accuracy:
0.9260
296/750 [=======>.....] - ETA: 0s - loss: 0.3645 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.3643 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3628 - accuracy:
0.9264
516/750 [==========>.....] - ETA: 0s - loss: 0.3629 - accuracy:
0.9267
590/750 [============>.....] - ETA: 0s - loss: 0.3629 - accuracy:
0.9270
663/750 [=============>....] - ETA: 0s - loss: 0.3627 - accuracy:
0.9264
750/750 [============= ] - 1s 833us/step - loss: 0.3635 - accuracy:
0.9266 - val_loss: 0.4915 - val_accuracy: 0.8868
Epoch 104/220
1/750 [...... 0.3923 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3596 - accuracy:
0.9304
149/750 [====>.....] - ETA: 0s - loss: 0.3574 - accuracy:
0.9316
223/750 [======>.....] - ETA: 0s - loss: 0.3489 - accuracy:
```

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0.9341
298/750 [=======>.....] - ETA: 0s - loss: 0.3514 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.3574 - accuracy:
0.9304
442/750 [========>.....] - ETA: 0s - loss: 0.3577 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.3588 - accuracy:
589/750 [=============>.....] - ETA: 0s - loss: 0.3604 - accuracy:
662/750 [============>....] - ETA: 0s - loss: 0.3610 - accuracy:
0.9279
0.9279
750/750 [============= ] - 1s 834us/step - loss: 0.3612 - accuracy:
0.9279 - val loss: 0.4877 - val accuracy: 0.8869
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.3672 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3532 - accuracy:
0.9347
146/750 [====>...... - ETA: 0s - loss: 0.3565 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.3510 - accuracy:
290/750 [======>..... - ETA: 0s - loss: 0.3562 - accuracy:
0.9317
363/750 [=========>.....] - ETA: 0s - loss: 0.3574 - accuracy:
0.9311
437/750 [=========>.....] - ETA: 0s - loss: 0.3582 - accuracy:
0.9301
508/750 [===========>.....] - ETA: 0s - loss: 0.3591 - accuracy:
583/750 [===========>.....] - ETA: 0s - loss: 0.3582 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.3596 - accuracy:
726/750 [==============>.] - ETA: 0s - loss: 0.3600 - accuracy:
0.9289 - val loss: 0.4838 - val accuracy: 0.8887
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.3122 - accuracy:
0.9688
74/750 [=>.....] - ETA: 0s - loss: 0.3508 - accuracy:
0.9314
146/750 [====>.....] - ETA: 0s - loss: 0.3570 - accuracy:
```

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0.9284
215/750 [======>.....] - ETA: 0s - loss: 0.3633 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.3618 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.3606 - accuracy:
0.9285
433/750 [=========>.....] - ETA: 0s - loss: 0.3593 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.3611 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.3609 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.3605 - accuracy:
0.9283
750/750 [============= ] - 1s 853us/step - loss: 0.3600 - accuracy:
0.9284 - val loss: 0.5021 - val accuracy: 0.8827
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.4837 - accuracy:
66/750 [=>.....] - ETA: 0s - loss: 0.3567 - accuracy:
135/750 [====>.....] - ETA: 0s - loss: 0.3576 - accuracy:
207/750 [=====>.....] - ETA: 0s - loss: 0.3563 - accuracy:
0.9309
279/750 [=======>.....] - ETA: 0s - loss: 0.3613 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.3595 - accuracy:
0.9286
425/750 [=========>.....] - ETA: 0s - loss: 0.3605 - accuracy:
0.9281
494/750 [=========>.....] - ETA: 0s - loss: 0.3595 - accuracy:
0.9279
569/750 [===========>.....] - ETA: 0s - loss: 0.3593 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 0.3582 - accuracy:
0.9286
0.9289 - val_loss: 0.5029 - val_accuracy: 0.8854
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.2708 - accuracy:
0.9375
73/750 [=>.....] - ETA: 0s - loss: 0.3652 - accuracy:
```

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146/750 [====>.....] - ETA: 0s - loss: 0.3570 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3584 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.3584 - accuracy:
0.9291
364/750 [=======>.....] - ETA: 0s - loss: 0.3569 - accuracy:
0.9297
437/750 [=========>.....] - ETA: 0s - loss: 0.3569 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.3561 - accuracy:
580/750 [============>.....] - ETA: 0s - loss: 0.3589 - accuracy:
0.9276
652/750 [============>....] - ETA: 0s - loss: 0.3580 - accuracy:
0.9284
725/750 [===============>.] - ETA: 0s - loss: 0.3581 - accuracy:
0.9289
0.9291 - val_loss: 0.4970 - val_accuracy: 0.8848
Epoch 109/220
1/750 [...... - ETA: 0s - loss: 0.3556 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3404 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.3484 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3557 - accuracy:
0.9306
289/750 [=======>.....] - ETA: 0s - loss: 0.3535 - accuracy:
0.9306
363/750 [========>.....] - ETA: 0s - loss: 0.3507 - accuracy:
0.9314
436/750 [=========>..... - ETA: 0s - loss: 0.3531 - accuracy:
0.9301
509/750 [==========>.....] - ETA: 0s - loss: 0.3540 - accuracy:
0.9301
583/750 [===========>.....] - ETA: 0s - loss: 0.3543 - accuracy:
658/750 [==============>....] - ETA: 0s - loss: 0.3569 - accuracy:
0.9284 - val_loss: 0.4925 - val_accuracy: 0.8865
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.2952 - accuracy:
```

```
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3470 - accuracy:
0.9339
147/750 [====>.....] - ETA: 0s - loss: 0.3417 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.3459 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3503 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3525 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.3531 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.3520 - accuracy:
0.9311
590/750 [===========>.....] - ETA: 0s - loss: 0.3532 - accuracy:
0.9306
663/750 [============>....] - ETA: 0s - loss: 0.3533 - accuracy:
0.9285 - val loss: 0.4860 - val accuracy: 0.8887
Epoch 111/220
 1/750 [.....] - ETA: 0s - loss: 0.2306 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3504 - accuracy:
0.9334
144/750 [====>.....] - ETA: 0s - loss: 0.3541 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.3538 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.3511 - accuracy:
0.9311
363/750 [=======>.....] - ETA: 0s - loss: 0.3523 - accuracy:
0.9304
438/750 [=========>.....] - ETA: 0s - loss: 0.3535 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.3559 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.3574 - accuracy:
657/750 [============>....] - ETA: 0s - loss: 0.3574 - accuracy:
730/750 [==============>.] - ETA: 0s - loss: 0.3569 - accuracy:
0.9293
750/750 [============== ] - 1s 836us/step - loss: 0.3569 - accuracy:
0.9291 - val loss: 0.4913 - val accuracy: 0.8883
Epoch 112/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2795 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3415 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3470 - accuracy:
0.9357
221/750 [======>.....] - ETA: 0s - loss: 0.3478 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3473 - accuracy:
0.9341
366/750 [=======>.....] - ETA: 0s - loss: 0.3507 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3531 - accuracy:
0.9307
511/750 [===========>.....] - ETA: 0s - loss: 0.3540 - accuracy:
0.9301
586/750 [=============>.....] - ETA: 0s - loss: 0.3547 - accuracy:
659/750 [===============>....] - ETA: 0s - loss: 0.3553 - accuracy:
0.9294
750/750 [================ ] - 1s 837us/step - loss: 0.3553 - accuracy:
0.9295 - val loss: 0.4991 - val accuracy: 0.8863
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.2352 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.3300 - accuracy:
0.9373
150/750 [=====>.....] - ETA: 0s - loss: 0.3424 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.3465 - accuracy:
297/750 [=======>..... - ETA: 0s - loss: 0.3496 - accuracy:
0.9297
371/750 [========>.....] - ETA: 0s - loss: 0.3493 - accuracy:
0.9296
443/750 [=========>.....] - ETA: 0s - loss: 0.3521 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.3522 - accuracy:
0.9293
590/750 [=============>.....] - ETA: 0s - loss: 0.3541 - accuracy:
665/750 [============>....] - ETA: 0s - loss: 0.3533 - accuracy:
0.9294
0.9288
750/750 [============= ] - 1s 834us/step - loss: 0.3547 - accuracy:
```

```
0.9287 - val_loss: 0.5050 - val_accuracy: 0.8811
Epoch 114/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4144 - accuracy:
0.9219
71/750 [=>.....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9344
146/750 [====>...... - ETA: 0s - loss: 0.3568 - accuracy:
0.9296
217/750 [======>.....] - ETA: 0s - loss: 0.3533 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.3485 - accuracy:
0.9326
366/750 [=========>.....] - ETA: 0s - loss: 0.3497 - accuracy:
0.9327
438/750 [=========>.....] - ETA: 0s - loss: 0.3500 - accuracy:
0.9326
512/750 [=========>.....] - ETA: 0s - loss: 0.3513 - accuracy:
0.9319
586/750 [=============>.....] - ETA: 0s - loss: 0.3495 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9317
750/750 [============= ] - 1s 836us/step - loss: 0.3523 - accuracy:
0.9311 - val_loss: 0.5011 - val_accuracy: 0.8876
Epoch 115/220
 1/750 [...... 0.3274 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.3530 - accuracy:
0.9303
146/750 [====>.....] - ETA: 0s - loss: 0.3438 - accuracy:
0.9319
221/750 [======>.....] - ETA: 0s - loss: 0.3453 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.3548 - accuracy:
0.9294
368/750 [========>.....] - ETA: 0s - loss: 0.3545 - accuracy:
0.9299
442/750 [=========>.....] - ETA: 0s - loss: 0.3519 - accuracy:
0.9301
511/750 [=========>.....] - ETA: 0s - loss: 0.3521 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.3517 - accuracy:
0.9298
659/750 [============>....] - ETA: 0s - loss: 0.3521 - accuracy:
```

```
0.9296
750/750 [================ ] - 1s 836us/step - loss: 0.3523 - accuracy:
0.9299 - val_loss: 0.5102 - val_accuracy: 0.8844
Epoch 116/220
 1/750 [.....] - ETA: 0s - loss: 0.4820 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.3494 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.3437 - accuracy:
222/750 [======>...... - ETA: 0s - loss: 0.3421 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.3443 - accuracy:
0.9326
367/750 [========>.....] - ETA: 0s - loss: 0.3463 - accuracy:
0.9319
439/750 [=========>.....] - ETA: 0s - loss: 0.3462 - accuracy:
0.9321
515/750 [===========>.....] - ETA: 0s - loss: 0.3476 - accuracy:
0.9315
585/750 [===========>.....] - ETA: 0s - loss: 0.3500 - accuracy:
659/750 [============>....] - ETA: 0s - loss: 0.3486 - accuracy:
735/750 [==============>.] - ETA: 0s - loss: 0.3506 - accuracy:
750/750 [============= ] - 1s 834us/step - loss: 0.3508 - accuracy:
0.9308 - val_loss: 0.5174 - val_accuracy: 0.8778
Epoch 117/220
 1/750 [.....] - ETA: 0s - loss: 0.3132 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.3463 - accuracy:
0.9324
145/750 [====>.....] - ETA: 0s - loss: 0.3484 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3513 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3525 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.3511 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.3503 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.3486 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.3502 - accuracy:
0.9317
```

```
750/750 [=============== ] - 1s 838us/step - loss: 0.3502 - accuracy:
0.9315 - val loss: 0.5032 - val accuracy: 0.8852
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.3946 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3448 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.3439 - accuracy:
0.9341
217/750 [======>.....] - ETA: 0s - loss: 0.3463 - accuracy:
0.9348
290/750 [=======>.....] - ETA: 0s - loss: 0.3449 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9328
435/750 [==========>.....] - ETA: 0s - loss: 0.3443 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9321
584/750 [=============>.....] - ETA: 0s - loss: 0.3497 - accuracy:
656/750 [==============>....] - ETA: 0s - loss: 0.3490 - accuracy:
0.9311 - val loss: 0.5244 - val accuracy: 0.8797
Epoch 119/220
1/750 [...... 0.2209 - accuracy:
0.9844
73/750 [=>.....] - ETA: 0s - loss: 0.3342 - accuracy:
0.9394
147/750 [====>.....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9351
221/750 [======>.....] - ETA: 0s - loss: 0.3410 - accuracy:
0.9347
293/750 [=======>.....] - ETA: 0s - loss: 0.3411 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.3421 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.3434 - accuracy:
0.9345
514/750 [=========>.....] - ETA: 0s - loss: 0.3463 - accuracy:
588/750 [============>.....] - ETA: 0s - loss: 0.3466 - accuracy:
```

```
750/750 [================ ] - 1s 836us/step - loss: 0.3479 - accuracy:
0.9327 - val loss: 0.5386 - val accuracy: 0.8694
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.3269 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3434 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.3414 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9379
294/750 [=======>..... - ETA: 0s - loss: 0.3419 - accuracy:
0.9373
366/750 [=======>.....] - ETA: 0s - loss: 0.3455 - accuracy:
439/750 [========>..... - ETA: 0s - loss: 0.3471 - accuracy:
0.9344
511/750 [===========>.....] - ETA: 0s - loss: 0.3488 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.3498 - accuracy:
0.9314
0.9315 - val loss: 0.5012 - val accuracy: 0.8831
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.2953 - accuracy:
0.9688
75/750 [==>.....] - ETA: 0s - loss: 0.3404 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.3422 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3379 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.3373 - accuracy:
360/750 [========>.....] - ETA: 0s - loss: 0.3402 - accuracy:
432/750 [=========>..... - ETA: 0s - loss: 0.3450 - accuracy:
504/750 [===========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
```

```
0.9336
578/750 [=============>.....] - ETA: 0s - loss: 0.3478 - accuracy:
650/750 [=============>....] - ETA: 0s - loss: 0.3460 - accuracy:
0.9334
0.9329 - val loss: 0.5221 - val accuracy: 0.8773
Epoch 122/220
1/750 [...... - ETA: 0s - loss: 0.4437 - accuracy:
76/750 [==>....... - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3515 - accuracy:
224/750 [======>...... - ETA: 0s - loss: 0.3533 - accuracy:
0.9324
297/750 [=======>..... - ETA: 0s - loss: 0.3524 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.3482 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9336
517/750 [===========>.....] - ETA: 0s - loss: 0.3486 - accuracy:
591/750 [=============>.....] - ETA: 0s - loss: 0.3477 - accuracy:
665/750 [============>....] - ETA: 0s - loss: 0.3494 - accuracy:
0.9326
0.9325 - val loss: 0.5027 - val accuracy: 0.8872
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.3928 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3243 - accuracy:
0.9406
149/750 [====>.....] - ETA: 0s - loss: 0.3409 - accuracy:
0.9370
221/750 [======>.....] - ETA: 0s - loss: 0.3427 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.3448 - accuracy:
0.9347
370/750 [=======>....] - ETA: 0s - loss: 0.3438 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.3478 - accuracy:
```

```
0.9338
517/750 [===========>.....] - ETA: 0s - loss: 0.3487 - accuracy:
0.9331
590/750 [============>.....] - ETA: 0s - loss: 0.3471 - accuracy:
0.9334 - val_loss: 0.5703 - val_accuracy: 0.8652
Epoch 124/220
1/750 [.....] - ETA: 0s - loss: 0.2645 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3406 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.3515 - accuracy:
224/750 [=====>...... - ETA: 0s - loss: 0.3470 - accuracy:
0.9334
296/750 [======>..... - ETA: 0s - loss: 0.3482 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3475 - accuracy:
0.9332
442/750 [=========>.....] - ETA: 0s - loss: 0.3474 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.3485 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.3468 - accuracy:
656/750 [=============>....] - ETA: 0s - loss: 0.3468 - accuracy:
0.9319 - val loss: 0.5084 - val accuracy: 0.8827
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.2708 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3349 - accuracy:
149/750 [====>......] - ETA: 0s - loss: 0.3396 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3398 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.3400 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3411 - accuracy:
```

```
0.9344
440/750 [=========>.....] - ETA: 0s - loss: 0.3395 - accuracy:
515/750 [==========>.....] - ETA: 0s - loss: 0.3412 - accuracy:
588/750 [=============>.....] - ETA: 0s - loss: 0.3407 - accuracy:
750/750 [============= ] - 1s 834us/step - loss: 0.3436 - accuracy:
0.9343 - val loss: 0.4922 - val accuracy: 0.8890
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.3765 - accuracy:
0.9219
75/750 [==>.....] - ETA: 0s - loss: 0.3400 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.3367 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3349 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3394 - accuracy:
366/750 [========>.....] - ETA: 0s - loss: 0.3409 - accuracy:
439/750 [=========>..... - ETA: 0s - loss: 0.3419 - accuracy:
513/750 [==========>.....] - ETA: 0s - loss: 0.3436 - accuracy:
588/750 [============>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9332 - val_loss: 0.4892 - val_accuracy: 0.8890
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.3640 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.3425 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3415 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.3429 - accuracy:
0.9367
296/750 [=======>..... - ETA: 0s - loss: 0.3474 - accuracy:
```

```
0.9339
370/750 [=========>.....] - ETA: 0s - loss: 0.3456 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.3448 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.3451 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.3438 - accuracy:
0.9347
735/750 [==============>.] - ETA: 0s - loss: 0.3445 - accuracy:
0.9339
750/750 [============= ] - 1s 833us/step - loss: 0.3444 - accuracy:
0.9339 - val_loss: 0.5062 - val_accuracy: 0.8849
Epoch 128/220
1/750 [...... - ETA: 0s - loss: 0.3243 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9399
146/750 [====>.....] - ETA: 0s - loss: 0.3351 - accuracy:
0.9384
219/750 [======>.....] - ETA: 0s - loss: 0.3405 - accuracy:
0.9367
293/750 [=======>.....] - ETA: 0s - loss: 0.3387 - accuracy:
366/750 [========>.....] - ETA: 0s - loss: 0.3389 - accuracy:
0.9374
438/750 [=========>.....] - ETA: 0s - loss: 0.3384 - accuracy:
0.9373
511/750 [===========>.....] - ETA: 0s - loss: 0.3420 - accuracy:
0.9357
584/750 [============>.....] - ETA: 0s - loss: 0.3423 - accuracy:
657/750 [============>....] - ETA: 0s - loss: 0.3412 - accuracy:
0.9349
750/750 [============= ] - 1s 837us/step - loss: 0.3423 - accuracy:
0.9351 - val_loss: 0.5020 - val_accuracy: 0.8844
Epoch 129/220
 1/750 [...... 0.3442 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3460 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3502 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.3444 - accuracy:
```

```
0.9324
296/750 [=======>.....] - ETA: 0s - loss: 0.3422 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.3395 - accuracy:
441/750 [========>..... - ETA: 0s - loss: 0.3409 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.3413 - accuracy:
589/750 [=============>.....] - ETA: 0s - loss: 0.3412 - accuracy:
662/750 [============>....] - ETA: 0s - loss: 0.3401 - accuracy:
0.9343
750/750 [============= ] - 1s 840us/step - loss: 0.3417 - accuracy:
0.9341 - val loss: 0.5154 - val accuracy: 0.8819
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.3237 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.3502 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.3418 - accuracy:
0.9351
219/750 [======>.....] - ETA: 0s - loss: 0.3376 - accuracy:
293/750 [======>..... - ETA: 0s - loss: 0.3352 - accuracy:
0.9371
364/750 [=========>.....] - ETA: 0s - loss: 0.3378 - accuracy:
0.9351
439/750 [=========>.....] - ETA: 0s - loss: 0.3379 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.3392 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.3411 - accuracy:
663/750 [=============>....] - ETA: 0s - loss: 0.3446 - accuracy:
0.9334
0.9333 - val loss: 0.5023 - val accuracy: 0.8862
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.3739 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.3469 - accuracy:
0.9315
147/750 [====>.....] - ETA: 0s - loss: 0.3461 - accuracy:
```

```
0.9318
220/750 [======>.....] - ETA: 0s - loss: 0.3415 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.3429 - accuracy:
369/750 [=======>....] - ETA: 0s - loss: 0.3434 - accuracy:
0.9334
442/750 [========>.....] - ETA: 0s - loss: 0.3432 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.3437 - accuracy:
588/750 [===========>.....] - ETA: 0s - loss: 0.3428 - accuracy:
0.9337
659/750 [============>....] - ETA: 0s - loss: 0.3432 - accuracy:
0.9343
750/750 [============== ] - 1s 837us/step - loss: 0.3418 - accuracy:
0.9346 - val loss: 0.5165 - val accuracy: 0.8854
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.3795 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3399 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3379 - accuracy:
223/750 [=====>>.....] - ETA: 0s - loss: 0.3392 - accuracy:
0.9348
296/750 [=======>.....] - ETA: 0s - loss: 0.3374 - accuracy:
368/750 [=========>.....] - ETA: 0s - loss: 0.3402 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.3373 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.3395 - accuracy:
0.9348
661/750 [=============>....] - ETA: 0s - loss: 0.3394 - accuracy:
0.9342 - val loss: 0.4971 - val accuracy: 0.8873
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.2869 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3306 - accuracy:
```

```
0.9429
148/750 [====>.....] - ETA: 0s - loss: 0.3263 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3281 - accuracy:
293/750 [=======>..... - ETA: 0s - loss: 0.3261 - accuracy:
0.9398
364/750 [=======>.....] - ETA: 0s - loss: 0.3303 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.3341 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.3369 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.3380 - accuracy:
656/750 [============>....] - ETA: 0s - loss: 0.3404 - accuracy:
0.9346
0.9346 - val_loss: 0.5089 - val_accuracy: 0.8827
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.2946 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3468 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3448 - accuracy:
0.9348
221/750 [======>.....] - ETA: 0s - loss: 0.3410 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.3384 - accuracy:
0.9372
366/750 [=======>.....] - ETA: 0s - loss: 0.3376 - accuracy:
0.9363
439/750 [=========>..... - ETA: 0s - loss: 0.3384 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9364
587/750 [===========>.....] - ETA: 0s - loss: 0.3381 - accuracy:
0.9341
0.9340 - val_loss: 0.5083 - val_accuracy: 0.8821
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.3351 - accuracy:
```

```
72/750 [=>.....] - ETA: 0s - loss: 0.3200 - accuracy:
0.9449
147/750 [====>.....] - ETA: 0s - loss: 0.3263 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3317 - accuracy:
0.9394
293/750 [=======>.....] - ETA: 0s - loss: 0.3348 - accuracy:
0.9376
366/750 [=======>.....] - ETA: 0s - loss: 0.3372 - accuracy:
0.9364
440/750 [=========>..... - ETA: 0s - loss: 0.3370 - accuracy:
0.9364
516/750 [==========>.....] - ETA: 0s - loss: 0.3369 - accuracy:
589/750 [===========>.....] - ETA: 0s - loss: 0.3381 - accuracy:
0.9349
661/750 [=============>....] - ETA: 0s - loss: 0.3395 - accuracy:
0.9351 - val loss: 0.5019 - val accuracy: 0.8857
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.2497 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3174 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.3258 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.3290 - accuracy:
0.9379
292/750 [=======>.....] - ETA: 0s - loss: 0.3338 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.3376 - accuracy:
0.9351
439/750 [=========>.....] - ETA: 0s - loss: 0.3360 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3360 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.3360 - accuracy:
660/750 [===============>....] - ETA: 0s - loss: 0.3378 - accuracy:
732/750 [===============>.] - ETA: 0s - loss: 0.3396 - accuracy:
0.9351
0.9351 - val loss: 0.4980 - val accuracy: 0.8859
Epoch 137/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2843 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9379
147/750 [====>.....] - ETA: 0s - loss: 0.3343 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3368 - accuracy:
0.9361
288/750 [=======>..... - ETA: 0s - loss: 0.3369 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.3371 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3363 - accuracy:
0.9365
511/750 [==========>.....] - ETA: 0s - loss: 0.3347 - accuracy:
0.9369
584/750 [============>.....] - ETA: 0s - loss: 0.3357 - accuracy:
658/750 [===============>....] - ETA: 0s - loss: 0.3366 - accuracy:
0.9361
0.9364
0.9361 - val loss: 0.5139 - val accuracy: 0.8812
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.2761 - accuracy:
0.9688
72/750 [=>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9436
145/750 [====>.....] - ETA: 0s - loss: 0.3405 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3422 - accuracy:
0.9348
291/750 [=======>..... - ETA: 0s - loss: 0.3432 - accuracy:
0.9336
365/750 [=======>.....] - ETA: 0s - loss: 0.3392 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3374 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
586/750 [============>.....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9361
660/750 [=============>....] - ETA: 0s - loss: 0.3395 - accuracy:
750/750 [============= ] - 1s 840us/step - loss: 0.3399 - accuracy:
```

```
0.9349 - val_loss: 0.5180 - val_accuracy: 0.8801
Epoch 139/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2900 - accuracy:
0.9688
74/750 [=>.....] - ETA: 0s - loss: 0.3243 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.3288 - accuracy:
0.9407
221/750 [======>.....] - ETA: 0s - loss: 0.3357 - accuracy:
0.9371
297/750 [=======>..... - ETA: 0s - loss: 0.3328 - accuracy:
0.9376
370/750 [========>.....] - ETA: 0s - loss: 0.3337 - accuracy:
0.9375
444/750 [========>.....] - ETA: 0s - loss: 0.3355 - accuracy:
0.9376
519/750 [=========>.....] - ETA: 0s - loss: 0.3389 - accuracy:
0.9361
590/750 [=============>.....] - ETA: 0s - loss: 0.3390 - accuracy:
665/750 [============>....] - ETA: 0s - loss: 0.3386 - accuracy:
0.9363
750/750 [============= ] - 1s 834us/step - loss: 0.3391 - accuracy:
0.9363 - val_loss: 0.4993 - val_accuracy: 0.8856
Epoch 140/220
1/750 [...... 0.2956 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3253 - accuracy:
0.9386
147/750 [====>.....] - ETA: 0s - loss: 0.3299 - accuracy:
0.9382
222/750 [======>.....] - ETA: 0s - loss: 0.3340 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.3343 - accuracy:
371/750 [========>.....] - ETA: 0s - loss: 0.3357 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.3362 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.3355 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.3367 - accuracy:
661/750 [============>....] - ETA: 0s - loss: 0.3382 - accuracy:
```

```
0.9357
0.9359 - val_loss: 0.5120 - val_accuracy: 0.8815
Epoch 141/220
1/750 [.....] - ETA: 0s - loss: 0.2399 - accuracy:
0.9844
75/750 [==>.....] - ETA: 0s - loss: 0.3146 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.3190 - accuracy:
219/750 [======>...... - ETA: 0s - loss: 0.3258 - accuracy:
0.9429
294/750 [=======>.....] - ETA: 0s - loss: 0.3305 - accuracy:
366/750 [=========>.....] - ETA: 0s - loss: 0.3314 - accuracy:
0.9393
439/750 [=========>..... - ETA: 0s - loss: 0.3316 - accuracy:
0.9391
512/750 [===========>.....] - ETA: 0s - loss: 0.3329 - accuracy:
585/750 [===========>.....] - ETA: 0s - loss: 0.3346 - accuracy:
0.9373
660/750 [============>....] - ETA: 0s - loss: 0.3369 - accuracy:
0.9367
0.9367
750/750 [============= ] - 1s 834us/step - loss: 0.3381 - accuracy:
0.9364 - val_loss: 0.5160 - val_accuracy: 0.8816
Epoch 142/220
1/750 [.....] - ETA: 0s - loss: 0.3328 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.3272 - accuracy:
0.9403
145/750 [====>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9384
216/750 [======>.....] - ETA: 0s - loss: 0.3289 - accuracy:
0.9394
291/750 [=======>.....] - ETA: 0s - loss: 0.3307 - accuracy:
0.9384
366/750 [=======>.....] - ETA: 0s - loss: 0.3296 - accuracy:
437/750 [========>.....] - ETA: 0s - loss: 0.3343 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.3327 - accuracy:
585/750 [===========>.....] - ETA: 0s - loss: 0.3331 - accuracy:
656/750 [============>....] - ETA: 0s - loss: 0.3350 - accuracy:
```

```
0.9361
0.9359 - val loss: 0.5077 - val accuracy: 0.8888
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.3133 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3392 - accuracy:
0.9351
142/750 [====>...... - ETA: 0s - loss: 0.3323 - accuracy:
0.9377
217/750 [======>.....] - ETA: 0s - loss: 0.3331 - accuracy:
0.9369
291/750 [=======>.....] - ETA: 0s - loss: 0.3342 - accuracy:
0.9371
363/750 [=======>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9376
438/750 [==========>.....] - ETA: 0s - loss: 0.3316 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.3335 - accuracy:
0.9377
586/750 [============>.....] - ETA: 0s - loss: 0.3362 - accuracy:
657/750 [=============>....] - ETA: 0s - loss: 0.3367 - accuracy:
0.9364 - val loss: 0.5148 - val accuracy: 0.8829
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.3417 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9386
148/750 [====>.....] - ETA: 0s - loss: 0.3323 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.3319 - accuracy:
0.9406
294/750 [=======>.....] - ETA: 0s - loss: 0.3301 - accuracy:
367/750 [========>.....] - ETA: 0s - loss: 0.3329 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.3354 - accuracy:
0.9383
498/750 [=========>.....] - ETA: 0s - loss: 0.3349 - accuracy:
0.9381
571/750 [============>.....] - ETA: 0s - loss: 0.3344 - accuracy:
```

```
0.9380
0.9384
0.9373 - val loss: 0.5072 - val accuracy: 0.8849
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.2969 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3423 - accuracy:
0.9336
147/750 [====>.....] - ETA: 0s - loss: 0.3475 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.3395 - accuracy:
0.9372
292/750 [=======>..... - ETA: 0s - loss: 0.3389 - accuracy:
0.9371
365/750 [=======>.....] - ETA: 0s - loss: 0.3392 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.3357 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.3377 - accuracy:
586/750 [============>.....] - ETA: 0s - loss: 0.3360 - accuracy:
0.9367
0.9357
0.9355 - val loss: 0.4998 - val accuracy: 0.8863
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.2602 - accuracy:
0.9844
73/750 [=>.....] - ETA: 0s - loss: 0.3402 - accuracy:
0.9364
147/750 [====>.....] - ETA: 0s - loss: 0.3314 - accuracy:
0.9396
221/750 [======>.....] - ETA: 0s - loss: 0.3278 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.3335 - accuracy:
367/750 [========>.....] - ETA: 0s - loss: 0.3358 - accuracy:
0.9378
441/750 [=========>..... - ETA: 0s - loss: 0.3385 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.3385 - accuracy:
```

```
0.9358
588/750 [=============>.....] - ETA: 0s - loss: 0.3362 - accuracy:
662/750 [=============>....] - ETA: 0s - loss: 0.3369 - accuracy:
0.9368
0.9366 - val loss: 0.5021 - val accuracy: 0.8864
Epoch 147/220
1/750 [...... - ETA: 0s - loss: 0.3075 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3288 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.3357 - accuracy:
0.9351
221/750 [======>...... - ETA: 0s - loss: 0.3330 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.3312 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.3344 - accuracy:
0.9361
443/750 [=========>.....] - ETA: 0s - loss: 0.3350 - accuracy:
0.9359
516/750 [===========>.....] - ETA: 0s - loss: 0.3357 - accuracy:
0.9360
590/750 [============>.....] - ETA: 0s - loss: 0.3354 - accuracy:
662/750 [=============>....] - ETA: 0s - loss: 0.3352 - accuracy:
0.9364
0.9361
750/750 [=============== ] - 1s 833us/step - loss: 0.3351 - accuracy:
0.9363 - val loss: 0.5199 - val accuracy: 0.8829
Epoch 148/220
1/750 [.....] - ETA: 0s - loss: 0.2893 - accuracy:
0.9844
74/750 [=>.....] - ETA: 0s - loss: 0.3250 - accuracy:
0.9405
147/750 [====>.....] - ETA: 0s - loss: 0.3349 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3345 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9377
362/750 [========>.....] - ETA: 0s - loss: 0.3339 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.3307 - accuracy:
```

```
0.9392
508/750 [===========>.....] - ETA: 0s - loss: 0.3298 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.3297 - accuracy:
0.9399
0.9379 - val_loss: 0.5292 - val_accuracy: 0.8748
Epoch 149/220
1/750 [.....] - ETA: 0s - loss: 0.2930 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3246 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.3281 - accuracy:
222/750 [=====>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9404
295/750 [======>..... - ETA: 0s - loss: 0.3271 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.3287 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.3318 - accuracy:
0.9389
517/750 [=========>.....] - ETA: 0s - loss: 0.3335 - accuracy:
0.9381
591/750 [===========>.....] - ETA: 0s - loss: 0.3325 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.3313 - accuracy:
0.9387
0.9380
0.9383 - val loss: 0.5000 - val accuracy: 0.8874
Epoch 150/220
1/750 [...... - ETA: 0s - loss: 0.3364 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3339 - accuracy:
148/750 [====>......] - ETA: 0s - loss: 0.3290 - accuracy:
208/750 [======>.....] - ETA: 0s - loss: 0.3281 - accuracy:
0.9420
275/750 [=======>..... - ETA: 0s - loss: 0.3292 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
```

```
0.9411
408/750 [========>.....] - ETA: 0s - loss: 0.3289 - accuracy:
477/750 [=========>.....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9396
548/750 [=========>.....] - ETA: 0s - loss: 0.3302 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.3302 - accuracy:
750/750 [============= ] - 1s 879us/step - loss: 0.3313 - accuracy:
0.9381 - val loss: 0.5076 - val accuracy: 0.8842
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.2499 - accuracy:
0.9688
72/750 [=>.....] - ETA: 0s - loss: 0.3370 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.3306 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.3282 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.3279 - accuracy:
0.9426
363/750 [=======>.....] - ETA: 0s - loss: 0.3313 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3343 - accuracy:
0.9379
509/750 [==========>.....] - ETA: 0s - loss: 0.3340 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.3355 - accuracy:
654/750 [==============>....] - ETA: 0s - loss: 0.3358 - accuracy:
0.9370
0.9363 - val_loss: 0.5355 - val_accuracy: 0.8794
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.2629 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3243 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.3269 - accuracy:
222/750 [======>...... - ETA: 0s - loss: 0.3277 - accuracy:
0.9413
294/750 [=======>..... - ETA: 0s - loss: 0.3302 - accuracy:
```

```
367/750 [=========>.....] - ETA: 0s - loss: 0.3310 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.3306 - accuracy:
0.9403
513/750 [=========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
586/750 [==========>.....] - ETA: 0s - loss: 0.3318 - accuracy:
0.9396
733/750 [==============>.] - ETA: 0s - loss: 0.3339 - accuracy:
750/750 [============= ] - 1s 836us/step - loss: 0.3333 - accuracy:
0.9388 - val_loss: 0.5311 - val_accuracy: 0.8823
Epoch 153/220
1/750 [...... - ETA: 0s - loss: 0.3122 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.3280 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.3254 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.3217 - accuracy:
0.9431
285/750 [=======>.....] - ETA: 0s - loss: 0.3228 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3260 - accuracy:
0.9411
431/750 [=========>.....] - ETA: 0s - loss: 0.3285 - accuracy:
0.9396
505/750 [==========>.....] - ETA: 0s - loss: 0.3265 - accuracy:
0.9399
578/750 [============>.....] - ETA: 0s - loss: 0.3288 - accuracy:
652/750 [============>....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9387
0.9379
0.9377 - val_loss: 0.5361 - val_accuracy: 0.8734
Epoch 154/220
1/750 [...... 0.2797 - accuracy:
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.3174 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.3225 - accuracy:
220/750 [=====>>.....] - ETA: 0s - loss: 0.3275 - accuracy:
```

```
0.9411
293/750 [=======>.....] - ETA: 0s - loss: 0.3273 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.3273 - accuracy:
0.9408
441/750 [========>...... - ETA: 0s - loss: 0.3280 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.3291 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.3311 - accuracy:
662/750 [=============>....] - ETA: 0s - loss: 0.3315 - accuracy:
0.9388
0.9383
750/750 [============= ] - 1s 834us/step - loss: 0.3312 - accuracy:
0.9384 - val loss: 0.5423 - val accuracy: 0.8787
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.3828 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3312 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.3215 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.3251 - accuracy:
0.9423
292/750 [=======>..... - ETA: 0s - loss: 0.3250 - accuracy:
365/750 [=========>.....] - ETA: 0s - loss: 0.3240 - accuracy:
0.9421
438/750 [=========>.....] - ETA: 0s - loss: 0.3270 - accuracy:
0.9411
513/750 [===========>.....] - ETA: 0s - loss: 0.3266 - accuracy:
0.9411
583/750 [===========>.....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9397
657/750 [============>....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9386
0.9383
0.9379 - val loss: 0.5322 - val accuracy: 0.8763
Epoch 156/220
1/750 [.....] - ETA: 0s - loss: 0.2987 - accuracy:
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.3163 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.3256 - accuracy:
```

```
0.9428
223/750 [======>.....] - ETA: 0s - loss: 0.3247 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.3269 - accuracy:
0.9403
369/750 [=======>.....] - ETA: 0s - loss: 0.3268 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.3278 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.3308 - accuracy:
586/750 [===========>.....] - ETA: 0s - loss: 0.3313 - accuracy:
660/750 [=============>....] - ETA: 0s - loss: 0.3325 - accuracy:
0.9389
750/750 [============== ] - 1s 840us/step - loss: 0.3305 - accuracy:
0.9390 - val loss: 0.5311 - val accuracy: 0.8804
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.3312 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3253 - accuracy:
0.9433
146/750 [====>.....] - ETA: 0s - loss: 0.3181 - accuracy:
0.9461
220/750 [=====>.....] - ETA: 0s - loss: 0.3264 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3237 - accuracy:
0.9434
365/750 [=======>.....] - ETA: 0s - loss: 0.3221 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.3265 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3271 - accuracy:
0.9421
583/750 [============>.....] - ETA: 0s - loss: 0.3279 - accuracy:
656/750 [=============>....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9401 - val_loss: 0.5129 - val_accuracy: 0.8847
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.3447 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.3053 - accuracy:
```

```
0.9480
147/750 [====>.....] - ETA: 0s - loss: 0.3263 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3262 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3268 - accuracy:
0.9418
366/750 [=======>.....] - ETA: 0s - loss: 0.3279 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.3269 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9407
588/750 [============>.....] - ETA: 0s - loss: 0.3300 - accuracy:
0.9396
659/750 [============>....] - ETA: 0s - loss: 0.3303 - accuracy:
0.9396
0.9389 - val_loss: 0.5376 - val_accuracy: 0.8723
Epoch 159/220
1/750 [...... - ETA: 0s - loss: 0.3747 - accuracy:
0.9531
71/750 [=>.....] - ETA: 0s - loss: 0.3290 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.3266 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.3260 - accuracy:
0.9407
293/750 [=======>.....] - ETA: 0s - loss: 0.3267 - accuracy:
0.9408
364/750 [========>.....] - ETA: 0s - loss: 0.3286 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.3312 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.3301 - accuracy:
0.9398
584/750 [===========>.....] - ETA: 0s - loss: 0.3297 - accuracy:
0.9394
658/750 [=============>....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9389
0.9379 - val_loss: 0.5238 - val_accuracy: 0.8827
Epoch 160/220
1/750 [.....] - ETA: 0s - loss: 0.4537 - accuracy:
```

```
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.3183 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.3220 - accuracy:
0.9431
219/750 [======>.....] - ETA: 0s - loss: 0.3252 - accuracy:
0.9421
292/750 [=======>.....] - ETA: 0s - loss: 0.3259 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.3244 - accuracy:
0.9429
437/750 [=========>...... - ETA: 0s - loss: 0.3290 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.3297 - accuracy:
0.9401
582/750 [============>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9395
655/750 [============>....] - ETA: 0s - loss: 0.3299 - accuracy:
0.9397 - val loss: 0.5458 - val accuracy: 0.8722
Epoch 161/220
 1/750 [.....] - ETA: 0s - loss: 0.2536 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3412 - accuracy:
0.9351
147/750 [====>...... - ETA: 0s - loss: 0.3324 - accuracy:
0.9377
222/750 [======>.....] - ETA: 0s - loss: 0.3345 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.3308 - accuracy:
0.9387
361/750 [=======>.....] - ETA: 0s - loss: 0.3282 - accuracy:
0.9394
432/750 [=========>.....] - ETA: 0s - loss: 0.3250 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.3274 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.3281 - accuracy:
0.9389
650/750 [============>....] - ETA: 0s - loss: 0.3295 - accuracy:
723/750 [==============>..] - ETA: 0s - loss: 0.3301 - accuracy:
750/750 [============== ] - 1s 846us/step - loss: 0.3299 - accuracy:
0.9386 - val_loss: 0.5485 - val_accuracy: 0.8776
Epoch 162/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2932 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3199 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.3253 - accuracy:
0.9401
216/750 [======>.....] - ETA: 0s - loss: 0.3215 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.3237 - accuracy:
0.9411
363/750 [========>.....] - ETA: 0s - loss: 0.3235 - accuracy:
0.9409
436/750 [=========>.....] - ETA: 0s - loss: 0.3286 - accuracy:
0.9396
508/750 [==========>.....] - ETA: 0s - loss: 0.3297 - accuracy:
0.9393
581/750 [============>.....] - ETA: 0s - loss: 0.3313 - accuracy:
655/750 [==============>....] - ETA: 0s - loss: 0.3311 - accuracy:
0.9386
728/750 [==============>.] - ETA: 0s - loss: 0.3312 - accuracy:
0.9386
0.9389 - val loss: 0.5185 - val accuracy: 0.8828
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.3364 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3169 - accuracy:
0.9456
144/750 [====>.....] - ETA: 0s - loss: 0.3192 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3244 - accuracy:
0.9439
291/750 [=======>..... - ETA: 0s - loss: 0.3224 - accuracy:
0.9444
365/750 [=======>.....] - ETA: 0s - loss: 0.3228 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.3245 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.3278 - accuracy:
582/750 [=============>.....] - ETA: 0s - loss: 0.3274 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.3293 - accuracy:
0.9416
750/750 [============= ] - 1s 840us/step - loss: 0.3289 - accuracy:
```

```
0.9415 - val_loss: 0.5112 - val_accuracy: 0.8878 
Epoch 164/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2701 - accuracy:
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.3144 - accuracy:
0.9477
147/750 [====>...... - ETA: 0s - loss: 0.3129 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3131 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.3186 - accuracy:
366/750 [=========>.....] - ETA: 0s - loss: 0.3213 - accuracy:
0.9444
439/750 [========>..... - ETA: 0s - loss: 0.3261 - accuracy:
0.9418
511/750 [=========>.....] - ETA: 0s - loss: 0.3272 - accuracy:
585/750 [=============>.....] - ETA: 0s - loss: 0.3281 - accuracy:
656/750 [============>....] - ETA: 0s - loss: 0.3293 - accuracy:
0.9411
750/750 [============= ] - 1s 841us/step - loss: 0.3301 - accuracy:
0.9410 - val_loss: 0.5043 - val_accuracy: 0.8864
Epoch 165/220
1/750 [...... 0.2882 - accuracy:
0.9688
74/750 [=>.....] - ETA: 0s - loss: 0.3176 - accuracy:
0.9457
147/750 [====>.....] - ETA: 0s - loss: 0.3155 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.3205 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3170 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.3175 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.3208 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.3218 - accuracy:
586/750 [============>.....] - ETA: 0s - loss: 0.3248 - accuracy:
0.9411
659/750 [============>....] - ETA: 0s - loss: 0.3267 - accuracy:
```

```
0.9403
750/750 [=============== ] - 1s 833us/step - loss: 0.3268 - accuracy:
0.9404 - val_loss: 0.5327 - val_accuracy: 0.8801
Epoch 166/220
 1/750 [.....] - ETA: 0s - loss: 0.3345 - accuracy:
0.9062
71/750 [=>.....] - ETA: 0s - loss: 0.3182 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.3284 - accuracy:
216/750 [======>...... - ETA: 0s - loss: 0.3263 - accuracy:
0.9377
287/750 [=======>.....] - ETA: 0s - loss: 0.3230 - accuracy:
0.9407
361/750 [=========>.....] - ETA: 0s - loss: 0.3265 - accuracy:
0.9391
434/750 [=========>...... - ETA: 0s - loss: 0.3268 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.3250 - accuracy:
0.9406
580/750 [===========>.....] - ETA: 0s - loss: 0.3264 - accuracy:
652/750 [============>....] - ETA: 0s - loss: 0.3288 - accuracy:
0.9396
724/750 [===============>..] - ETA: 0s - loss: 0.3287 - accuracy:
750/750 [============= ] - 1s 842us/step - loss: 0.3289 - accuracy:
0.9394 - val_loss: 0.5293 - val_accuracy: 0.8777
Epoch 167/220
 1/750 [.....] - ETA: 0s - loss: 0.3186 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3140 - accuracy:
0.9471
145/750 [====>.....] - ETA: 0s - loss: 0.3265 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.3250 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.3220 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.3237 - accuracy:
0.9413
435/750 [=========>..... - ETA: 0s - loss: 0.3219 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.3233 - accuracy:
583/750 [===========>.....] - ETA: 0s - loss: 0.3249 - accuracy:
0.9414
658/750 [============>....] - ETA: 0s - loss: 0.3263 - accuracy:
```

```
0.9408 - val loss: 0.5140 - val accuracy: 0.8838
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.3233 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3180 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.3268 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.3277 - accuracy:
0.9418
295/750 [=======>.....] - ETA: 0s - loss: 0.3280 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.3284 - accuracy:
0.9403
439/750 [==========>.....] - ETA: 0s - loss: 0.3312 - accuracy:
0.9394
512/750 [=========>.....] - ETA: 0s - loss: 0.3305 - accuracy:
0.9397
584/750 [============>.....] - ETA: 0s - loss: 0.3295 - accuracy:
0.9403
0.9402 - val loss: 0.5533 - val accuracy: 0.8715
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.2694 - accuracy:
0.9688
71/750 [=>.....] - ETA: 0s - loss: 0.3175 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.3193 - accuracy:
0.9448
215/750 [======>.....] - ETA: 0s - loss: 0.3201 - accuracy:
0.9433
286/750 [=======>.....] - ETA: 0s - loss: 0.3199 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.3202 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.3224 - accuracy:
0.9424
504/750 [=========>.....] - ETA: 0s - loss: 0.3238 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.3244 - accuracy:
```

```
0.9413
724/750 [===============>..] - ETA: 0s - loss: 0.3262 - accuracy:
0.9406
0.9407 - val loss: 0.5399 - val accuracy: 0.8800
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.3141 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3224 - accuracy:
0.9399
147/750 [====>.....] - ETA: 0s - loss: 0.3175 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.3124 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 0.3138 - accuracy:
0.9451
369/750 [=======>.....] - ETA: 0s - loss: 0.3168 - accuracy:
443/750 [========>..... - ETA: 0s - loss: 0.3210 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.3223 - accuracy:
590/750 [============>.....] - ETA: 0s - loss: 0.3237 - accuracy:
0.9412
739/750 [==============>.] - ETA: 0s - loss: 0.3260 - accuracy:
0.9399
0.9398 - val loss: 0.5112 - val accuracy: 0.8853
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.3009 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3260 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.3221 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.3218 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.3239 - accuracy:
0.9411
362/750 [========>.....] - ETA: 0s - loss: 0.3289 - accuracy:
424/750 [========>..... - ETA: 0s - loss: 0.3280 - accuracy:
483/750 [==========>.....] - ETA: 0s - loss: 0.3290 - accuracy:
```

```
0.9399
540/750 [==========>.....] - ETA: 0s - loss: 0.3276 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.3262 - accuracy:
750/750 [=============== ] - 1s 912us/step - loss: 0.3263 - accuracy:
0.9414 - val_loss: 0.5350 - val_accuracy: 0.8776
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.3126 - accuracy:
0.9531
71/750 [=>.....] - ETA: 0s - loss: 0.3199 - accuracy:
0.9461
138/750 [====>...... - ETA: 0s - loss: 0.3319 - accuracy:
209/750 [=====>.....] - ETA: 0s - loss: 0.3294 - accuracy:
0.9397
275/750 [=======>.....] - ETA: 0s - loss: 0.3279 - accuracy:
0.9407
344/750 [=======>.....] - ETA: 0s - loss: 0.3261 - accuracy:
0.9416
408/750 [========>.....] - ETA: 0s - loss: 0.3260 - accuracy:
0.9416
478/750 [==========>.....] - ETA: 0s - loss: 0.3254 - accuracy:
0.9419
547/750 [=========>.....] - ETA: 0s - loss: 0.3281 - accuracy:
0.9411
0.9416
750/750 [=============== ] - 1s 916us/step - loss: 0.3268 - accuracy:
0.9414 - val loss: 0.5119 - val accuracy: 0.8895
Epoch 173/220
1/750 [...... - ETA: 1s - loss: 0.3528 - accuracy:
48/750 [>.....] - ETA: 0s - loss: 0.2979 - accuracy:
97/750 [==>.....] - ETA: 0s - loss: 0.3118 - accuracy:
0.9496
149/750 [====>.....] - ETA: 0s - loss: 0.3180 - accuracy:
0.9460
206/750 [=====>>...... - ETA: 0s - loss: 0.3159 - accuracy:
268/750 [======>.....] - ETA: 0s - loss: 0.3178 - accuracy:
```

```
333/750 [========>>.....] - ETA: 0s - loss: 0.3181 - accuracy:
398/750 [========>.....] - ETA: 0s - loss: 0.3185 - accuracy:
467/750 [=========>.....] - ETA: 0s - loss: 0.3192 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.3221 - accuracy:
668/750 [============>....] - ETA: 0s - loss: 0.3245 - accuracy:
0.9417
750/750 [============= ] - 1s 988us/step - loss: 0.3266 - accuracy:
0.9418 - val_loss: 0.5289 - val_accuracy: 0.8786
Epoch 174/220
1/750 [...... os. - loss: 0.2677 - accuracy:
65/750 [=>.....] - ETA: 0s - loss: 0.3127 - accuracy:
0.9476
131/750 [====>...... - ETA: 0s - loss: 0.3138 - accuracy:
0.9481
202/750 [======>.....] - ETA: 0s - loss: 0.3144 - accuracy:
272/750 [======>..... - ETA: 0s - loss: 0.3167 - accuracy:
0.9451
343/750 [=========>.....] - ETA: 0s - loss: 0.3186 - accuracy:
0.9447
415/750 [========>.....] - ETA: 0s - loss: 0.3224 - accuracy:
484/750 [==========>.....] - ETA: 0s - loss: 0.3228 - accuracy:
555/750 [==========>.....] - ETA: 0s - loss: 0.3233 - accuracy:
0.9431
0.9439
680/750 [============>...] - ETA: 0s - loss: 0.3229 - accuracy:
0.9424 - val loss: 0.5401 - val accuracy: 0.8734
Epoch 175/220
1/750 [.....] - ETA: 0s - loss: 0.2565 - accuracy:
0.9844
70/750 [=>.....] - ETA: 0s - loss: 0.3213 - accuracy:
```

```
0.9424
140/750 [====>.....] - ETA: 0s - loss: 0.3169 - accuracy:
209/750 [======>.....] - ETA: 0s - loss: 0.3229 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.3271 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.3245 - accuracy:
0.9417
415/750 [========>..... - ETA: 0s - loss: 0.3238 - accuracy:
486/750 [=========>...... - ETA: 0s - loss: 0.3251 - accuracy:
556/750 [============>.....] - ETA: 0s - loss: 0.3251 - accuracy:
0.9417
618/750 [============>.....] - ETA: 0s - loss: 0.3250 - accuracy:
0.9416
681/750 [============>...] - ETA: 0s - loss: 0.3236 - accuracy:
0.9421
0.9417 - val loss: 0.5436 - val accuracy: 0.8779
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.3153 - accuracy:
63/750 [=>.....] - ETA: 0s - loss: 0.3080 - accuracy:
0.9489
130/750 [====>.....] - ETA: 0s - loss: 0.3187 - accuracy:
198/750 [=====>.....] - ETA: 0s - loss: 0.3161 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.3194 - accuracy:
0.9451
333/750 [=======>...... - ETA: 0s - loss: 0.3211 - accuracy:
401/750 [========>.....] - ETA: 0s - loss: 0.3195 - accuracy:
0.9444
472/750 [=========>.....] - ETA: 0s - loss: 0.3213 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.3231 - accuracy:
0.9423
0.9416
0.9408 - val_loss: 0.5195 - val_accuracy: 0.8845
Epoch 177/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3032 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3236 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.3209 - accuracy:
210/750 [=====>..... - ETA: 0s - loss: 0.3188 - accuracy:
0.9446
276/750 [=======>..... - ETA: 0s - loss: 0.3169 - accuracy:
344/750 [=======>..... - ETA: 0s - loss: 0.3158 - accuracy:
410/750 [========>.....] - ETA: 0s - loss: 0.3180 - accuracy:
0.9442
471/750 [==========>.....] - ETA: 0s - loss: 0.3194 - accuracy:
0.9439
536/750 [=========>.....] - ETA: 0s - loss: 0.3199 - accuracy:
0.9436
673/750 [=============>....] - ETA: 0s - loss: 0.3234 - accuracy:
750/750 [============= ] - 1s 907us/step - loss: 0.3241 - accuracy:
0.9419 - val_loss: 0.5172 - val_accuracy: 0.8879
Epoch 178/220
1/750 [...... os. - loss: 0.4329 - accuracy:
0.8594
68/750 [=>.....] - ETA: 0s - loss: 0.3356 - accuracy:
0.9370
136/750 [====>.....] - ETA: 0s - loss: 0.3227 - accuracy:
0.9424
203/750 [=====>.....] - ETA: 0s - loss: 0.3243 - accuracy:
273/750 [=======>.....] - ETA: 0s - loss: 0.3206 - accuracy:
0.9441
341/750 [========>.....] - ETA: 0s - loss: 0.3207 - accuracy:
408/750 [========>..... - ETA: 0s - loss: 0.3216 - accuracy:
480/750 [=========>.....] - ETA: 0s - loss: 0.3207 - accuracy:
549/750 [=========>.....] - ETA: 0s - loss: 0.3238 - accuracy:
0.9404
619/750 [===========>.....] - ETA: 0s - loss: 0.3250 - accuracy:
```

```
0.9390
0.9390 - val_loss: 0.5065 - val_accuracy: 0.8881
Epoch 179/220
1/750 [.....] - ETA: 0s - loss: 0.2618 - accuracy:
0.9531
63/750 [=>.....] - ETA: 0s - loss: 0.3122 - accuracy:
132/750 [====>...... - ETA: 0s - loss: 0.3103 - accuracy:
196/750 [=====>...... - ETA: 0s - loss: 0.3172 - accuracy:
0.9441
264/750 [=======>.....] - ETA: 0s - loss: 0.3211 - accuracy:
336/750 [========>.....] - ETA: 0s - loss: 0.3199 - accuracy:
406/750 [========>..... - ETA: 0s - loss: 0.3198 - accuracy:
477/750 [==========>.....] - ETA: 0s - loss: 0.3194 - accuracy:
550/750 [==========>.....] - ETA: 0s - loss: 0.3199 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.3204 - accuracy:
750/750 [============= ] - 1s 884us/step - loss: 0.3215 - accuracy:
0.9423 - val_loss: 0.5301 - val_accuracy: 0.8799
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.2910 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.3121 - accuracy:
0.9476
144/750 [====>.....] - ETA: 0s - loss: 0.3172 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3153 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.3155 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.3202 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.3220 - accuracy:
498/750 [=========>.....] - ETA: 0s - loss: 0.3207 - accuracy:
0.9426
568/750 [==========>.....] - ETA: 0s - loss: 0.3210 - accuracy:
0.9426
639/750 [============>....] - ETA: 0s - loss: 0.3226 - accuracy:
```

```
0.9414 - val loss: 0.5588 - val accuracy: 0.8748
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.3248 - accuracy:
66/750 [=>.....] - ETA: 0s - loss: 0.3132 - accuracy:
138/750 [====>...... - ETA: 0s - loss: 0.3177 - accuracy:
0.9444
210/750 [======>.....] - ETA: 0s - loss: 0.3168 - accuracy:
0.9448
280/750 [=======>.....] - ETA: 0s - loss: 0.3164 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3237 - accuracy:
423/750 [========>...... - ETA: 0s - loss: 0.3227 - accuracy:
494/750 [==========>.....] - ETA: 0s - loss: 0.3205 - accuracy:
0.9434
563/750 [==========>.....] - ETA: 0s - loss: 0.3200 - accuracy:
0.9425 - val loss: 0.5308 - val accuracy: 0.8780
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.2913 - accuracy:
0.9375
59/750 [=>.....] - ETA: 0s - loss: 0.3178 - accuracy:
129/750 [====>.....] - ETA: 0s - loss: 0.3184 - accuracy:
0.9454
201/750 [======>.....] - ETA: 0s - loss: 0.3229 - accuracy:
273/750 [=======>.....] - ETA: 0s - loss: 0.3175 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.3186 - accuracy:
418/750 [========>..... - ETA: 0s - loss: 0.3193 - accuracy:
0.9449
490/750 [=========>.....] - ETA: 0s - loss: 0.3201 - accuracy:
557/750 [============>.....] - ETA: 0s - loss: 0.3195 - accuracy:
```

```
0.9442
750/750 [================ ] - 1s 869us/step - loss: 0.3243 - accuracy:
0.9423 - val loss: 0.5345 - val accuracy: 0.8808
Epoch 183/220
1/750 [.....] - ETA: 0s - loss: 0.2782 - accuracy:
67/750 [=>.....] - ETA: 0s - loss: 0.3211 - accuracy:
0.9391
137/750 [====>.....] - ETA: 0s - loss: 0.3309 - accuracy:
0.9380
208/750 [======>.....] - ETA: 0s - loss: 0.3287 - accuracy:
0.9392
277/750 [=======>...... - ETA: 0s - loss: 0.3300 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.3258 - accuracy:
418/750 [========>..... - ETA: 0s - loss: 0.3265 - accuracy:
486/750 [=========>.....] - ETA: 0s - loss: 0.3256 - accuracy:
0.9406
555/750 [============>.....] - ETA: 0s - loss: 0.3237 - accuracy:
696/750 [============>...] - ETA: 0s - loss: 0.3235 - accuracy:
0.9429 - val loss: 0.5164 - val accuracy: 0.8857
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.2646 - accuracy:
0.9688
69/750 [=>.....] - ETA: 0s - loss: 0.3203 - accuracy:
130/750 [====>.....] - ETA: 0s - loss: 0.3155 - accuracy:
0.9441
199/750 [=====>.....] - ETA: 0s - loss: 0.3164 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.3186 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.3185 - accuracy:
409/750 [========>....] - ETA: 0s - loss: 0.3181 - accuracy:
480/750 [==========>.....] - ETA: 0s - loss: 0.3195 - accuracy:
```

```
0.9434
551/750 [=============>.....] - ETA: 0s - loss: 0.3177 - accuracy:
623/750 [============>.....] - ETA: 0s - loss: 0.3188 - accuracy:
0.9434
0.9425 - val loss: 0.5522 - val accuracy: 0.8769
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.2689 - accuracy:
0.9531
70/750 [=>.....] - ETA: 0s - loss: 0.3197 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.3181 - accuracy:
209/750 [=====>>...... - ETA: 0s - loss: 0.3189 - accuracy:
0.9439
279/750 [=======>.....] - ETA: 0s - loss: 0.3222 - accuracy:
348/750 [=======>.....] - ETA: 0s - loss: 0.3192 - accuracy:
0.9441
421/750 [========>..... - ETA: 0s - loss: 0.3215 - accuracy:
489/750 [=========>.....] - ETA: 0s - loss: 0.3207 - accuracy:
560/750 [===========>.....] - ETA: 0s - loss: 0.3233 - accuracy:
632/750 [============>....] - ETA: 0s - loss: 0.3235 - accuracy:
750/750 [=============== ] - 1s 870us/step - loss: 0.3247 - accuracy:
0.9410 - val loss: 0.5272 - val accuracy: 0.8864
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.3344 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.3002 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.3071 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.3149 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.3176 - accuracy:
354/750 [=======>...... - ETA: 0s - loss: 0.3175 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.3157 - accuracy:
```

```
0.9463
495/750 [=========>.....] - ETA: 0s - loss: 0.3193 - accuracy:
564/750 [===========>.....] - ETA: 0s - loss: 0.3197 - accuracy:
0.9420 - val_loss: 0.5216 - val_accuracy: 0.8859
Epoch 187/220
1/750 [.....] - ETA: 0s - loss: 0.3421 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3099 - accuracy:
0.9494
142/750 [====>...... - ETA: 0s - loss: 0.3167 - accuracy:
209/750 [=====>..... - ETA: 0s - loss: 0.3156 - accuracy:
276/750 [=======>..... - ETA: 0s - loss: 0.3141 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.3188 - accuracy:
0.9442
417/750 [========>.....] - ETA: 0s - loss: 0.3210 - accuracy:
487/750 [==========>.....] - ETA: 0s - loss: 0.3208 - accuracy:
558/750 [==========>.....] - ETA: 0s - loss: 0.3230 - accuracy:
0.9421
0.9421 - val loss: 0.5346 - val accuracy: 0.8815
Epoch 188/220
1/750 [...... - ETA: 0s - loss: 0.2301 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.3021 - accuracy:
0.9521
148/750 [====>......] - ETA: 0s - loss: 0.3055 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.3138 - accuracy:
0.9469
288/750 [=======>..... - ETA: 0s - loss: 0.3174 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.3193 - accuracy:
```

```
0.9446
432/750 [=========>.....] - ETA: 0s - loss: 0.3188 - accuracy:
504/750 [===========>.....] - ETA: 0s - loss: 0.3178 - accuracy:
0.9444
576/750 [============>.....] - ETA: 0s - loss: 0.3166 - accuracy:
649/750 [============>....] - ETA: 0s - loss: 0.3176 - accuracy:
0.9447
750/750 [============= ] - 1s 858us/step - loss: 0.3182 - accuracy:
0.9444 - val loss: 0.6014 - val accuracy: 0.8674
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.3293 - accuracy:
0.9375
72/750 [=>.....] - ETA: 0s - loss: 0.3437 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.3260 - accuracy:
0.9414
215/750 [======>.....] - ETA: 0s - loss: 0.3204 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.3184 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3193 - accuracy:
424/750 [========>..... - ETA: 0s - loss: 0.3190 - accuracy:
0.9444
494/750 [=========>.....] - ETA: 0s - loss: 0.3226 - accuracy:
0.9426
562/750 [===========>.....] - ETA: 0s - loss: 0.3258 - accuracy:
0.9409 - val_loss: 0.5339 - val_accuracy: 0.8790
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.3143 - accuracy:
0.9375
71/750 [=>.....] - ETA: 0s - loss: 0.3126 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.3115 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.3109 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.3104 - accuracy:
```

```
0.9482
352/750 [=========>......] - ETA: 0s - loss: 0.3137 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 0.3176 - accuracy:
491/750 [=========>.....] - ETA: 0s - loss: 0.3172 - accuracy:
563/750 [==========>.....] - ETA: 0s - loss: 0.3147 - accuracy:
705/750 [==============>..] - ETA: 0s - loss: 0.3193 - accuracy:
750/750 [============= ] - 1s 866us/step - loss: 0.3189 - accuracy:
0.9438 - val_loss: 0.5377 - val_accuracy: 0.8813
Epoch 191/220
1/750 [...... - ETA: 0s - loss: 0.3142 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.2988 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.3097 - accuracy:
0.9483
214/750 [======>.....] - ETA: 0s - loss: 0.3113 - accuracy:
0.9474
280/750 [=======>.....] - ETA: 0s - loss: 0.3104 - accuracy:
0.9474
350/750 [=======>.....] - ETA: 0s - loss: 0.3149 - accuracy:
419/750 [========>..... - ETA: 0s - loss: 0.3166 - accuracy:
0.9443
488/750 [==========>.....] - ETA: 0s - loss: 0.3192 - accuracy:
555/750 [============>.....] - ETA: 0s - loss: 0.3198 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.3215 - accuracy:
0.9421
750/750 [============= ] - 1s 888us/step - loss: 0.3232 - accuracy:
0.9421 - val_loss: 0.5492 - val_accuracy: 0.8817
Epoch 192/220
 1/750 [...... 0.4694 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3129 - accuracy:
0.9467
141/750 [====>.....] - ETA: 0s - loss: 0.3143 - accuracy:
209/750 [======>.....] - ETA: 0s - loss: 0.3132 - accuracy:
```

```
0.9459
277/750 [=======>.....] - ETA: 0s - loss: 0.3143 - accuracy:
348/750 [=========>.....] - ETA: 0s - loss: 0.3198 - accuracy:
419/750 [=======>..... - ETA: 0s - loss: 0.3185 - accuracy:
0.9431
490/750 [=========>.....] - ETA: 0s - loss: 0.3176 - accuracy:
562/750 [============>.....] - ETA: 0s - loss: 0.3183 - accuracy:
637/750 [============>....] - ETA: 0s - loss: 0.3181 - accuracy:
750/750 [============= ] - 1s 866us/step - loss: 0.3185 - accuracy:
0.9443 - val loss: 0.5248 - val accuracy: 0.8843
Epoch 193/220
1/750 [...... 0.2547 - accuracy:
0.9688
73/750 [=>.....] - ETA: 0s - loss: 0.2979 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.3085 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3128 - accuracy:
285/750 [=======>..... - ETA: 0s - loss: 0.3171 - accuracy:
0.9464
358/750 [=========>.....] - ETA: 0s - loss: 0.3183 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.3212 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.3201 - accuracy:
570/750 [==========>.....] - ETA: 0s - loss: 0.3195 - accuracy:
0.9441 - val loss: 0.5319 - val accuracy: 0.8827
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.3405 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.3149 - accuracy:
0.9463
142/750 [====>.....] - ETA: 0s - loss: 0.3145 - accuracy:
```

```
0.9461
214/750 [======>.....] - ETA: 0s - loss: 0.3159 - accuracy:
281/750 [=======>.....] - ETA: 0s - loss: 0.3133 - accuracy:
0.9464
353/750 [=======>.....] - ETA: 0s - loss: 0.3160 - accuracy:
0.9447
424/750 [========>.....] - ETA: 0s - loss: 0.3201 - accuracy:
492/750 [==========>.....] - ETA: 0s - loss: 0.3190 - accuracy:
562/750 [==========>.....] - ETA: 0s - loss: 0.3176 - accuracy:
0.9433 - val loss: 0.5217 - val accuracy: 0.8858
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.2275 - accuracy:
0.9688
72/750 [=>.....] - ETA: 0s - loss: 0.2942 - accuracy:
0.9551
143/750 [====>.....] - ETA: 0s - loss: 0.2964 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.3077 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.3131 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3142 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.3159 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.3203 - accuracy:
569/750 [===========>.....] - ETA: 0s - loss: 0.3215 - accuracy:
638/750 [============>....] - ETA: 0s - loss: 0.3205 - accuracy:
750/750 [============= ] - 1s 862us/step - loss: 0.3215 - accuracy:
0.9437 - val_loss: 0.5240 - val_accuracy: 0.8849
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.2849 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.3073 - accuracy:
```

```
139/750 [====>.....] - ETA: 0s - loss: 0.3085 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.3108 - accuracy:
280/750 [=======>..... - ETA: 0s - loss: 0.3149 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3158 - accuracy:
419/750 [========>.....] - ETA: 0s - loss: 0.3166 - accuracy:
490/750 [=========>...... - ETA: 0s - loss: 0.3196 - accuracy:
561/750 [============>.....] - ETA: 0s - loss: 0.3207 - accuracy:
0.9434
703/750 [==============>..] - ETA: 0s - loss: 0.3217 - accuracy:
0.9431
0.9433 - val_loss: 0.5346 - val_accuracy: 0.8830
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.2568 - accuracy:
0.9844
72/750 [=>.....] - ETA: 0s - loss: 0.3198 - accuracy:
750/750 [============ ] - -1s -1402us/step - loss: 0.3181 -
accuracy: 0.9436 - val_loss: 0.5600 - val_accuracy: 0.8699
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.3029 - accuracy:
0.9219
71/750 [=>.....] - ETA: 0s - loss: 0.3138 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.3138 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.3153 - accuracy:
0.9488
282/750 [=======>.....] - ETA: 0s - loss: 0.3152 - accuracy:
0.9481
354/750 [========>.....] - ETA: 0s - loss: 0.3177 - accuracy:
424/750 [========>..... - ETA: 0s - loss: 0.3163 - accuracy:
0.9467
496/750 [=========>.....] - ETA: 0s - loss: 0.3182 - accuracy:
562/750 [==========>.....] - ETA: 0s - loss: 0.3168 - accuracy:
632/750 [============>....] - ETA: 0s - loss: 0.3172 - accuracy:
```

```
0.9455 - val loss: 0.5921 - val accuracy: 0.8645
Epoch 199/220
1/750 [.....] - ETA: 0s - loss: 0.4524 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.3095 - accuracy:
141/750 [====>...... - ETA: 0s - loss: 0.3128 - accuracy:
209/750 [======>.....] - ETA: 0s - loss: 0.3121 - accuracy:
0.9477
280/750 [=======>.....] - ETA: 0s - loss: 0.3124 - accuracy:
0.9477
348/750 [========>.....] - ETA: 0s - loss: 0.3147 - accuracy:
0.9474
415/750 [=========>...... - ETA: 0s - loss: 0.3171 - accuracy:
484/750 [=========>.....] - ETA: 0s - loss: 0.3173 - accuracy:
557/750 [=============>.....] - ETA: 0s - loss: 0.3184 - accuracy:
0.9442
0.9443 - val loss: 0.5275 - val accuracy: 0.8810
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.3480 - accuracy:
0.9531
74/750 [=>.....] - ETA: 0s - loss: 0.3067 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.3155 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.3127 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.3153 - accuracy:
355/750 [========>.....] - ETA: 0s - loss: 0.3187 - accuracy:
425/750 [========>...... - ETA: 0s - loss: 0.3167 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.3206 - accuracy:
568/750 [============>.....] - ETA: 0s - loss: 0.3228 - accuracy:
```

```
750/750 [================ ] - 1s 861us/step - loss: 0.3212 - accuracy:
0.9435 - val loss: 0.5865 - val accuracy: 0.8691
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.3663 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3020 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.3050 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.3114 - accuracy:
0.9468
285/750 [=======>..... - ETA: 0s - loss: 0.3140 - accuracy:
0.9463
355/750 [=======>.....] - ETA: 0s - loss: 0.3163 - accuracy:
426/750 [=========>..... - ETA: 0s - loss: 0.3158 - accuracy:
0.9449
498/750 [==========>.....] - ETA: 0s - loss: 0.3163 - accuracy:
569/750 [============>.....] - ETA: 0s - loss: 0.3178 - accuracy:
0.9443
712/750 [===============>..] - ETA: 0s - loss: 0.3174 - accuracy:
0.9445 - val_loss: 0.5266 - val_accuracy: 0.8839
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.2228 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3051 - accuracy:
0.9531
142/750 [====>.....] - ETA: 0s - loss: 0.3110 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.3123 - accuracy:
0.9486
282/750 [=======>.....] - ETA: 0s - loss: 0.3159 - accuracy:
0.9471
355/750 [========>.....] - ETA: 0s - loss: 0.3200 - accuracy:
425/750 [=========>..... - ETA: 0s - loss: 0.3210 - accuracy:
496/750 [==========>.....] - ETA: 0s - loss: 0.3188 - accuracy:
```

```
0.9457
568/750 [============>.....] - ETA: 0s - loss: 0.3192 - accuracy:
0.9448
750/750 [================ ] - 1s 862us/step - loss: 0.3204 - accuracy:
0.9445 - val loss: 0.5345 - val accuracy: 0.8834
Epoch 203/220
1/750 [...... - ETA: 0s - loss: 0.3285 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3043 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.3076 - accuracy:
0.9481
217/750 [======>...... - ETA: 0s - loss: 0.3067 - accuracy:
286/750 [=======>...... - ETA: 0s - loss: 0.3072 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.3103 - accuracy:
0.9474
430/750 [==========>.....] - ETA: 0s - loss: 0.3115 - accuracy:
0.9468
499/750 [==========>.....] - ETA: 0s - loss: 0.3138 - accuracy:
569/750 [===========>.....] - ETA: 0s - loss: 0.3163 - accuracy:
639/750 [============>....] - ETA: 0s - loss: 0.3172 - accuracy:
750/750 [================ ] - 1s 872us/step - loss: 0.3173 - accuracy:
0.9444 - val loss: 0.5732 - val accuracy: 0.8721
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.2993 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.3142 - accuracy:
0.9484
140/750 [====>.....] - ETA: 0s - loss: 0.3193 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.3117 - accuracy:
0.9447
281/750 [=======>.....] - ETA: 0s - loss: 0.3075 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.3126 - accuracy:
419/750 [========>.....] - ETA: 0s - loss: 0.3115 - accuracy:
```

```
0.9456
489/750 [==========>.....] - ETA: 0s - loss: 0.3145 - accuracy:
558/750 [===========>.....] - ETA: 0s - loss: 0.3165 - accuracy:
0.9443
0.9425 - val_loss: 0.5157 - val_accuracy: 0.8867
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.2318 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3046 - accuracy:
0.9523
140/750 [====>...... - ETA: 0s - loss: 0.3034 - accuracy:
209/750 [=====>.....] - ETA: 0s - loss: 0.3062 - accuracy:
282/750 [=======>..... - ETA: 0s - loss: 0.3110 - accuracy:
0.9487
354/750 [=======>.....] - ETA: 0s - loss: 0.3137 - accuracy:
0.9477
423/750 [========>.....] - ETA: 0s - loss: 0.3137 - accuracy:
496/750 [==========>.....] - ETA: 0s - loss: 0.3145 - accuracy:
0.9469
564/750 [==========>.....] - ETA: 0s - loss: 0.3181 - accuracy:
0.9451
750/750 [================ ] - 1s 866us/step - loss: 0.3185 - accuracy:
0.9449 - val loss: 0.5450 - val accuracy: 0.8783
Epoch 206/220
1/750 [.....] - ETA: 0s - loss: 0.3994 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.3113 - accuracy:
139/750 [====>....... - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.3114 - accuracy:
0.9487
282/750 [=======>..... - ETA: 0s - loss: 0.3095 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.3154 - accuracy:
```

```
0.9471
423/750 [========>.....] - ETA: 0s - loss: 0.3161 - accuracy:
0.9459
493/750 [=========>.....] - ETA: 0s - loss: 0.3160 - accuracy:
0.9451
566/750 [==============>.....] - ETA: 0s - loss: 0.3156 - accuracy:
634/750 [=============>....] - ETA: 0s - loss: 0.3158 - accuracy:
750/750 [============= ] - 1s 868us/step - loss: 0.3177 - accuracy:
0.9445 - val loss: 0.5261 - val accuracy: 0.8855
Epoch 207/220
1/750 [.....] - ETA: 0s - loss: 0.3227 - accuracy:
0.9688
72/750 [=>.....] - ETA: 0s - loss: 0.2989 - accuracy:
141/750 [====>...... - ETA: 0s - loss: 0.3109 - accuracy:
208/750 [=====>>.....] - ETA: 0s - loss: 0.3095 - accuracy:
278/750 [=======>..... - ETA: 0s - loss: 0.3120 - accuracy:
0.9479
346/750 [========>.....] - ETA: 0s - loss: 0.3147 - accuracy:
0.9461
416/750 [========>..... - ETA: 0s - loss: 0.3147 - accuracy:
488/750 [=========>.....] - ETA: 0s - loss: 0.3146 - accuracy:
554/750 [============>.....] - ETA: 0s - loss: 0.3163 - accuracy:
0.9457
0.9455 - val_loss: 0.5235 - val_accuracy: 0.8858
Epoch 208/220
1/750 [.....] - ETA: 0s - loss: 0.2230 - accuracy:
0.9844
69/750 [=>.....] - ETA: 0s - loss: 0.3179 - accuracy:
0.9461
138/750 [====>.....] - ETA: 0s - loss: 0.3151 - accuracy:
205/750 [======>...... - ETA: 0s - loss: 0.3133 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.3135 - accuracy:
```

```
0.9458
347/750 [=========>.....] - ETA: 0s - loss: 0.3130 - accuracy:
417/750 [========>.....] - ETA: 0s - loss: 0.3119 - accuracy:
0.9469
485/750 [=========>.....] - ETA: 0s - loss: 0.3127 - accuracy:
556/750 [==========>.....] - ETA: 0s - loss: 0.3117 - accuracy:
0.9467
697/750 [============>...] - ETA: 0s - loss: 0.3132 - accuracy:
0.9468
750/750 [============= ] - 1s 879us/step - loss: 0.3148 - accuracy:
0.9459 - val_loss: 0.5463 - val_accuracy: 0.8771
Epoch 209/220
1/750 [.....] - ETA: 0s - loss: 0.2906 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.2884 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.3035 - accuracy:
0.9517
213/750 [======>.....] - ETA: 0s - loss: 0.3017 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.3034 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.3096 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.3123 - accuracy:
0.9477
495/750 [==========>.....] - ETA: 0s - loss: 0.3136 - accuracy:
0.9471
566/750 [============>.....] - ETA: 0s - loss: 0.3151 - accuracy:
0.9459 - val_loss: 0.6315 - val_accuracy: 0.8543
Epoch 210/220
1/750 [...... 0.3341 - accuracy:
0.9531
71/750 [=>.....] - ETA: 0s - loss: 0.3218 - accuracy:
0.9443
141/750 [====>.....] - ETA: 0s - loss: 0.3146 - accuracy:
0.9494
212/750 [======>.....] - ETA: 0s - loss: 0.3099 - accuracy:
```

```
0.9503
283/750 [=======>.....] - ETA: 0s - loss: 0.3151 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.3124 - accuracy:
427/750 [========>..... - ETA: 0s - loss: 0.3156 - accuracy:
 0.9470  \pm 0.000  \pm 0.0000  \pm 0.000  \pm 0.0000  \pm 0.000
498/750 [=========>.....] - ETA: 0s - loss: 0.3151 - accuracy:
569/750 [============>.....] - ETA: 0s - loss: 0.3145 - accuracy:
638/750 [============>....] - ETA: 0s - loss: 0.3146 - accuracy:
0.9471
750/750 [============= ] - 1s 872us/step - loss: 0.3169 - accuracy:
0.9459 - val_loss: 0.5627 - val_accuracy: 0.8756
Epoch 211/220
  1/750 [...... os. 3.3057 - accuracy:
0.9531
 72/750 [=>.....] - ETA: 0s - loss: 0.3172 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.3083 - accuracy:
0.9491
214/750 [======>.....] - ETA: 0s - loss: 0.3109 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.3090 - accuracy:
354/750 [=========>.....] - ETA: 0s - loss: 0.3065 - accuracy:
0.9497
422/750 [========>.....] - ETA: 0s - loss: 0.3109 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 0.3113 - accuracy:
564/750 [==========>.....] - ETA: 0s - loss: 0.3133 - accuracy:
0.9448
705/750 [==============>..] - ETA: 0s - loss: 0.3161 - accuracy:
0.9458 - val loss: 0.5580 - val accuracy: 0.8777
Epoch 212/220
  1/750 [.....] - ETA: 0s - loss: 0.3155 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3202 - accuracy:
0.9416
144/750 [====>.....] - ETA: 0s - loss: 0.3205 - accuracy:
```

```
0.9414
213/750 [======>.....] - ETA: 0s - loss: 0.3164 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.3152 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.3137 - accuracy:
420/750 [========>....] - ETA: 0s - loss: 0.3166 - accuracy:
490/750 [==========>.....] - ETA: 0s - loss: 0.3164 - accuracy:
560/750 [==========>.....] - ETA: 0s - loss: 0.3205 - accuracy:
0.9424
0.9429
0.9437 - val loss: 0.5292 - val accuracy: 0.8854
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.3068 - accuracy:
0.9688
70/750 [=>.....] - ETA: 0s - loss: 0.2961 - accuracy:
138/750 [====>.....] - ETA: 0s - loss: 0.3052 - accuracy:
209/750 [=====>.....] - ETA: 0s - loss: 0.3095 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.3074 - accuracy:
0.9486
348/750 [=======>>......] - ETA: 0s - loss: 0.3089 - accuracy:
420/750 [========>.....] - ETA: 0s - loss: 0.3106 - accuracy:
489/750 [=========>.....] - ETA: 0s - loss: 0.3135 - accuracy:
560/750 [===========>.....] - ETA: 0s - loss: 0.3114 - accuracy:
0.9470
631/750 [=============>....] - ETA: 0s - loss: 0.3120 - accuracy:
0.9461
750/750 [============= ] - 1s 872us/step - loss: 0.3135 - accuracy:
0.9458 - val loss: 0.5443 - val accuracy: 0.8777
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.2334 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.2905 - accuracy:
```

```
0.9536
140/750 [====>.....] - ETA: 0s - loss: 0.2924 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.2961 - accuracy:
279/750 [=======>.....] - ETA: 0s - loss: 0.2973 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.3026 - accuracy:
0.9511
415/750 [========>.....] - ETA: 0s - loss: 0.3041 - accuracy:
487/750 [=========>.....] - ETA: 0s - loss: 0.3103 - accuracy:
556/750 [============>.....] - ETA: 0s - loss: 0.3116 - accuracy:
0.9473
690/750 [============>...] - ETA: 0s - loss: 0.3115 - accuracy:
0.9478
0.9469 - val_loss: 0.5604 - val_accuracy: 0.8815
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.2926 - accuracy:
0.9531
70/750 [=>.....] - ETA: 0s - loss: 0.3210 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.3136 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.3068 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.3093 - accuracy:
0.9485
352/750 [========>.....] - ETA: 0s - loss: 0.3120 - accuracy:
0.9474
422/750 [========>..... - ETA: 0s - loss: 0.3124 - accuracy:
494/750 [==========>.....] - ETA: 0s - loss: 0.3127 - accuracy:
0.9467
563/750 [==========>.....] - ETA: 0s - loss: 0.3146 - accuracy:
0.9452 - val_loss: 0.5336 - val_accuracy: 0.8812
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.2594 - accuracy:
```

```
0.9844
69/750 [=>.....] - ETA: 0s - loss: 0.3160 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.3164 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.3149 - accuracy:
281/750 [=======>.....] - ETA: 0s - loss: 0.3129 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.3121 - accuracy:
0.9481
421/750 [========>..... - ETA: 0s - loss: 0.3134 - accuracy:
492/750 [=========>.....] - ETA: 0s - loss: 0.3139 - accuracy:
0.9474
564/750 [===========>.....] - ETA: 0s - loss: 0.3162 - accuracy:
0.9463
634/750 [============>....] - ETA: 0s - loss: 0.3152 - accuracy:
0.9465 - val loss: 0.5561 - val accuracy: 0.8813
Epoch 217/220
 1/750 [.....] - ETA: 0s - loss: 0.3430 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.3159 - accuracy:
0.9486
142/750 [====>.....] - ETA: 0s - loss: 0.3220 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.3150 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.3176 - accuracy:
0.9456
353/750 [=======>.....] - ETA: 0s - loss: 0.3193 - accuracy:
0.9441
420/750 [========>.....] - ETA: 0s - loss: 0.3162 - accuracy:
491/750 [=========>.....] - ETA: 0s - loss: 0.3153 - accuracy:
560/750 [============>.....] - ETA: 0s - loss: 0.3151 - accuracy:
0.9461
630/750 [===============>.....] - ETA: 0s - loss: 0.3141 - accuracy:
701/750 [==============>..] - ETA: 0s - loss: 0.3159 - accuracy:
750/750 [============= ] - 1s 868us/step - loss: 0.3169 - accuracy:
0.9454 - val loss: 0.5454 - val accuracy: 0.8778
Epoch 218/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.2934 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.3009 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.3034 - accuracy:
0.9518
209/750 [=====>.....] - ETA: 0s - loss: 0.3022 - accuracy:
281/750 [=======>..... - ETA: 0s - loss: 0.3065 - accuracy:
0.9481
351/750 [========>.....] - ETA: 0s - loss: 0.3043 - accuracy:
0.9489
422/750 [========>.....] - ETA: 0s - loss: 0.3082 - accuracy:
0.9477
494/750 [=========>.....] - ETA: 0s - loss: 0.3094 - accuracy:
564/750 [============>.....] - ETA: 0s - loss: 0.3103 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.3124 - accuracy:
0.9469
750/750 [=============== ] - 1s 861us/step - loss: 0.3123 - accuracy:
0.9470 - val loss: 0.5605 - val accuracy: 0.8724
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.3801 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.3161 - accuracy:
0.9478
141/750 [====>.....] - ETA: 0s - loss: 0.3339 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.3242 - accuracy:
0.9431
282/750 [=======>..... - ETA: 0s - loss: 0.3192 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.3218 - accuracy:
0.9443
424/750 [========>.....] - ETA: 0s - loss: 0.3201 - accuracy:
495/750 [==========>.....] - ETA: 0s - loss: 0.3191 - accuracy:
566/750 [============>.....] - ETA: 0s - loss: 0.3197 - accuracy:
0.9451
750/750 [============= ] - 1s 869us/step - loss: 0.3193 - accuracy:
```

```
0.9452 - val loss: 0.5451 - val accuracy: 0.8824
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.3505 - accuracy:
0.9531
70/750 [=>.....] - ETA: 0s - loss: 0.3136 - accuracy:
0.9489
141/750 [====>.....] - ETA: 0s - loss: 0.3077 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.3055 - accuracy:
285/750 [=======>..... - ETA: 0s - loss: 0.3078 - accuracy:
0.9501
355/750 [========>.....] - ETA: 0s - loss: 0.3082 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.3079 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.3073 - accuracy:
566/750 [==============>.....] - ETA: 0s - loss: 0.3086 - accuracy:
0.9483
750/750 [============= ] - 1s 868us/step - loss: 0.3124 - accuracy:
0.9473 - val_loss: 0.5559 - val_accuracy: 0.8749
1/313 [...... 0.4473 - accuracy:
106/313 [=======>.....] - ETA: 0s - loss: 0.5709 - accuracy:
0.8721
208/313 [==========>.....] - ETA: 0s - loss: 0.5903 - accuracy:
0.8700
Testing loss: 0.5752897262573242
```

Running for Model 7/12

Testing accuracy: 87.00000047683716%

Model: "sequential 7"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 40)	31400
hidden1 (Dense)	(None, 40)	1640

```
hidden2 (Dense)
                  (None, 40)
                                  1640
                  (None, 40)
hidden3 (Dense)
                                  1640
output_layer (Dense)
                  (None, 10)
                                  410
Total params: 36,730
Trainable params: 36,730
Non-trainable params: 0
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.001 and
L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 40,
'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size':
40, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 40,
'activation function': 'relu'}, {'name': 'output layer', 'size': 10,
'activation_function': 'softmax'}]
Epoch 1/220
 1/750 [...... - ETA: 1:59 - loss: 2.5511 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 2.5328 - accuracy: 0.0969
166/750 [====>.....] - ETA: 0s - loss: 2.5245 - accuracy:
0.1015
248/750 [======>.....] - ETA: 0s - loss: 2.5186 - accuracy:
0.1038
331/750 [========>.....] - ETA: 0s - loss: 2.5122 - accuracy:
414/750 [========>..... - ETA: 0s - loss: 2.5066 - accuracy:
0.1160
503/750 [===========>.....] - ETA: 0s - loss: 2.5007 - accuracy:
589/750 [===========>.....] - ETA: 0s - loss: 2.4955 - accuracy:
673/750 [============>....] - ETA: 0s - loss: 2.4903 - accuracy:
0.1406
750/750 [================ ] - 1s 829us/step - loss: 2.4855 - accuracy:
0.1476 - val loss: 2.4391 - val accuracy: 0.2092
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 2.4321 - accuracy:
93/750 [==>...... - accuracy:
183/750 [=====>...... - ETA: 0s - loss: 2.4197 - accuracy:
```

```
274/750 [=======>.....] - ETA: 0s - loss: 2.4112 - accuracy:
0.2551
363/750 [=======>:....] - ETA: 0s - loss: 2.4028 - accuracy:
0.2664
451/750 [=========>..... - ETA: 0s - loss: 2.3948 - accuracy:
0.2756
544/750 [==========>......] - ETA: 0s - loss: 2.3844 - accuracy:
0.2849
632/750 [============>....] - ETA: 0s - loss: 2.3729 - accuracy:
0.2937
723/750 [==============>..] - ETA: 0s - loss: 2.3605 - accuracy:
0.3019 - val loss: 2.2548 - val accuracy: 0.3462
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 2.2711 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 2.2391 - accuracy:
185/750 [=====>...... - ETA: 0s - loss: 2.2186 - accuracy:
274/750 [=======>.....] - ETA: 0s - loss: 2.1994 - accuracy:
0.3628
364/750 [=========>.....] - ETA: 0s - loss: 2.1805 - accuracy:
0.3683
453/750 [=========>.....] - ETA: 0s - loss: 2.1639 - accuracy:
544/750 [==========>.....] - ETA: 0s - loss: 2.1458 - accuracy:
0.3804
0.3960 - val_loss: 1.9461 - val_accuracy: 0.4486
Epoch 4/220
1/750 [...... - ETA: 0s - loss: 1.8378 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 1.9179 - accuracy:
186/750 [=====>.....] - ETA: 0s - loss: 1.8919 - accuracy:
273/750 [======>..... - ETA: 0s - loss: 1.8732 - accuracy:
0.4856
358/750 [=======>.....] - ETA: 0s - loss: 1.8568 - accuracy:
446/750 [========>..... - ETA: 0s - loss: 1.8395 - accuracy:
0.4946
```

```
531/750 [==========>.....] - ETA: 0s - loss: 1.8181 - accuracy:
0.5024
0.5175 - val_loss: 1.5858 - val_accuracy: 0.5598
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 1.5343 - accuracy:
0.5469
89/750 [==>.....] - ETA: 0s - loss: 1.5636 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 1.5357 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 1.5159 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 1.5010 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 1.4787 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 1.4618 - accuracy:
628/750 [============>....] - ETA: 0s - loss: 1.4435 - accuracy:
0.5931
0.5951 - val_loss: 1.2909 - val_accuracy: 0.6371
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 1.2667 - accuracy:
0.7031
94/750 [==>.....] - ETA: 0s - loss: 1.2752 - accuracy:
0.6383
185/750 [=====>.....] - ETA: 0s - loss: 1.2587 - accuracy:
278/750 [=======>..... - ETA: 0s - loss: 1.2439 - accuracy:
0.6516
369/750 [=======>.....] - ETA: 0s - loss: 1.2357 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 1.2254 - accuracy:
550/750 [============>.....] - ETA: 0s - loss: 1.2192 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 1.2107 - accuracy:
```

```
0.6612 - val loss: 1.1380 - val accuracy: 0.6898
Epoch 7/220
1/750 [.....] - ETA: 0s - loss: 1.2874 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 1.1443 - accuracy:
0.6790
181/750 [=====>...... - ETA: 0s - loss: 1.1230 - accuracy:
0.6884
270/750 [=======>.....] - ETA: 0s - loss: 1.1201 - accuracy:
0.6880
358/750 [========>.....] - ETA: 0s - loss: 1.1124 - accuracy:
0.6907
444/750 [==========>.....] - ETA: 0s - loss: 1.1091 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 1.1020 - accuracy:
0.7014
0.7019 - val_loss: 1.0507 - val_accuracy: 0.7126
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 1.1371 - accuracy:
91/750 [==>...... - accuracy:
0.7186
181/750 [=====>.....] - ETA: 0s - loss: 1.0425 - accuracy:
0.7214
269/750 [=======>.....] - ETA: 0s - loss: 1.0429 - accuracy:
0.7173
357/750 [=======>.....] - ETA: 0s - loss: 1.0343 - accuracy:
449/750 [========>..... - ETA: 0s - loss: 1.0296 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 1.0232 - accuracy:
0.7240 - val loss: 0.9920 - val accuracy: 0.7303
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 0.9349 - accuracy:
0.7344
```

```
92/750 [==>...... - ETA: 0s - loss: 0.9823 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.9852 - accuracy:
273/750 [======>..... - ETA: 0s - loss: 0.9816 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.9753 - accuracy:
452/750 [=========>..........] - ETA: 0s - loss: 0.9755 - accuracy:
0.7353
547/750 [=========>.....] - ETA: 0s - loss: 0.9726 - accuracy:
0.7361
0.7379
750/750 [================ ] - 1s 720us/step - loss: 0.9696 - accuracy:
0.7378 - val loss: 0.9508 - val_accuracy: 0.7405
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 0.9618 - accuracy:
0.7344
89/750 [==>.....] - ETA: 0s - loss: 0.9466 - accuracy:
0.7417
178/750 [=====>.....] - ETA: 0s - loss: 0.9366 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.9395 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.9382 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.9385 - accuracy:
0.7465
536/750 [=========>.....] - ETA: 0s - loss: 0.9385 - accuracy:
627/750 [===========>....] - ETA: 0s - loss: 0.9365 - accuracy:
718/750 [==============>..] - ETA: 0s - loss: 0.9341 - accuracy:
0.7491
750/750 [============== ] - 1s 686us/step - loss: 0.9339 - accuracy:
0.7489 - val loss: 0.9181 - val accuracy: 0.7511
Epoch 11/220
1/750 [...... 0.8704 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.9292 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.9342 - accuracy:
265/750 [======>..... - ETA: 0s - loss: 0.9243 - accuracy:
0.7486
```

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354/750 [========>.....] - ETA: 0s - loss: 0.9222 - accuracy:
0.7484
445/750 [=========>.....] - ETA: 0s - loss: 0.9156 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.9146 - accuracy:
625/750 [===========>....] - ETA: 0s - loss: 0.9103 - accuracy:
0.7539
712/750 [===============>..] - ETA: 0s - loss: 0.9075 - accuracy:
0.7556
750/750 [============= ] - 1s 694us/step - loss: 0.9061 - accuracy:
0.7561 - val_loss: 0.8947 - val_accuracy: 0.7563
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 0.9999 - accuracy:
89/750 [==>....... - ETA: 0s - loss: 0.8804 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.8902 - accuracy:
258/750 [======>..... - ETA: 0s - loss: 0.8910 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.8910 - accuracy:
0.7611
441/750 [========>.....] - ETA: 0s - loss: 0.8918 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.8891 - accuracy:
0.7617
0.7633 - val loss: 0.8756 - val accuracy: 0.7639
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 1.0235 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.8730 - accuracy:
0.7647
174/750 [====>...... - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.8754 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.8754 - accuracy:
0.7669
443/750 [========>..... - ETA: 0s - loss: 0.8718 - accuracy:
0.7683
535/750 [=========>.....] - ETA: 0s - loss: 0.8714 - accuracy:
0.7678
```

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0.7684
750/750 [================ ] - 1s 690us/step - loss: 0.8668 - accuracy:
0.7691 - val_loss: 0.8585 - val_accuracy: 0.7690
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 0.8721 - accuracy:
94/750 [==>.....] - ETA: 0s - loss: 0.8599 - accuracy:
0.7766
185/750 [=====>.....] - ETA: 0s - loss: 0.8543 - accuracy:
0.7756
275/750 [=======>..... - ETA: 0s - loss: 0.8570 - accuracy:
0.7729
367/750 [=======>.....] - ETA: 0s - loss: 0.8536 - accuracy:
0.7747
456/750 [==========>.....] - ETA: 0s - loss: 0.8534 - accuracy:
549/750 [=========>.....] - ETA: 0s - loss: 0.8562 - accuracy:
0.7744
0.7746 - val loss: 0.8446 - val accuracy: 0.7751
Epoch 15/220
1/750 [.....] - ETA: 0s - loss: 0.9510 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.8337 - accuracy:
0.7811
175/750 [=====>.....] - ETA: 0s - loss: 0.8316 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.8336 - accuracy:
0.7798
357/750 [========>.....] - ETA: 0s - loss: 0.8366 - accuracy:
0.7781
447/750 [========>...... - ETA: 0s - loss: 0.8372 - accuracy:
0.7791
538/750 [==========>.....] - ETA: 0s - loss: 0.8353 - accuracy:
0.7790
723/750 [===============>..] - ETA: 0s - loss: 0.8371 - accuracy:
0.7791
0.7793 - val_loss: 0.8320 - val_accuracy: 0.7782
```

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1/750 [.....] - ETA: 0s - loss: 0.7304 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.8387 - accuracy:
184/750 [=====>...... - ETA: 0s - loss: 0.8327 - accuracy:
0.7809
277/750 [=======>...... - ETA: 0s - loss: 0.8328 - accuracy:
0.7803
366/750 [=======>.....] - ETA: 0s - loss: 0.8329 - accuracy:
0.7811
458/750 [==========>.....] - ETA: 0s - loss: 0.8286 - accuracy:
543/750 [===========>.....] - ETA: 0s - loss: 0.8259 - accuracy:
0.7839
0.7849
0.7845 - val_loss: 0.8200 - val_accuracy: 0.7837
Epoch 17/220
1/750 [.....] - ETA: 0s - loss: 0.8095 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.8175 - accuracy:
0.7880
179/750 [=====>.....] - ETA: 0s - loss: 0.8113 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.8025 - accuracy:
0.7913
355/750 [=======>.....] - ETA: 0s - loss: 0.8046 - accuracy:
0.7901
444/750 [=========>.....] - ETA: 0s - loss: 0.8093 - accuracy:
0.7897
536/750 [=========>.....] - ETA: 0s - loss: 0.8133 - accuracy:
0.7878
628/750 [============>....] - ETA: 0s - loss: 0.8148 - accuracy:
0.7873
750/750 [================ ] - 1s 690us/step - loss: 0.8130 - accuracy:
0.7875 - val loss: 0.8095 - val accuracy: 0.7894
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.8317 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.7964 - accuracy:
0.7933
```

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175/750 [=====>...... - ETA: 0s - loss: 0.8022 - accuracy:
0.7904
261/750 [=======>.....] - ETA: 0s - loss: 0.8024 - accuracy:
0.7923
349/750 [=======>.....] - ETA: 0s - loss: 0.8012 - accuracy:
0.7921
440/750 [========>.....] - ETA: 0s - loss: 0.8025 - accuracy:
0.7915
533/750 [==========>.....] - ETA: 0s - loss: 0.8049 - accuracy:
0.7904
623/750 [===========>.....] - ETA: 0s - loss: 0.8050 - accuracy:
0.7900
0.7909 - val loss: 0.7979 - val accuracy: 0.7925
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 1.0673 - accuracy:
0.7031
85/750 [==>.....] - ETA: 0s - loss: 0.7971 - accuracy:
0.7895
172/750 [=====>.....] - ETA: 0s - loss: 0.7952 - accuracy:
0.7931
261/750 [=======>.....] - ETA: 0s - loss: 0.7952 - accuracy:
0.7945
350/750 [=======>....] - ETA: 0s - loss: 0.7980 - accuracy:
443/750 [==========>.....] - ETA: 0s - loss: 0.7948 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.7941 - accuracy:
0.7943
0.7946 - val_loss: 0.7903 - val_accuracy: 0.7954
Epoch 20/220
1/750 [.....] - ETA: 0s - loss: 0.7322 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.8037 - accuracy:
0.7893
180/750 [=====>...... - ETA: 0s - loss: 0.7885 - accuracy:
0.7975
272/750 [=======>.....] - ETA: 0s - loss: 0.7904 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.7866 - accuracy:
0.7963
```

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452/750 [==========>.....] - ETA: 0s - loss: 0.7839 - accuracy:
0.7973
543/750 [==========>.....] - ETA: 0s - loss: 0.7853 - accuracy:
0.7974
0.7976
750/750 [============= ] - 1s 686us/step - loss: 0.7837 - accuracy:
0.7975 - val loss: 0.7805 - val accuracy: 0.7987
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 0.8140 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7794 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.7733 - accuracy:
0.7988
272/750 [=======>.....] - ETA: 0s - loss: 0.7721 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.7775 - accuracy:
0.7988
453/750 [==========>.....] - ETA: 0s - loss: 0.7770 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.7801 - accuracy:
0.7983
634/750 [============>.....] - ETA: 0s - loss: 0.7776 - accuracy:
0.8001
0.8009 - val_loss: 0.7739 - val_accuracy: 0.7993
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.8264 - accuracy:
0.7969
86/750 [==>.....] - ETA: 0s - loss: 0.7669 - accuracy:
0.8029
176/750 [=====>.....] - ETA: 0s - loss: 0.7658 - accuracy:
0.8041
265/750 [=======>.....] - ETA: 0s - loss: 0.7696 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7730 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.7747 - accuracy:
0.8031
539/750 [=========>.....] - ETA: 0s - loss: 0.7702 - accuracy:
628/750 [============>.....] - ETA: 0s - loss: 0.7686 - accuracy:
```

```
0.8037
750/750 [================ ] - 1s 690us/step - loss: 0.7677 - accuracy:
0.8040 - val loss: 0.7662 - val accuracy: 0.8031
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.6380 - accuracy:
0.8906
95/750 [==>.....] - ETA: 0s - loss: 0.7442 - accuracy:
0.8082
185/750 [=====>.....] - ETA: 0s - loss: 0.7562 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.7568 - accuracy:
0.8045
365/750 [=======>.....] - ETA: 0s - loss: 0.7570 - accuracy:
0.8063
454/750 [==========>.....] - ETA: 0s - loss: 0.7595 - accuracy:
544/750 [==========>.....] - ETA: 0s - loss: 0.7607 - accuracy:
633/750 [============>....] - ETA: 0s - loss: 0.7602 - accuracy:
0.8058 - val loss: 0.7589 - val accuracy: 0.8069
Epoch 24/220
1/750 [................] - ETA: 0s - loss: 0.9087 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.7524 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.7641 - accuracy:
0.8076
268/750 [=======>.....] - ETA: 0s - loss: 0.7605 - accuracy:
0.8076
359/750 [=======>.....] - ETA: 0s - loss: 0.7593 - accuracy:
0.8071
449/750 [=========>.....] - ETA: 0s - loss: 0.7600 - accuracy:
0.8070
538/750 [==========>.....] - ETA: 0s - loss: 0.7591 - accuracy:
623/750 [===========>.....] - ETA: 0s - loss: 0.7558 - accuracy:
0.8081
0.8086 - val_loss: 0.7552 - val_accuracy: 0.8061
Epoch 25/220
```

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1/750 [...... - ETA: 0s - loss: 0.6263 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.7450 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.7466 - accuracy:
272/750 [======>.....] - ETA: 0s - loss: 0.7524 - accuracy:
0.8096
362/750 [========>.....] - ETA: 0s - loss: 0.7521 - accuracy:
0.8093
452/750 [==========>.....] - ETA: 0s - loss: 0.7517 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.7516 - accuracy:
722/750 [===============>..] - ETA: 0s - loss: 0.7476 - accuracy:
0.8108 - val loss: 0.7474 - val accuracy: 0.8100
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.8716 - accuracy:
0.7812
86/750 [==>.....] - ETA: 0s - loss: 0.7355 - accuracy:
0.8116
177/750 [=====>.....] - ETA: 0s - loss: 0.7466 - accuracy:
0.8099
267/750 [=======>.....] - ETA: 0s - loss: 0.7474 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.7451 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.7471 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.7418 - accuracy:
629/750 [============>....] - ETA: 0s - loss: 0.7423 - accuracy:
0.8124
750/750 [================ ] - 1s 709us/step - loss: 0.7423 - accuracy:
0.8124 - val loss: 0.7422 - val accuracy: 0.8103
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.7108 - accuracy:
87/750 [==>...... - ETA: 0s - loss: 0.7273 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.7297 - accuracy:
```

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261/750 [=======>.....] - ETA: 0s - loss: 0.7331 - accuracy:
0.8184
349/750 [========>.....] - ETA: 0s - loss: 0.7363 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.7355 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.7341 - accuracy:
0.8154
619/750 [===========>.....] - ETA: 0s - loss: 0.7366 - accuracy:
0.8144
708/750 [==============>..] - ETA: 0s - loss: 0.7355 - accuracy:
0.8148 - val loss: 0.7368 - val accuracy: 0.8134
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.7949 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7436 - accuracy:
0.8151
180/750 [=====>...... - ETA: 0s - loss: 0.7315 - accuracy:
273/750 [=======>.....] - ETA: 0s - loss: 0.7292 - accuracy:
364/750 [=========>.....] - ETA: 0s - loss: 0.7276 - accuracy:
455/750 [=========>.....] - ETA: 0s - loss: 0.7286 - accuracy:
546/750 [==========>.....] - ETA: 0s - loss: 0.7317 - accuracy:
0.8180
0.8169 - val_loss: 0.7321 - val_accuracy: 0.8158
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.7551 - accuracy:
0.8281
91/750 [==>....... - accuracy:
0.8147
182/750 [=====>.....] - ETA: 0s - loss: 0.7259 - accuracy:
272/750 [======>..... - ETA: 0s - loss: 0.7301 - accuracy:
0.8171
362/750 [========>.....] - ETA: 0s - loss: 0.7287 - accuracy:
0.8178
453/750 [=========>...... - ETA: 0s - loss: 0.7254 - accuracy:
```

```
539/750 [==========>.....] - ETA: 0s - loss: 0.7259 - accuracy:
0.8185
0.8185 - val_loss: 0.7287 - val_accuracy: 0.8163
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.6993 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7039 - accuracy:
0.8279
179/750 [=====>.....] - ETA: 0s - loss: 0.7118 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.7168 - accuracy:
360/750 [========>.....] - ETA: 0s - loss: 0.7190 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.7217 - accuracy:
0.8224
539/750 [=========>.....] - ETA: 0s - loss: 0.7220 - accuracy:
627/750 [============>....] - ETA: 0s - loss: 0.7223 - accuracy:
0.8203 - val_loss: 0.7238 - val_accuracy: 0.8183
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.7464 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.7208 - accuracy:
0.8216
180/750 [=====>.....] - ETA: 0s - loss: 0.7226 - accuracy:
0.8211
267/750 [======>..... - ETA: 0s - loss: 0.7179 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.7189 - accuracy:
0.8207
447/750 [========>..... - ETA: 0s - loss: 0.7210 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.7223 - accuracy:
0.8216
```

```
0.8226 - val loss: 0.7203 - val accuracy: 0.8189
Epoch 32/220
1/750 [.....] - ETA: 0s - loss: 0.8292 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7344 - accuracy:
0.8151
179/750 [=====>...... - ETA: 0s - loss: 0.7238 - accuracy:
0.8212
268/750 [=======>.....] - ETA: 0s - loss: 0.7183 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.7139 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.7142 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.7160 - accuracy:
0.8240 - val_loss: 0.7158 - val_accuracy: 0.8207
Epoch 33/220
1/750 [.....] - ETA: 0s - loss: 0.7347 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.7003 - accuracy:
0.8287
179/750 [=====>.....] - ETA: 0s - loss: 0.7061 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.7116 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.7103 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.7136 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.7143 - accuracy:
0.8229
0.8241
0.8243 - val loss: 0.7125 - val accuracy: 0.8236
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.9126 - accuracy:
0.7188
```

```
91/750 [==>...... - ETA: 0s - loss: 0.6817 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.6988 - accuracy:
0.8283
274/750 [======>.....] - ETA: 0s - loss: 0.7034 - accuracy:
0.8279
366/750 [========>.....] - ETA: 0s - loss: 0.7009 - accuracy:
0.8294
456/750 [=========>...... - ETA: 0s - loss: 0.7010 - accuracy:
0.8293
547/750 [=========>.....] - ETA: 0s - loss: 0.7023 - accuracy:
0.8283
750/750 [=============== ] - 1s 677us/step - loss: 0.7067 - accuracy:
0.8270 - val loss: 0.7092 - val_accuracy: 0.8233
Epoch 35/220
1/750 [...... - ETA: 0s - loss: 0.6676 - accuracy:
0.8594
96/750 [==>...... - accuracy:
0.8270
186/750 [=====>.....] - ETA: 0s - loss: 0.7154 - accuracy:
0.8247
276/750 [=======>.....] - ETA: 0s - loss: 0.7062 - accuracy:
0.8277
0.8286
454/750 [==========>.....] - ETA: 0s - loss: 0.7038 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.7046 - accuracy:
629/750 [============>....] - ETA: 0s - loss: 0.7051 - accuracy:
722/750 [===============>..] - ETA: 0s - loss: 0.7033 - accuracy:
0.8281
750/750 [============== ] - 1s 685us/step - loss: 0.7028 - accuracy:
0.8281 - val_loss: 0.7056 - val_accuracy: 0.8259
Epoch 36/220
1/750 [...... 0.7006 - accuracy:
0.8281
89/750 [==>.....] - ETA: 0s - loss: 0.6933 - accuracy:
0.8301
180/750 [=====>.....] - ETA: 0s - loss: 0.6984 - accuracy:
0.8311
269/750 [======>.....] - ETA: 0s - loss: 0.7025 - accuracy:
0.8294
```

```
355/750 [=======>.....] - ETA: 0s - loss: 0.7022 - accuracy:
0.8291
446/750 [=========>.....] - ETA: 0s - loss: 0.7006 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.7004 - accuracy:
0.8289
617/750 [===========>.....] - ETA: 0s - loss: 0.7000 - accuracy:
0.8296
0.8297
750/750 [============= ] - 1s 693us/step - loss: 0.6998 - accuracy:
0.8292 - val_loss: 0.7024 - val_accuracy: 0.8268
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.5353 - accuracy:
186/750 [=====>.....] - ETA: 0s - loss: 0.6872 - accuracy:
276/750 [=======>..... - ETA: 0s - loss: 0.6938 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.6927 - accuracy:
459/750 [=========>.....] - ETA: 0s - loss: 0.6937 - accuracy:
551/750 [==========>.....] - ETA: 0s - loss: 0.6947 - accuracy:
0.8301
643/750 [================>.....] - ETA: 0s - loss: 0.6956 - accuracy:
0.8297
0.8303 - val loss: 0.7008 - val accuracy: 0.8281
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.6349 - accuracy:
0.8281
91/750 [==>...... - ETA: 0s - loss: 0.6771 - accuracy:
0.8398
182/750 [=====>.....] - ETA: 0s - loss: 0.6801 - accuracy:
272/750 [======>.....] - ETA: 0s - loss: 0.6878 - accuracy:
0.8339
366/750 [=======>.....] - ETA: 0s - loss: 0.6873 - accuracy:
0.8347
458/750 [=========>.....] - ETA: 0s - loss: 0.6886 - accuracy:
549/750 [=========>.....] - ETA: 0s - loss: 0.6913 - accuracy:
```

```
0.8317
750/750 [================ ] - 1s 676us/step - loss: 0.6930 - accuracy:
0.8318 - val_loss: 0.6974 - val_accuracy: 0.8291
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.6510 - accuracy:
0.8438
92/750 [==>.....] - ETA: 0s - loss: 0.7017 - accuracy:
0.8259
181/750 [=====>.....] - ETA: 0s - loss: 0.6951 - accuracy:
0.8281
272/750 [======>.....] - ETA: 0s - loss: 0.6900 - accuracy:
0.8304
364/750 [=======>.....] - ETA: 0s - loss: 0.6937 - accuracy:
0.8299
454/750 [==========>.....] - ETA: 0s - loss: 0.6931 - accuracy:
545/750 [=========>.....] - ETA: 0s - loss: 0.6911 - accuracy:
0.8322 - val loss: 0.6947 - val accuracy: 0.8290
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.7715 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.6818 - accuracy:
0.8496
188/750 [=====>...... - ETA: 0s - loss: 0.6905 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.6934 - accuracy:
365/750 [========>.....] - ETA: 0s - loss: 0.6954 - accuracy:
455/750 [=========>...... - ETA: 0s - loss: 0.6929 - accuracy:
544/750 [=========>.....] - ETA: 0s - loss: 0.6917 - accuracy:
0.8333 - val_loss: 0.6915 - val_accuracy: 0.8328
```

```
1/750 [.....] - ETA: 0s - loss: 0.6475 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.7009 - accuracy:
0.8278
175/750 [=====>.....] - ETA: 0s - loss: 0.6894 - accuracy:
0.8323
263/750 [======>...... - ETA: 0s - loss: 0.6848 - accuracy:
0.8337
350/750 [=======>.....] - ETA: 0s - loss: 0.6865 - accuracy:
0.8346
438/750 [=========>.....] - ETA: 0s - loss: 0.6843 - accuracy:
527/750 [==========>.....] - ETA: 0s - loss: 0.6852 - accuracy:
750/750 [================ ] - 1s 705us/step - loss: 0.6841 - accuracy:
0.8351 - val_loss: 0.6892 - val_accuracy: 0.8326
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.5554 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.6587 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.6716 - accuracy:
0.8394
271/750 [=======>.....] - ETA: 0s - loss: 0.6821 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.6818 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.6827 - accuracy:
544/750 [=========>.....] - ETA: 0s - loss: 0.6812 - accuracy:
0.8363
635/750 [============>....] - ETA: 0s - loss: 0.6812 - accuracy:
0.8358
0.8352 - val loss: 0.6864 - val accuracy: 0.8328
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.7204 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.6648 - accuracy:
```

```
181/750 [=====>...... - ETA: 0s - loss: 0.6606 - accuracy:
274/750 [=======>.....] - ETA: 0s - loss: 0.6600 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.6641 - accuracy:
0.8421
452/750 [==========>.....] - ETA: 0s - loss: 0.6700 - accuracy:
545/750 [=========>.....] - ETA: 0s - loss: 0.6731 - accuracy:
0.8377
634/750 [============>....] - ETA: 0s - loss: 0.6755 - accuracy:
0.8377
0.8368 - val loss: 0.6850 - val accuracy: 0.8355
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.9326 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.6720 - accuracy:
0.8391
181/750 [=====>.....] - ETA: 0s - loss: 0.6685 - accuracy:
0.8398
271/750 [=======>.....] - ETA: 0s - loss: 0.6673 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.6697 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.6746 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.6759 - accuracy:
632/750 [============>.....] - ETA: 0s - loss: 0.6737 - accuracy:
750/750 [============= ] - 1s 689us/step - loss: 0.6762 - accuracy:
0.8377 - val_loss: 0.6818 - val_accuracy: 0.8345
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.7024 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.6750 - accuracy:
172/750 [====>...... - ETA: 0s - loss: 0.6818 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.6784 - accuracy:
0.8370
346/750 [=======>.....] - ETA: 0s - loss: 0.6731 - accuracy:
0.8382
```

```
433/750 [=========>.....] - ETA: 0s - loss: 0.6743 - accuracy:
0.8385
517/750 [===========>.....] - ETA: 0s - loss: 0.6738 - accuracy:
0.8388
750/750 [============== ] - 1s 705us/step - loss: 0.6737 - accuracy:
0.8392 - val loss: 0.6800 - val accuracy: 0.8353
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.7264 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6644 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.6659 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.6734 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.6757 - accuracy:
0.8381
438/750 [=========>.....] - ETA: 0s - loss: 0.6714 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.6717 - accuracy:
0.8397
750/750 [=============== ] - 1s 710us/step - loss: 0.6711 - accuracy:
0.8399 - val_loss: 0.6772 - val_accuracy: 0.8375
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.7131 - accuracy:
0.8281
85/750 [==>.....] - ETA: 0s - loss: 0.6707 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.6611 - accuracy:
0.8477
263/750 [=======>.....] - ETA: 0s - loss: 0.6606 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.6656 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.6688 - accuracy:
0.8414
528/750 [==========>.....] - ETA: 0s - loss: 0.6671 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.6661 - accuracy:
```

```
0.8406 - val loss: 0.6774 - val accuracy: 0.8360
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.6490 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6397 - accuracy:
0.8538
175/750 [=====>.....] - ETA: 0s - loss: 0.6556 - accuracy:
0.8474
261/750 [======>.....] - ETA: 0s - loss: 0.6589 - accuracy:
0.8451
350/750 [=======>.....] - ETA: 0s - loss: 0.6593 - accuracy:
0.8438
436/750 [=========>.....] - ETA: 0s - loss: 0.6620 - accuracy:
527/750 [==========>.....] - ETA: 0s - loss: 0.6660 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.6660 - accuracy:
0.8413 - val loss: 0.6744 - val accuracy: 0.8387
Epoch 49/220
1/750 [.......................] - ETA: 0s - loss: 0.8524 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6759 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6752 - accuracy:
0.8376
263/750 [======>..... - ETA: 0s - loss: 0.6767 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.6735 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.6705 - accuracy:
0.8411
533/750 [==========>.....] - ETA: 0s - loss: 0.6663 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.6667 - accuracy:
0.8421 - val_loss: 0.6707 - val_accuracy: 0.8392
Epoch 50/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6524 - accuracy:
0.8281
93/750 [==>.....] - ETA: 0s - loss: 0.6597 - accuracy:
0.8421
184/750 [=====>.....] - ETA: 0s - loss: 0.6643 - accuracy:
0.8389
276/750 [=======>.....] - ETA: 0s - loss: 0.6622 - accuracy:
0.8411
370/750 [========>.....] - ETA: 0s - loss: 0.6650 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.6668 - accuracy:
549/750 [==========>.....] - ETA: 0s - loss: 0.6660 - accuracy:
0.8421
0.8425 - val loss: 0.6699 - val accuracy: 0.8398
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.7577 - accuracy:
0.7969
89/750 [==>.....] - ETA: 0s - loss: 0.6744 - accuracy:
0.8416
180/750 [=====>.....] - ETA: 0s - loss: 0.6707 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.6667 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.6636 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.6634 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.6619 - accuracy:
630/750 [============>....] - ETA: 0s - loss: 0.6614 - accuracy:
721/750 [==============>..] - ETA: 0s - loss: 0.6612 - accuracy:
0.8422 - val_loss: 0.6679 - val_accuracy: 0.8410
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.6132 - accuracy:
90/750 [==>....... - accuracy:
0.8384
179/750 [=====>.....] - ETA: 0s - loss: 0.6592 - accuracy:
```

```
271/750 [=======>..... - ETA: 0s - loss: 0.6596 - accuracy:
0.8442
365/750 [========>.....] - ETA: 0s - loss: 0.6607 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.6616 - accuracy:
548/750 [=========>.....] - ETA: 0s - loss: 0.6603 - accuracy:
640/750 [============>....] - ETA: 0s - loss: 0.6600 - accuracy:
0.8429
0.8443 - val loss: 0.6662 - val accuracy: 0.8406
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.7621 - accuracy:
183/750 [=====>...... - ETA: 0s - loss: 0.6634 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.6627 - accuracy:
0.8401
371/750 [=======>.....] - ETA: 0s - loss: 0.6612 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.6579 - accuracy:
556/750 [===============>.....] - ETA: 0s - loss: 0.6576 - accuracy:
0.8436
650/750 [==============>....] - ETA: 0s - loss: 0.6571 - accuracy:
0.8441
0.8450 - val_loss: 0.6631 - val_accuracy: 0.8434
Epoch 54/220
1/750 [...... 0.6633 - accuracy:
0.8438
92/750 [==>....... - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.6565 - accuracy:
274/750 [======>..... - ETA: 0s - loss: 0.6518 - accuracy:
0.8467
367/750 [=======>.....] - ETA: 0s - loss: 0.6507 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.6520 - accuracy:
```

```
554/750 [==========>.....] - ETA: 0s - loss: 0.6557 - accuracy:
0.8448
0.8456 - val_loss: 0.6637 - val_accuracy: 0.8422
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.6302 - accuracy:
0.8594
93/750 [==>.....] - ETA: 0s - loss: 0.6569 - accuracy:
0.8483
185/750 [=====>...... - ETA: 0s - loss: 0.6567 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.6568 - accuracy:
371/750 [========>.....] - ETA: 0s - loss: 0.6553 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.6523 - accuracy:
561/750 [============>.....] - ETA: 0s - loss: 0.6513 - accuracy:
0.8456 - val_loss: 0.6606 - val_accuracy: 0.8435
Epoch 56/220
1/750 [...... 0.7497 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.6573 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.6457 - accuracy:
0.8476
276/750 [=======>.....] - ETA: 0s - loss: 0.6441 - accuracy:
0.8481
370/750 [========>.....] - ETA: 0s - loss: 0.6500 - accuracy:
0.8457
463/750 [==========>...... - ETA: 0s - loss: 0.6519 - accuracy:
559/750 [=============>.....] - ETA: 0s - loss: 0.6505 - accuracy:
0.8471
655/750 [============>....] - ETA: 0s - loss: 0.6502 - accuracy:
```

```
0.8468 - val loss: 0.6598 - val accuracy: 0.8436
Epoch 57/220
1/750 [.....] - ETA: 0s - loss: 0.6158 - accuracy:
0.8906
90/750 [==>.....] - ETA: 0s - loss: 0.6477 - accuracy:
0.8469
182/750 [=====>...... - ETA: 0s - loss: 0.6454 - accuracy:
0.8474
278/750 [=======>.....] - ETA: 0s - loss: 0.6565 - accuracy:
0.8436
371/750 [========>.....] - ETA: 0s - loss: 0.6524 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.6558 - accuracy:
558/750 [==============>.....] - ETA: 0s - loss: 0.6527 - accuracy:
650/750 [===============>....] - ETA: 0s - loss: 0.6479 - accuracy:
0.8472 - val_loss: 0.6585 - val_accuracy: 0.8434
Epoch 58/220
1/750 [.....] - ETA: 0s - loss: 0.5195 - accuracy:
0.8906
95/750 [==>.....] - ETA: 0s - loss: 0.6334 - accuracy:
0.8531
184/750 [=====>.....] - ETA: 0s - loss: 0.6445 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.6433 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.6455 - accuracy:
465/750 [=========>.....] - ETA: 0s - loss: 0.6453 - accuracy:
0.8494
557/750 [==========>.....] - ETA: 0s - loss: 0.6440 - accuracy:
0.8496
0.8477 - val loss: 0.6558 - val accuracy: 0.8444
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.7505 - accuracy:
0.7812
```

```
92/750 [==>...... - ETA: 0s - loss: 0.6429 - accuracy:
0.8488
182/750 [=====>.....] - ETA: 0s - loss: 0.6406 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.6388 - accuracy:
0.8497
361/750 [=========>.....] - ETA: 0s - loss: 0.6410 - accuracy:
448/750 [=========>..... - ETA: 0s - loss: 0.6406 - accuracy:
0.8492
540/750 [=========>.....] - ETA: 0s - loss: 0.6435 - accuracy:
0.8481
0.8490 - val loss: 0.6534 - val_accuracy: 0.8457
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.5954 - accuracy:
0.8594
86/750 [==>.....] - ETA: 0s - loss: 0.6417 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6376 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.6331 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.6358 - accuracy:
0.8517
430/750 [=========>.....] - ETA: 0s - loss: 0.6387 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.6395 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.6409 - accuracy:
0.8501
694/750 [============>...] - ETA: 0s - loss: 0.6429 - accuracy:
750/750 [============= ] - 1s 712us/step - loss: 0.6427 - accuracy:
0.8494 - val_loss: 0.6539 - val_accuracy: 0.8450
Epoch 61/220
1/750 [...... 0.5876 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6429 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6437 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.6443 - accuracy:
```

```
347/750 [========>.....] - ETA: 0s - loss: 0.6451 - accuracy:
0.8483
436/750 [=========>.....] - ETA: 0s - loss: 0.6434 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.6439 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.6411 - accuracy:
0.8492
750/750 [============= ] - 1s 708us/step - loss: 0.6411 - accuracy:
0.8495 - val_loss: 0.6528 - val_accuracy: 0.8454
Epoch 62/220
1/750 [.....] - ETA: 0s - loss: 0.6330 - accuracy:
84/750 [==>....... - ETA: 0s - loss: 0.6326 - accuracy:
0.8521
173/750 [====>.....] - ETA: 0s - loss: 0.6412 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.6468 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.6448 - accuracy:
0.8497
447/750 [========>.....] - ETA: 0s - loss: 0.6398 - accuracy:
0.8507
541/750 [=========>.....] - ETA: 0s - loss: 0.6378 - accuracy:
0.8500 - val_loss: 0.6517 - val_accuracy: 0.8441
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.6527 - accuracy:
0.7969
94/750 [==>.....] - ETA: 0s - loss: 0.6323 - accuracy:
0.8511
186/750 [=====>.....] - ETA: 0s - loss: 0.6456 - accuracy:
279/750 [=======>.....] - ETA: 0s - loss: 0.6428 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.6425 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.6413 - accuracy:
0.8500
559/750 [==========>.....] - ETA: 0s - loss: 0.6397 - accuracy:
```

```
0.8501
0.8501
0.8501 - val_loss: 0.6473 - val_accuracy: 0.8475
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.4856 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.6323 - accuracy:
0.8544
174/750 [====>.....] - ETA: 0s - loss: 0.6489 - accuracy:
0.8473
264/750 [======>..... - ETA: 0s - loss: 0.6440 - accuracy:
0.8491
353/750 [========>.....] - ETA: 0s - loss: 0.6394 - accuracy:
0.8497
445/750 [==========>.....] - ETA: 0s - loss: 0.6367 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.6398 - accuracy:
0.8496
0.8497
0.8505 - val loss: 0.6469 - val accuracy: 0.8462
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.7420 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6494 - accuracy:
0.8474
180/750 [=====>.....] - ETA: 0s - loss: 0.6338 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.6318 - accuracy:
0.8526
354/750 [========>.....] - ETA: 0s - loss: 0.6338 - accuracy:
0.8511
444/750 [=========>..... - ETA: 0s - loss: 0.6323 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.6328 - accuracy:
0.8509
710/750 [===============>..] - ETA: 0s - loss: 0.6341 - accuracy:
0.8514 - val_loss: 0.6454 - val_accuracy: 0.8484
```

```
1/750 [.....] - ETA: 0s - loss: 0.6343 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.6395 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.6337 - accuracy:
273/750 [======>..... - ETA: 0s - loss: 0.6361 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.6321 - accuracy:
454/750 [==========>.....] - ETA: 0s - loss: 0.6288 - accuracy:
548/750 [==========>.....] - ETA: 0s - loss: 0.6299 - accuracy:
0.8521
750/750 [================ ] - 1s 684us/step - loss: 0.6327 - accuracy:
0.8520 - val_loss: 0.6441 - val_accuracy: 0.8473
Epoch 67/220
1/750 [.....] - ETA: 0s - loss: 0.6092 - accuracy:
0.8906
91/750 [==>.....] - ETA: 0s - loss: 0.6363 - accuracy:
184/750 [=====>.....] - ETA: 0s - loss: 0.6344 - accuracy:
0.8544
275/750 [=======>.....] - ETA: 0s - loss: 0.6326 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.6301 - accuracy:
456/750 [==========>.....] - ETA: 0s - loss: 0.6328 - accuracy:
549/750 [=========>.....] - ETA: 0s - loss: 0.6305 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 0.6314 - accuracy:
0.8536
0.8526 - val loss: 0.6445 - val accuracy: 0.8482
Epoch 68/220
1/750 [.....] - ETA: 0s - loss: 0.5844 - accuracy:
91/750 [==>...... - ETA: 0s - loss: 0.6317 - accuracy:
0.8463
```

```
179/750 [=====>...... - ETA: 0s - loss: 0.6295 - accuracy:
0.8499
261/750 [=======>.....] - ETA: 0s - loss: 0.6332 - accuracy:
0.8491
348/750 [========>.....] - ETA: 0s - loss: 0.6313 - accuracy:
441/750 [========>...... - ETA: 0s - loss: 0.6329 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.6318 - accuracy:
623/750 [===========>.....] - ETA: 0s - loss: 0.6316 - accuracy:
0.8525 - val loss: 0.6432 - val accuracy: 0.8478
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.5005 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.6429 - accuracy:
187/750 [=====>.....] - ETA: 0s - loss: 0.6312 - accuracy:
0.8504
277/750 [=======>.....] - ETA: 0s - loss: 0.6265 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.6261 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.6266 - accuracy:
550/750 [============>.....] - ETA: 0s - loss: 0.6250 - accuracy:
633/750 [============>....] - ETA: 0s - loss: 0.6256 - accuracy:
720/750 [===============>..] - ETA: 0s - loss: 0.6268 - accuracy:
750/750 [============= ] - 1s 690us/step - loss: 0.6281 - accuracy:
0.8534 - val_loss: 0.6401 - val_accuracy: 0.8492
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.6611 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.6255 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.6300 - accuracy:
273/750 [=======>.....] - ETA: 0s - loss: 0.6289 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.6292 - accuracy:
```

```
454/750 [==========>.....] - ETA: 0s - loss: 0.6274 - accuracy:
0.8544
546/750 [==========>.....] - ETA: 0s - loss: 0.6272 - accuracy:
0.8541
0.8539
750/750 [============= ] - 1s 677us/step - loss: 0.6267 - accuracy:
0.8539 - val loss: 0.6386 - val accuracy: 0.8497
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.5742 - accuracy:
0.8281
93/750 [==>.....] - ETA: 0s - loss: 0.6301 - accuracy:
0.8481
185/750 [=====>.....] - ETA: 0s - loss: 0.6185 - accuracy:
280/750 [=======>.....] - ETA: 0s - loss: 0.6200 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.6236 - accuracy:
466/750 [==========>.....] - ETA: 0s - loss: 0.6249 - accuracy:
557/750 [==========>.....] - ETA: 0s - loss: 0.6242 - accuracy:
0.8540 - val_loss: 0.6382 - val_accuracy: 0.8512
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.6948 - accuracy:
81/750 [==>.....] - ETA: 0s - loss: 0.6053 - accuracy:
0.8607
171/750 [====>.....] - ETA: 0s - loss: 0.6186 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.6248 - accuracy:
0.8547
352/750 [=======>.....] - ETA: 0s - loss: 0.6263 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.6208 - accuracy:
0.8549
534/750 [==========>.....] - ETA: 0s - loss: 0.6200 - accuracy:
0.8556
628/750 [============>.....] - ETA: 0s - loss: 0.6213 - accuracy:
```

```
0.8550 - val loss: 0.6359 - val accuracy: 0.8512
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.5687 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6046 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.6146 - accuracy:
273/750 [======>.....] - ETA: 0s - loss: 0.6168 - accuracy:
0.8577
364/750 [=======>.....] - ETA: 0s - loss: 0.6155 - accuracy:
0.8578
459/750 [==========>.....] - ETA: 0s - loss: 0.6173 - accuracy:
547/750 [==========>.....] - ETA: 0s - loss: 0.6210 - accuracy:
640/750 [============>....] - ETA: 0s - loss: 0.6223 - accuracy:
0.8548 - val loss: 0.6344 - val accuracy: 0.8518
Epoch 74/220
1/750 [.......................] - ETA: 0s - loss: 0.5412 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.6044 - accuracy:
0.8641
179/750 [=====>.....] - ETA: 0s - loss: 0.6170 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.6144 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.6176 - accuracy:
0.8584
436/750 [=========>.....] - ETA: 0s - loss: 0.6196 - accuracy:
0.8584
530/750 [=========>.....] - ETA: 0s - loss: 0.6217 - accuracy:
621/750 [===========>.....] - ETA: 0s - loss: 0.6218 - accuracy:
713/750 [===============>..] - ETA: 0s - loss: 0.6205 - accuracy:
0.8549 - val_loss: 0.6361 - val_accuracy: 0.8503
Epoch 75/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5636 - accuracy:
0.8438
94/750 [==>.....] - ETA: 0s - loss: 0.6154 - accuracy:
185/750 [=====>.....] - ETA: 0s - loss: 0.6191 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.6204 - accuracy:
0.8569
364/750 [========>.....] - ETA: 0s - loss: 0.6200 - accuracy:
0.8564
453/750 [==========>.....] - ETA: 0s - loss: 0.6206 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.6188 - accuracy:
707/750 [==============>..] - ETA: 0s - loss: 0.6188 - accuracy:
750/750 [================ ] - 1s 702us/step - loss: 0.6193 - accuracy:
0.8555 - val loss: 0.6343 - val accuracy: 0.8503
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.6812 - accuracy:
0.8281
89/750 [==>.....] - ETA: 0s - loss: 0.6016 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.6091 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.6140 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.6149 - accuracy:
447/750 [========>..... - ETA: 0s - loss: 0.6152 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.6176 - accuracy:
623/750 [============>.....] - ETA: 0s - loss: 0.6151 - accuracy:
712/750 [==============>..] - ETA: 0s - loss: 0.6180 - accuracy:
0.8556
750/750 [================ ] - 1s 690us/step - loss: 0.6179 - accuracy:
0.8558 - val loss: 0.6308 - val accuracy: 0.8527
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.7184 - accuracy:
0.8281
88/750 [==>.....] - ETA: 0s - loss: 0.6101 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.6161 - accuracy:
```

```
267/750 [======>.....] - ETA: 0s - loss: 0.6149 - accuracy:
0.8584
354/750 [========>.....] - ETA: 0s - loss: 0.6175 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.6191 - accuracy:
0.8560
531/750 [=========>.....] - ETA: 0s - loss: 0.6181 - accuracy:
619/750 [============>.....] - ETA: 0s - loss: 0.6158 - accuracy:
0.8568
710/750 [===============>..] - ETA: 0s - loss: 0.6154 - accuracy:
0.8566 - val loss: 0.6292 - val accuracy: 0.8522
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.8219 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.6224 - accuracy:
181/750 [=====>...... - ETA: 0s - loss: 0.6120 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.6084 - accuracy:
0.8576
355/750 [=======>.....] - ETA: 0s - loss: 0.6078 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6113 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.6122 - accuracy:
0.8571
0.8569 - val_loss: 0.6310 - val_accuracy: 0.8516
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.6293 - accuracy:
0.8281
93/750 [==>...... - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.6263 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.6237 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.6226 - accuracy:
452/750 [=========>...... - ETA: 0s - loss: 0.6210 - accuracy:
0.8544
```

```
543/750 [==========>.....] - ETA: 0s - loss: 0.6152 - accuracy:
0.8564
0.8568 - val_loss: 0.6268 - val_accuracy: 0.8537
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.4817 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6164 - accuracy:
180/750 [=====>...... - ETA: 0s - loss: 0.6143 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.6147 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.6149 - accuracy:
0.8569
442/750 [=========>.....] - ETA: 0s - loss: 0.6138 - accuracy:
0.8576
531/750 [==========>.....] - ETA: 0s - loss: 0.6143 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.6142 - accuracy:
0.8580 - val_loss: 0.6262 - val_accuracy: 0.8529
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.6102 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6065 - accuracy:
0.8601
179/750 [=====>.....] - ETA: 0s - loss: 0.5997 - accuracy:
0.8627
265/750 [======>..... - ETA: 0s - loss: 0.6050 - accuracy:
0.8613
355/750 [=======>.....] - ETA: 0s - loss: 0.6095 - accuracy:
443/750 [========>..... - ETA: 0s - loss: 0.6109 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.6118 - accuracy:
0.8586
0.8591
0.8576
```

```
0.8575 - val loss: 0.6265 - val accuracy: 0.8532
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.4107 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.6158 - accuracy:
175/750 [=====>...... - ETA: 0s - loss: 0.6208 - accuracy:
0.8528
265/750 [=======>.....] - ETA: 0s - loss: 0.6204 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.6168 - accuracy:
439/750 [==========>.....] - ETA: 0s - loss: 0.6153 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.6130 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.6107 - accuracy:
0.8583 - val_loss: 0.6242 - val_accuracy: 0.8533
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.6126 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.6007 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.6071 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.6120 - accuracy:
445/750 [========>..... - ETA: 0s - loss: 0.6110 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.6085 - accuracy:
0.8581
0.8587 - val loss: 0.6232 - val accuracy: 0.8539
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.6112 - accuracy:
```

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90/750 [==>...... - ETA: 0s - loss: 0.6041 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5971 - accuracy:
0.8641
265/750 [======>.....] - ETA: 0s - loss: 0.6048 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.6097 - accuracy:
442/750 [=========>..... - ETA: 0s - loss: 0.6084 - accuracy:
0.8583
530/750 [=========>.....] - ETA: 0s - loss: 0.6081 - accuracy:
750/750 [=============== ] - 1s 698us/step - loss: 0.6071 - accuracy:
0.8590 - val_loss: 0.6232 - val_accuracy: 0.8544
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.6180 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6046 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5981 - accuracy:
0.8644
267/750 [======>.....] - ETA: 0s - loss: 0.6009 - accuracy:
0.8623
359/750 [=======>.....] - ETA: 0s - loss: 0.6065 - accuracy:
0.8598
446/750 [=========>.....] - ETA: 0s - loss: 0.6055 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.6028 - accuracy:
627/750 [============>....] - ETA: 0s - loss: 0.6044 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.6056 - accuracy:
0.8589
750/750 [============= ] - 1s 689us/step - loss: 0.6060 - accuracy:
0.8587 - val_loss: 0.6220 - val_accuracy: 0.8537
Epoch 86/220
1/750 [.....] - ETA: 0s - loss: 0.7125 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6038 - accuracy:
0.8571
179/750 [=====>.....] - ETA: 0s - loss: 0.6027 - accuracy:
271/750 [=======>..... - ETA: 0s - loss: 0.6020 - accuracy:
```

```
363/750 [========>.....] - ETA: 0s - loss: 0.6038 - accuracy:
0.8596
452/750 [==========>.....] - ETA: 0s - loss: 0.6036 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.6018 - accuracy:
629/750 [============>....] - ETA: 0s - loss: 0.6020 - accuracy:
0.8617
0.8603
750/750 [============= ] - 1s 690us/step - loss: 0.6046 - accuracy:
0.8600 - val_loss: 0.6196 - val_accuracy: 0.8543
Epoch 87/220
1/750 [.....] - ETA: 0s - loss: 0.6151 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.6034 - accuracy:
272/750 [======>..... - ETA: 0s - loss: 0.5991 - accuracy:
0.8624
362/750 [=======>.....] - ETA: 0s - loss: 0.5988 - accuracy:
0.8621
447/750 [========>.....] - ETA: 0s - loss: 0.5990 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.6017 - accuracy:
630/750 [===============>....] - ETA: 0s - loss: 0.6020 - accuracy:
0.8596
0.8598 - val loss: 0.6184 - val accuracy: 0.8554
Epoch 88/220
1/750 [.....] - ETA: 0s - loss: 0.6691 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.6065 - accuracy:
0.8563
179/750 [=====>.....] - ETA: 0s - loss: 0.6082 - accuracy:
269/750 [======>.....] - ETA: 0s - loss: 0.6009 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.5995 - accuracy:
0.8613
447/750 [=========>.....] - ETA: 0s - loss: 0.5994 - accuracy:
0.8614
537/750 [=========>.....] - ETA: 0s - loss: 0.5999 - accuracy:
0.8611
```

```
626/750 [============>....] - ETA: 0s - loss: 0.6011 - accuracy:
0.8599
750/750 [================ ] - 1s 693us/step - loss: 0.6022 - accuracy:
0.8600 - val_loss: 0.6182 - val_accuracy: 0.8547
Epoch 89/220
1/750 [.....] - ETA: 0s - loss: 0.4852 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6137 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6069 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.6051 - accuracy:
0.8576
350/750 [========>.....] - ETA: 0s - loss: 0.5982 - accuracy:
443/750 [==========>.....] - ETA: 0s - loss: 0.5999 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.6011 - accuracy:
0.8699
0.8599
698/750 [=============>...] - ETA: 0s - loss: 0.6018 - accuracy:
0.8598 - val loss: 0.6168 - val accuracy: 0.8555
Epoch 90/220
1/750 [.....] - ETA: 0s - loss: 0.5724 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5985 - accuracy:
0.8611
180/750 [=====>.....] - ETA: 0s - loss: 0.5954 - accuracy:
269/750 [======>.....] - ETA: 0s - loss: 0.5985 - accuracy:
0.8619
359/750 [========>.....] - ETA: 0s - loss: 0.6002 - accuracy:
449/750 [========>...... - ETA: 0s - loss: 0.5974 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5973 - accuracy:
0.8696
0.8608 - val_loss: 0.6154 - val_accuracy: 0.8566
```

```
1/750 [.....] - ETA: 0s - loss: 0.6431 - accuracy:
0.8281
88/750 [==>.....] - ETA: 0s - loss: 0.5925 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.6051 - accuracy:
0.8597
267/750 [======>..... - ETA: 0s - loss: 0.6020 - accuracy:
0.8586
352/750 [=======>.....] - ETA: 0s - loss: 0.6025 - accuracy:
0.8581
442/750 [=========>.....] - ETA: 0s - loss: 0.6015 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.5987 - accuracy:
0.8611
0.8611 - val_loss: 0.6145 - val_accuracy: 0.8561
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.5306 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5994 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.5993 - accuracy:
0.8619
266/750 [=======>.....] - ETA: 0s - loss: 0.5960 - accuracy:
0.8631
358/750 [=======>.....] - ETA: 0s - loss: 0.5989 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.5978 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.5974 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.5974 - accuracy:
0.8616 - val loss: 0.6139 - val accuracy: 0.8559
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.7082 - accuracy:
0.8281
90/750 [==>.....] - ETA: 0s - loss: 0.5944 - accuracy:
```

```
177/750 [=====>.....] - ETA: 0s - loss: 0.5939 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.5913 - accuracy:
0.8651
353/750 [=======>.....] - ETA: 0s - loss: 0.5918 - accuracy:
442/750 [========>..... - ETA: 0s - loss: 0.5916 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.5927 - accuracy:
0.8642
623/750 [===========>.....] - ETA: 0s - loss: 0.5951 - accuracy:
0.8613
0.8617 - val loss: 0.6118 - val accuracy: 0.8557
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.5115 - accuracy:
91/750 [==>...... - ETA: 0s - loss: 0.5773 - accuracy:
0.8726
184/750 [=====>.....] - ETA: 0s - loss: 0.5887 - accuracy:
0.8663
274/750 [=======>.....] - ETA: 0s - loss: 0.5897 - accuracy:
363/750 [=======>....] - ETA: 0s - loss: 0.5897 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.5967 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5953 - accuracy:
720/750 [===============>..] - ETA: 0s - loss: 0.5962 - accuracy:
0.8614 - val_loss: 0.6118 - val_accuracy: 0.8559
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.6620 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5973 - accuracy:
0.8626
176/750 [=====>...... - ETA: 0s - loss: 0.5946 - accuracy:
0.8641
268/750 [=======>.....] - ETA: 0s - loss: 0.5910 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5912 - accuracy:
```

```
452/750 [==========>.....] - ETA: 0s - loss: 0.5915 - accuracy:
0.8634
544/750 [==========>.....] - ETA: 0s - loss: 0.5955 - accuracy:
0.8623
0.8621 - val loss: 0.6119 - val accuracy: 0.8577
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.5192 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.6054 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.6030 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.5944 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.5947 - accuracy:
0.8621
458/750 [==========>.....] - ETA: 0s - loss: 0.5950 - accuracy:
551/750 [==========>.....] - ETA: 0s - loss: 0.5934 - accuracy:
0.8626
0.8627 - val_loss: 0.6119 - val_accuracy: 0.8558
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.7722 - accuracy:
94/750 [==>...... - ETA: 0s - loss: 0.5851 - accuracy:
0.8629
185/750 [=====>.....] - ETA: 0s - loss: 0.5845 - accuracy:
0.8641
277/750 [=======>.....] - ETA: 0s - loss: 0.5934 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.5922 - accuracy:
0.8626
459/750 [==========>.....] - ETA: 0s - loss: 0.5902 - accuracy:
0.8629
549/750 [=========>.....] - ETA: 0s - loss: 0.5902 - accuracy:
641/750 [============>.....] - ETA: 0s - loss: 0.5913 - accuracy:
```

```
0.8625
0.8626 - val loss: 0.6088 - val accuracy: 0.8574
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.4631 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.5801 - accuracy:
0.8685
183/750 [=====>.....] - ETA: 0s - loss: 0.5829 - accuracy:
0.8673
273/750 [======>.....] - ETA: 0s - loss: 0.5859 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.5892 - accuracy:
0.8643
454/750 [==========>.....] - ETA: 0s - loss: 0.5900 - accuracy:
545/750 [==========>.....] - ETA: 0s - loss: 0.5898 - accuracy:
636/750 [============>....] - ETA: 0s - loss: 0.5896 - accuracy:
0.8636 - val loss: 0.6091 - val accuracy: 0.8565
Epoch 99/220
1/750 [......................] - ETA: 0s - loss: 0.6424 - accuracy:
0.7969
91/750 [==>.....] - ETA: 0s - loss: 0.5982 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5888 - accuracy:
269/750 [======>.....] - ETA: 0s - loss: 0.5931 - accuracy:
0.8631
360/750 [=======>.....] - ETA: 0s - loss: 0.5915 - accuracy:
0.8642
452/750 [==========>.....] - ETA: 0s - loss: 0.5880 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.5895 - accuracy:
629/750 [===========>....] - ETA: 0s - loss: 0.5912 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.5906 - accuracy:
0.8635 - val_loss: 0.6079 - val_accuracy: 0.8579
Epoch 100/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5930 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5959 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5875 - accuracy:
270/750 [======>.....] - ETA: 0s - loss: 0.5869 - accuracy:
0.8641
361/750 [========>.....] - ETA: 0s - loss: 0.5875 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.5860 - accuracy:
0.8649
540/750 [==========>.....] - ETA: 0s - loss: 0.5843 - accuracy:
0.8647 - val loss: 0.6078 - val accuracy: 0.8572
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.5614 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5892 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5843 - accuracy:
0.8668
266/750 [=======>.....] - ETA: 0s - loss: 0.5866 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.5913 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.5892 - accuracy:
0.8644
539/750 [=========>.....] - ETA: 0s - loss: 0.5882 - accuracy:
628/750 [============>....] - ETA: 0s - loss: 0.5878 - accuracy:
0.8654
716/750 [==============>..] - ETA: 0s - loss: 0.5881 - accuracy:
0.8647
0.8650 - val loss: 0.6043 - val accuracy: 0.8576
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.5620 - accuracy:
0.7969
91/750 [==>....... - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.5769 - accuracy:
```

```
273/750 [=======>.....] - ETA: 0s - loss: 0.5848 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.5822 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 0.5806 - accuracy:
0.8671
545/750 [=========>.....] - ETA: 0s - loss: 0.5829 - accuracy:
0.8661
636/750 [============>....] - ETA: 0s - loss: 0.5845 - accuracy:
0.8651
728/750 [==============>.] - ETA: 0s - loss: 0.5859 - accuracy:
0.8648
0.8647 - val loss: 0.6045 - val accuracy: 0.8578
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.7339 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5929 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.5863 - accuracy:
0.8644
276/750 [=======>.....] - ETA: 0s - loss: 0.5883 - accuracy:
0.8642
366/750 [=======>.....] - ETA: 0s - loss: 0.5883 - accuracy:
455/750 [=========>.....] - ETA: 0s - loss: 0.5859 - accuracy:
0.8646
545/750 [==========>.....] - ETA: 0s - loss: 0.5852 - accuracy:
0.8644
0.8649 - val_loss: 0.6045 - val_accuracy: 0.8577
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.6362 - accuracy:
0.7969
91/750 [==>....... - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.5806 - accuracy:
0.8674
276/750 [=======>..... - ETA: 0s - loss: 0.5854 - accuracy:
0.8671
366/750 [========>.....] - ETA: 0s - loss: 0.5844 - accuracy:
456/750 [=========>...... - ETA: 0s - loss: 0.5842 - accuracy:
```

```
547/750 [==========>.....] - ETA: 0s - loss: 0.5852 - accuracy:
0.8651 - val_loss: 0.6026 - val_accuracy: 0.8585
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.5680 - accuracy:
0.8906
90/750 [==>.....] - ETA: 0s - loss: 0.5895 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.5758 - accuracy:
0.8677
273/750 [=======>.....] - ETA: 0s - loss: 0.5804 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.5773 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 0.5785 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5797 - accuracy:
632/750 [=============>....] - ETA: 0s - loss: 0.5801 - accuracy:
0.8661
0.8656 - val_loss: 0.6033 - val_accuracy: 0.8569
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.5964 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5777 - accuracy:
0.8693
176/750 [=====>...... - ETA: 0s - loss: 0.5813 - accuracy:
0.8666
264/750 [======>..... - ETA: 0s - loss: 0.5789 - accuracy:
0.8675
352/750 [========>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8679
441/750 [========>..... - ETA: 0s - loss: 0.5784 - accuracy:
0.8683
531/750 [==========>.....] - ETA: 0s - loss: 0.5803 - accuracy:
0.8675
621/750 [============>.....] - ETA: 0s - loss: 0.5808 - accuracy:
0.8677
0.8664
```

```
0.8661 - val loss: 0.6009 - val accuracy: 0.8583
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.6978 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5749 - accuracy:
0.8719
179/750 [=====>.....] - ETA: 0s - loss: 0.5892 - accuracy:
0.8631
269/750 [=======>.....] - ETA: 0s - loss: 0.5798 - accuracy:
359/750 [========>.....] - ETA: 0s - loss: 0.5816 - accuracy:
447/750 [==========>.....] - ETA: 0s - loss: 0.5827 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5820 - accuracy:
625/750 [===============>.....] - ETA: 0s - loss: 0.5836 - accuracy:
714/750 [===============>..] - ETA: 0s - loss: 0.5809 - accuracy:
0.8662 - val_loss: 0.5990 - val_accuracy: 0.8597
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.4821 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5854 - accuracy:
0.8609
182/750 [=====>...... - ETA: 0s - loss: 0.5801 - accuracy:
0.8644
271/750 [=======>.....] - ETA: 0s - loss: 0.5820 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.5835 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.5838 - accuracy:
0.8634
541/750 [=========>.....] - ETA: 0s - loss: 0.5838 - accuracy:
0.8639
0.8665 - val loss: 0.5982 - val accuracy: 0.8591
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.5092 - accuracy:
```

```
87/750 [==>...... - ETA: 0s - loss: 0.5713 - accuracy:
0.8673
173/750 [====>.....] - ETA: 0s - loss: 0.5730 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.5710 - accuracy:
0.8687
352/750 [=======>.....] - ETA: 0s - loss: 0.5752 - accuracy:
0.8679
440/750 [=========>..... - ETA: 0s - loss: 0.5789 - accuracy:
0.8663
529/750 [=========>.....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8666
0.8668 - val loss: 0.5999 - val_accuracy: 0.8578
Epoch 110/220
1/750 [...... - ETA: 0s - loss: 0.5393 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.5923 - accuracy:
0.8615
177/750 [=====>.....] - ETA: 0s - loss: 0.5817 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.5826 - accuracy:
0.8649
356/750 [=======>.....] - ETA: 0s - loss: 0.5780 - accuracy:
0.8674
449/750 [=========>.....] - ETA: 0s - loss: 0.5781 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.5785 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.5791 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.5771 - accuracy:
0.8670
750/750 [============= ] - 1s 688us/step - loss: 0.5778 - accuracy:
0.8668 - val_loss: 0.5990 - val_accuracy: 0.8583
Epoch 111/220
1/750 [...... 0.5543 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5822 - accuracy:
0.8678
177/750 [=====>.....] - ETA: 0s - loss: 0.5849 - accuracy:
266/750 [======>.....] - ETA: 0s - loss: 0.5761 - accuracy:
```

```
355/750 [========>.....] - ETA: 0s - loss: 0.5746 - accuracy:
0.8687
447/750 [=========>.....] - ETA: 0s - loss: 0.5736 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5730 - accuracy:
0.8690
622/750 [===========>.....] - ETA: 0s - loss: 0.5732 - accuracy:
0.8689
0.8675
750/750 [============= ] - 1s 690us/step - loss: 0.5770 - accuracy:
0.8675 - val_loss: 0.6010 - val_accuracy: 0.8586
Epoch 112/220
1/750 [.....] - ETA: 0s - loss: 0.6696 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.5653 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.5761 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.5785 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.5783 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.5812 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.5812 - accuracy:
0.8659
0.8666
0.8669
0.8669 - val loss: 0.5949 - val accuracy: 0.8602
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.4746 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5796 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.5710 - accuracy:
272/750 [======>..... - ETA: 0s - loss: 0.5713 - accuracy:
0.8693
364/750 [=======>.....] - ETA: 0s - loss: 0.5740 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.5749 - accuracy:
0.8673
543/750 [==========>.....] - ETA: 0s - loss: 0.5758 - accuracy:
0.8671
```

```
0.8667
0.8677
0.8677 - val_loss: 0.5951 - val_accuracy: 0.8604
Epoch 114/220
1/750 [.....] - ETA: 0s - loss: 0.4310 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5771 - accuracy:
0.8693
184/750 [=====>.....] - ETA: 0s - loss: 0.5745 - accuracy:
0.8676
273/750 [======>..... - ETA: 0s - loss: 0.5750 - accuracy:
0.8681
367/750 [=======>.....] - ETA: 0s - loss: 0.5751 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.5768 - accuracy:
0.8674
550/750 [==========>.....] - ETA: 0s - loss: 0.5753 - accuracy:
0.8667
0.8679 - val loss: 0.5941 - val accuracy: 0.8593
Epoch 115/220
1/750 [.....] - ETA: 0s - loss: 0.6859 - accuracy:
94/750 [==>.....] - ETA: 0s - loss: 0.5794 - accuracy:
186/750 [=====>.....] - ETA: 0s - loss: 0.5737 - accuracy:
281/750 [=======>..... - ETA: 0s - loss: 0.5711 - accuracy:
371/750 [========>.....] - ETA: 0s - loss: 0.5708 - accuracy:
0.8704
463/750 [=========>...... - ETA: 0s - loss: 0.5708 - accuracy:
0.8696
557/750 [==========>.....] - ETA: 0s - loss: 0.5742 - accuracy:
0.8683 - val_loss: 0.5926 - val_accuracy: 0.8605
```

```
1/750 [.....] - ETA: 0s - loss: 0.7865 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5662 - accuracy:
0.8696
180/750 [=====>.....] - ETA: 0s - loss: 0.5788 - accuracy:
0.8664
271/750 [======>..... - ETA: 0s - loss: 0.5757 - accuracy:
0.8670
364/750 [=======>.....] - ETA: 0s - loss: 0.5727 - accuracy:
0.8689
454/750 [==========>.....] - ETA: 0s - loss: 0.5740 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5736 - accuracy:
 0.8680  \pm 0.000  \pm 0.0000  \pm 0.000  \pm 0.0000  \pm 0.000
0.8686 - val_loss: 0.5942 - val_accuracy: 0.8614
Epoch 117/220
  1/750 [.....] - ETA: 0s - loss: 0.4281 - accuracy:
0.9375
 92/750 [==>.....] - ETA: 0s - loss: 0.5775 - accuracy:
0.8631
184/750 [=====>.....] - ETA: 0s - loss: 0.5725 - accuracy:
0.8674
276/750 [=======>.....] - ETA: 0s - loss: 0.5742 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.5720 - accuracy:
459/750 [==========>.....] - ETA: 0s - loss: 0.5728 - accuracy:
552/750 [==========>.....] - ETA: 0s - loss: 0.5743 - accuracy:
0.8681
643/750 [============>....] - ETA: 0s - loss: 0.5719 - accuracy:
0.8687
0.8686 - val loss: 0.5932 - val accuracy: 0.8602
Epoch 118/220
  1/750 [...... 0.5828 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5599 - accuracy:
0.8709
```

```
175/750 [=====>...... - ETA: 0s - loss: 0.5643 - accuracy:
0.8715
267/750 [=======>.....] - ETA: 0s - loss: 0.5671 - accuracy:
0.8714
357/750 [=======>.....] - ETA: 0s - loss: 0.5692 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.5700 - accuracy:
0.8697
537/750 [=========>.....] - ETA: 0s - loss: 0.5681 - accuracy:
0.8704
623/750 [===========>.....] - ETA: 0s - loss: 0.5694 - accuracy:
0.8691 - val loss: 0.5902 - val accuracy: 0.8622
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.4589 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5703 - accuracy:
0.8664
184/750 [=====>.....] - ETA: 0s - loss: 0.5658 - accuracy:
0.8705
278/750 [=======>.....] - ETA: 0s - loss: 0.5663 - accuracy:
370/750 [=======>....] - ETA: 0s - loss: 0.5669 - accuracy:
0.8701
461/750 [==========>.....] - ETA: 0s - loss: 0.5686 - accuracy:
0.8697
554/750 [============>.....] - ETA: 0s - loss: 0.5678 - accuracy:
0.8691
645/750 [============>....] - ETA: 0s - loss: 0.5669 - accuracy:
750/750 [============= ] - 1s 672us/step - loss: 0.5688 - accuracy:
0.8695 - val_loss: 0.5906 - val_accuracy: 0.8614
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.7584 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5580 - accuracy:
0.8711
184/750 [=====>...... - ETA: 0s - loss: 0.5586 - accuracy:
273/750 [=======>.....] - ETA: 0s - loss: 0.5570 - accuracy:
0.8719
361/750 [=======>.....] - ETA: 0s - loss: 0.5649 - accuracy:
0.8796
```

```
454/750 [==========>.....] - ETA: 0s - loss: 0.5652 - accuracy:
545/750 [==========>.....] - ETA: 0s - loss: 0.5644 - accuracy:
0.8695
750/750 [============== ] - 1s 684us/step - loss: 0.5681 - accuracy:
0.8695 - val loss: 0.5889 - val accuracy: 0.8624
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.6245 - accuracy:
0.8281
89/750 [==>.....] - ETA: 0s - loss: 0.5628 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.5657 - accuracy:
274/750 [=======>.....] - ETA: 0s - loss: 0.5700 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.5707 - accuracy:
454/750 [==========>.....] - ETA: 0s - loss: 0.5682 - accuracy:
0.8681
547/750 [==========>.....] - ETA: 0s - loss: 0.5674 - accuracy:
0.8692
0.8697
0.8697 - val_loss: 0.5899 - val_accuracy: 0.8607
Epoch 122/220
1/750 [.....] - ETA: 0s - loss: 0.6389 - accuracy:
94/750 [==>.....] - ETA: 0s - loss: 0.5753 - accuracy:
0.8647
186/750 [=====>.....] - ETA: 0s - loss: 0.5740 - accuracy:
0.8674
280/750 [=======>.....] - ETA: 0s - loss: 0.5702 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.5668 - accuracy:
0.8696
465/750 [==========>.....] - ETA: 0s - loss: 0.5646 - accuracy:
559/750 [==========>.....] - ETA: 0s - loss: 0.5635 - accuracy:
0.8711
646/750 [================>.....] - ETA: 0s - loss: 0.5640 - accuracy:
```

```
0.8703
0.8700 - val loss: 0.5901 - val accuracy: 0.8613
Epoch 123/220
 1/750 [.....] - ETA: 0s - loss: 0.5250 - accuracy:
0.8906
92/750 [==>.....] - ETA: 0s - loss: 0.5600 - accuracy:
0.8779
184/750 [=====>.....] - ETA: 0s - loss: 0.5639 - accuracy:
0.8736
276/750 [=======>.....] - ETA: 0s - loss: 0.5615 - accuracy:
0.8744
369/750 [=======>.....] - ETA: 0s - loss: 0.5623 - accuracy:
0.8748
460/750 [==========>.....] - ETA: 0s - loss: 0.5634 - accuracy:
552/750 [=============>.....] - ETA: 0s - loss: 0.5655 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.5659 - accuracy:
0.8704
750/750 [============= ] - 1s 676us/step - loss: 0.5652 - accuracy:
0.8706 - val loss: 0.5864 - val accuracy: 0.8616
Epoch 124/220
 1/750 [................] - ETA: 0s - loss: 0.3849 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5632 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5644 - accuracy:
0.8717
265/750 [======>.....] - ETA: 0s - loss: 0.5686 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.5659 - accuracy:
0.8709
444/750 [=========>.....] - ETA: 0s - loss: 0.5633 - accuracy:
0.8719
532/750 [==========>.....] - ETA: 0s - loss: 0.5640 - accuracy:
621/750 [===========>.....] - ETA: 0s - loss: 0.5629 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.5641 - accuracy:
750/750 [================ ] - 1s 700us/step - loss: 0.5643 - accuracy:
0.8709 - val_loss: 0.5872 - val_accuracy: 0.8612
Epoch 125/220
```

```
1/750 [...... - ETA: 0s - loss: 0.8125 - accuracy:
0.7812
87/750 [==>.....] - ETA: 0s - loss: 0.5706 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5680 - accuracy:
0.8724
266/750 [======>.....] - ETA: 0s - loss: 0.5646 - accuracy:
0.8716
355/750 [========>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8721
443/750 [=========>.....] - ETA: 0s - loss: 0.5633 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.5635 - accuracy:
709/750 [===============>..] - ETA: 0s - loss: 0.5644 - accuracy:
0.8714
0.8710 - val loss: 0.5856 - val accuracy: 0.8632
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.6753 - accuracy:
0.8281
184/750 [=====>.....] - ETA: 0s - loss: 0.5662 - accuracy:
0.8719
277/750 [=======>.....] - ETA: 0s - loss: 0.5630 - accuracy:
0.8709
370/750 [=======>.....] - ETA: 0s - loss: 0.5620 - accuracy:
0.8701
466/750 [==========>.....] - ETA: 0s - loss: 0.5597 - accuracy:
559/750 [==========>.....] - ETA: 0s - loss: 0.5605 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.5599 - accuracy:
0.8706
0.8708 - val loss: 0.5845 - val accuracy: 0.8622
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.6341 - accuracy:
96/750 [==>....... - accuracy:
0.8711
189/750 [=====>.....] - ETA: 0s - loss: 0.5648 - accuracy:
0.8709
```

```
281/750 [=======>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8732
373/750 [========>.....] - ETA: 0s - loss: 0.5630 - accuracy:
0.8711
461/750 [=========>.....] - ETA: 0s - loss: 0.5642 - accuracy:
549/750 [=========>.....] - ETA: 0s - loss: 0.5620 - accuracy:
637/750 [============>....] - ETA: 0s - loss: 0.5624 - accuracy:
726/750 [===============>.] - ETA: 0s - loss: 0.5617 - accuracy:
0.8711
0.8713 - val loss: 0.5844 - val accuracy: 0.8625
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.4534 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5658 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 0.5595 - accuracy:
0.8709
266/750 [=======>.....] - ETA: 0s - loss: 0.5573 - accuracy:
0.8731
353/750 [=======>.....] - ETA: 0s - loss: 0.5557 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.5570 - accuracy:
530/750 [===========>.....] - ETA: 0s - loss: 0.5577 - accuracy:
0.8720 - val_loss: 0.5824 - val_accuracy: 0.8639
Epoch 129/220
1/750 [...... 0.5122 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.5534 - accuracy:
168/750 [====>.....] - ETA: 0s - loss: 0.5509 - accuracy:
255/750 [======>.....] - ETA: 0s - loss: 0.5585 - accuracy:
0.8716
337/750 [=======>.....] - ETA: 0s - loss: 0.5555 - accuracy:
423/750 [========>..... - ETA: 0s - loss: 0.5581 - accuracy:
0.8723
```

```
507/750 [===========>.....] - ETA: 0s - loss: 0.5566 - accuracy:
0.8728
595/750 [============>.....] - ETA: 0s - loss: 0.5590 - accuracy:
0.8724
0.8726 - val_loss: 0.5850 - val_accuracy: 0.8621
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.4080 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5549 - accuracy:
176/750 [=====>...... - ETA: 0s - loss: 0.5583 - accuracy:
0.8716
269/750 [=======>.....] - ETA: 0s - loss: 0.5540 - accuracy:
355/750 [========>.....] - ETA: 0s - loss: 0.5578 - accuracy:
442/750 [=========>....] - ETA: 0s - loss: 0.5570 - accuracy:
0.8721
531/750 [==========>.....] - ETA: 0s - loss: 0.5588 - accuracy:
0.8721
621/750 [============>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8721
0.8723 - val_loss: 0.5823 - val_accuracy: 0.8640
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.6661 - accuracy:
0.8125
90/750 [==>.....] - ETA: 0s - loss: 0.5531 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5538 - accuracy:
0.8747
275/750 [=======>..... - ETA: 0s - loss: 0.5541 - accuracy:
0.8751
366/750 [=======>.....] - ETA: 0s - loss: 0.5541 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.5560 - accuracy:
553/750 [============>.....] - ETA: 0s - loss: 0.5582 - accuracy:
0.8711
```

```
0.8711 - val loss: 0.5811 - val accuracy: 0.8635
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.7575 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5552 - accuracy:
0.8738
184/750 [=====>...... - ETA: 0s - loss: 0.5616 - accuracy:
0.8714
275/750 [=======>.....] - ETA: 0s - loss: 0.5644 - accuracy:
0.8699
365/750 [=======>.....] - ETA: 0s - loss: 0.5629 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.5623 - accuracy:
547/750 [==========>.....] - ETA: 0s - loss: 0.5593 - accuracy:
0.8706
733/750 [==============>.] - ETA: 0s - loss: 0.5570 - accuracy:
0.8714
0.8717 - val_loss: 0.5820 - val_accuracy: 0.8627
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.6215 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8765
184/750 [=====>.....] - ETA: 0s - loss: 0.5539 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.5553 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.5547 - accuracy:
463/750 [=========>.....] - ETA: 0s - loss: 0.5565 - accuracy:
0.8724
557/750 [==========>.....] - ETA: 0s - loss: 0.5579 - accuracy:
0.8726
0.8733 - val loss: 0.5805 - val accuracy: 0.8641
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.5840 - accuracy:
```

```
83/750 [==>...... - ETA: 0s - loss: 0.5577 - accuracy:
0.8780
173/750 [====>.....] - ETA: 0s - loss: 0.5569 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.5577 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.5540 - accuracy:
430/750 [=========>..... - ETA: 0s - loss: 0.5519 - accuracy:
0.8749
515/750 [=========>.....] - ETA: 0s - loss: 0.5530 - accuracy:
0.8749
0.8734 - val_loss: 0.5787 - val_accuracy: 0.8643
Epoch 135/220
1/750 [...... - ETA: 0s - loss: 0.6690 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.5570 - accuracy:
0.8713
170/750 [====>.....] - ETA: 0s - loss: 0.5620 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.5571 - accuracy:
0.8691
343/750 [========>.....] - ETA: 0s - loss: 0.5551 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.5522 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.5533 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.5544 - accuracy:
0.8731
690/750 [============>...] - ETA: 0s - loss: 0.5543 - accuracy:
750/750 [============== ] - 1s 718us/step - loss: 0.5543 - accuracy:
0.8733 - val loss: 0.5794 - val accuracy: 0.8635
Epoch 136/220
1/750 [...... 0.6361 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5434 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5531 - accuracy:
0.8731
267/750 [======>.....] - ETA: 0s - loss: 0.5529 - accuracy:
0.8745
```

```
353/750 [========>.....] - ETA: 0s - loss: 0.5535 - accuracy:
0.8733
438/750 [=========>.....] - ETA: 0s - loss: 0.5515 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.5570 - accuracy:
0.8726
611/750 [===========>.....] - ETA: 0s - loss: 0.5539 - accuracy:
0.8733
704/750 [==============>..] - ETA: 0s - loss: 0.5537 - accuracy:
0.8733
750/750 [============= ] - 1s 697us/step - loss: 0.5536 - accuracy:
0.8740 - val_loss: 0.5789 - val_accuracy: 0.8635
Epoch 137/220
 1/750 [.....] - ETA: 0s - loss: 0.4583 - accuracy:
95/750 [==>....... - accuracy:
0.8676
184/750 [=====>.....] - ETA: 0s - loss: 0.5624 - accuracy:
277/750 [=======>..... - ETA: 0s - loss: 0.5573 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.5551 - accuracy:
0.8717
460/750 [=========>.....] - ETA: 0s - loss: 0.5543 - accuracy:
553/750 [==========>.....] - ETA: 0s - loss: 0.5535 - accuracy:
0.8731
646/750 [==============>....] - ETA: 0s - loss: 0.5539 - accuracy:
0.8731 - val loss: 0.5783 - val accuracy: 0.8642
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.5032 - accuracy:
94/750 [==>.....] - ETA: 0s - loss: 0.5492 - accuracy:
0.8772
185/750 [=====>.....] - ETA: 0s - loss: 0.5547 - accuracy:
273/750 [======>..... - ETA: 0s - loss: 0.5549 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.5509 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.5530 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.5513 - accuracy:
```

```
627/750 [============>....] - ETA: 0s - loss: 0.5525 - accuracy:
0.8734
750/750 [================ ] - 1s 697us/step - loss: 0.5514 - accuracy:
0.8743 - val_loss: 0.5785 - val_accuracy: 0.8643
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.4782 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5672 - accuracy:
0.8648
190/750 [=====>.....] - ETA: 0s - loss: 0.5520 - accuracy:
0.8728
282/750 [=======>..... - ETA: 0s - loss: 0.5496 - accuracy:
0.8736
376/750 [========>.....] - ETA: 0s - loss: 0.5498 - accuracy:
470/750 [==========>.....] - ETA: 0s - loss: 0.5501 - accuracy:
562/750 [==========>.....] - ETA: 0s - loss: 0.5521 - accuracy:
656/750 [=============>....] - ETA: 0s - loss: 0.5502 - accuracy:
0.8738 - val loss: 0.5755 - val accuracy: 0.8654
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.6178 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5634 - accuracy:
0.8674
184/750 [=====>.....] - ETA: 0s - loss: 0.5634 - accuracy:
279/750 [=======>.....] - ETA: 0s - loss: 0.5565 - accuracy:
369/750 [========>.....] - ETA: 0s - loss: 0.5553 - accuracy:
0.8737
462/750 [=========>.....] - ETA: 0s - loss: 0.5558 - accuracy:
556/750 [==========>.....] - ETA: 0s - loss: 0.5528 - accuracy:
0.8736 - val_loss: 0.5766 - val_accuracy: 0.8649
```

```
1/750 [.....] - ETA: 0s - loss: 0.5298 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5496 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.5519 - accuracy:
0.8738
272/750 [======>...... - ETA: 0s - loss: 0.5504 - accuracy:
0.8745
367/750 [=======>.....] - ETA: 0s - loss: 0.5492 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.5478 - accuracy:
0.8754
554/750 [===============>.....] - ETA: 0s - loss: 0.5496 - accuracy:
0.8752 - val_loss: 0.5753 - val_accuracy: 0.8651
Epoch 142/220
1/750 [.....] - ETA: 0s - loss: 0.5874 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5451 - accuracy:
0.8789
184/750 [=====>...... - accuracy:
0.8697
274/750 [=======>.....] - ETA: 0s - loss: 0.5559 - accuracy:
0.8714
366/750 [=======>.....] - ETA: 0s - loss: 0.5566 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.5525 - accuracy:
554/750 [==========>.....] - ETA: 0s - loss: 0.5508 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.5510 - accuracy:
0.8738
0.8747
0.8748 - val loss: 0.5732 - val accuracy: 0.8657
Epoch 143/220
1/750 [...... 0.4948 - accuracy:
86/750 [==>...... - ETA: 0s - loss: 0.5441 - accuracy:
0.8774
```

```
169/750 [====>...... - ETA: 0s - loss: 0.5428 - accuracy:
0.8758
254/750 [=======>.....] - ETA: 0s - loss: 0.5474 - accuracy:
0.8744
341/750 [========>.....] - ETA: 0s - loss: 0.5466 - accuracy:
425/750 [========>.....] - ETA: 0s - loss: 0.5479 - accuracy:
0.8746
518/750 [=========>.....] - ETA: 0s - loss: 0.5463 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.5465 - accuracy:
0.8747
750/750 [================ ] - 1s 701us/step - loss: 0.5476 - accuracy:
0.8748 - val loss: 0.5735 - val accuracy: 0.8652
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.7100 - accuracy:
94/750 [==>....... - ETA: 0s - loss: 0.5598 - accuracy:
0.8723
180/750 [=====>.....] - ETA: 0s - loss: 0.5499 - accuracy:
0.8744
273/750 [=======>.....] - ETA: 0s - loss: 0.5458 - accuracy:
0.8764
369/750 [=======>.....] - ETA: 0s - loss: 0.5435 - accuracy:
0.8771
459/750 [==========>.....] - ETA: 0s - loss: 0.5457 - accuracy:
0.8763
552/750 [============>.....] - ETA: 0s - loss: 0.5485 - accuracy:
0.8761
0.8756 - val_loss: 0.5720 - val_accuracy: 0.8652
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.4654 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5659 - accuracy:
0.8688
188/750 [=====>...... - ETA: 0s - loss: 0.5493 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.5471 - accuracy:
0.8771
371/750 [=======>.....] - ETA: 0s - loss: 0.5500 - accuracy:
```

```
457/750 [==========>.....] - ETA: 0s - loss: 0.5479 - accuracy:
0.8760
548/750 [==========>.....] - ETA: 0s - loss: 0.5510 - accuracy:
0.8751
0.8750
0.8757 - val loss: 0.5742 - val accuracy: 0.8637
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.5953 - accuracy:
0.7969
87/750 [==>.....] - ETA: 0s - loss: 0.5520 - accuracy:
0.8763
176/750 [=====>.....] - ETA: 0s - loss: 0.5454 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.5401 - accuracy:
357/750 [=======>...... - ETA: 0s - loss: 0.5415 - accuracy:
0.8776
446/750 [=========>.....] - ETA: 0s - loss: 0.5434 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5415 - accuracy:
0.8764
0.8749 - val_loss: 0.5714 - val_accuracy: 0.8667
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.4155 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.5380 - accuracy:
0.8823
176/750 [=====>.....] - ETA: 0s - loss: 0.5523 - accuracy:
0.8778
266/750 [=======>.....] - ETA: 0s - loss: 0.5487 - accuracy:
0.8763
351/750 [=======>.....] - ETA: 0s - loss: 0.5476 - accuracy:
0.8768
440/750 [=========>..... - ETA: 0s - loss: 0.5469 - accuracy:
0.8767
527/750 [=========>.....] - ETA: 0s - loss: 0.5441 - accuracy:
617/750 [===========>.....] - ETA: 0s - loss: 0.5453 - accuracy:
0.8765
```

```
0.8763
0.8761 - val loss: 0.5711 - val accuracy: 0.8660
Epoch 148/220
1/750 [.....] - ETA: 0s - loss: 0.6004 - accuracy:
0.8438
85/750 [==>.....] - ETA: 0s - loss: 0.5577 - accuracy:
0.8693
165/750 [====>.....] - ETA: 0s - loss: 0.5444 - accuracy:
0.8754
250/750 [======>.....] - ETA: 0s - loss: 0.5450 - accuracy:
0.8746
339/750 [=======>.....] - ETA: 0s - loss: 0.5442 - accuracy:
0.8759
424/750 [========>.....] - ETA: 0s - loss: 0.5430 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.5438 - accuracy:
0.8754
599/750 [===========>.....] - ETA: 0s - loss: 0.5415 - accuracy:
0.8757 - val loss: 0.5694 - val accuracy: 0.8652
Epoch 149/220
1/750 [.................] - ETA: 0s - loss: 0.4054 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5532 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5527 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.5490 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.5445 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.5439 - accuracy:
0.8759
532/750 [==========>.....] - ETA: 0s - loss: 0.5427 - accuracy:
0.8766
623/750 [===========>.....] - ETA: 0s - loss: 0.5448 - accuracy:
706/750 [==============>..] - ETA: 0s - loss: 0.5438 - accuracy:
750/750 [================ ] - 1s 701us/step - loss: 0.5426 - accuracy:
0.8762 - val_loss: 0.5719 - val_accuracy: 0.8648
Epoch 150/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4964 - accuracy:
0.8906
92/750 [==>.....] - ETA: 0s - loss: 0.5494 - accuracy:
0.8723
185/750 [=====>.....] - ETA: 0s - loss: 0.5431 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.5460 - accuracy:
0.8768
369/750 [========>.....] - ETA: 0s - loss: 0.5447 - accuracy:
0.8767
459/750 [==========>.....] - ETA: 0s - loss: 0.5430 - accuracy:
0.8768
547/750 [==========>.....] - ETA: 0s - loss: 0.5421 - accuracy:
0.8766
640/750 [============>....] - ETA: 0s - loss: 0.5413 - accuracy:
0.8767
0.8767
0.8770
750/750 [================ ] - 1s 780us/step - loss: 0.5419 - accuracy:
0.8766 - val_loss: 0.5682 - val_accuracy: 0.8663
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.5384 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5269 - accuracy:
167/750 [=====>.....] - ETA: 0s - loss: 0.5301 - accuracy:
252/750 [=======>.....] - ETA: 0s - loss: 0.5380 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.5402 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5423 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.5404 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.5402 - accuracy:
0.8771
0.8773
0.8767 - val loss: 0.5690 - val accuracy: 0.8667
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.4044 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5415 - accuracy:
```

```
169/750 [====>...... - ETA: 0s - loss: 0.5375 - accuracy:
0.8784
260/750 [=======>.....] - ETA: 0s - loss: 0.5362 - accuracy:
0.8782
348/750 [========>.....] - ETA: 0s - loss: 0.5384 - accuracy:
0.8787
439/750 [========>.....] - ETA: 0s - loss: 0.5372 - accuracy:
0.8784
528/750 [==========>.....] - ETA: 0s - loss: 0.5375 - accuracy:
0.8778
621/750 [===========>.....] - ETA: 0s - loss: 0.5385 - accuracy:
0.8774
0.8762
0.8764 - val loss: 0.5681 - val accuracy: 0.8663
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.5046 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5487 - accuracy:
187/750 [=====>.....] - ETA: 0s - loss: 0.5386 - accuracy:
0.8792
278/750 [=======>.....] - ETA: 0s - loss: 0.5397 - accuracy:
373/750 [=======>....] - ETA: 0s - loss: 0.5414 - accuracy:
0.8764
469/750 [==========>.....] - ETA: 0s - loss: 0.5424 - accuracy:
561/750 [============>.....] - ETA: 0s - loss: 0.5405 - accuracy:
653/750 [============>....] - ETA: 0s - loss: 0.5395 - accuracy:
0.8771 - val_loss: 0.5675 - val_accuracy: 0.8670
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.5739 - accuracy:
95/750 [==>.....] - ETA: 0s - loss: 0.5378 - accuracy:
190/750 [=====>...... - ETA: 0s - loss: 0.5363 - accuracy:
0.8751
280/750 [=======>..... - ETA: 0s - loss: 0.5332 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.5347 - accuracy:
0.8773
```

```
462/750 [==========>.....] - ETA: 0s - loss: 0.5363 - accuracy:
0.8775
557/750 [============>.....] - ETA: 0s - loss: 0.5386 - accuracy:
0.8769
0.8769
0.8767
0.8767 - val loss: 0.5666 - val accuracy: 0.8657
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.4540 - accuracy:
96/750 [==>.....] - ETA: 0s - loss: 0.5471 - accuracy:
187/750 [=====>.....] - ETA: 0s - loss: 0.5439 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.5440 - accuracy:
370/750 [========>...... - ETA: 0s - loss: 0.5413 - accuracy:
0.8761
461/750 [==========>.....] - ETA: 0s - loss: 0.5415 - accuracy:
553/750 [==========>.....] - ETA: 0s - loss: 0.5391 - accuracy:
0.8768
0.8763
0.8770
0.8775 - val_loss: 0.5658 - val_accuracy: 0.8666
Epoch 156/220
1/750 [.....] - ETA: 0s - loss: 0.6663 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5353 - accuracy:
0.8791
188/750 [=====>.....] - ETA: 0s - loss: 0.5282 - accuracy:
0.8829
275/750 [=======>.....] - ETA: 0s - loss: 0.5352 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.5382 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.5382 - accuracy:
0.8774
551/750 [==========>.....] - ETA: 0s - loss: 0.5387 - accuracy:
0.8777
```

```
0.8778
750/750 [================ ] - 1s 670us/step - loss: 0.5371 - accuracy:
0.8780 - val_loss: 0.5656 - val_accuracy: 0.8670
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.5464 - accuracy:
0.8906
91/750 [==>.....] - ETA: 0s - loss: 0.5382 - accuracy:
0.8748
183/750 [=====>.....] - ETA: 0s - loss: 0.5395 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.5381 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.5386 - accuracy:
0.8766
461/750 [==========>.....] - ETA: 0s - loss: 0.5407 - accuracy:
555/750 [============>.....] - ETA: 0s - loss: 0.5409 - accuracy:
639/750 [============>....] - ETA: 0s - loss: 0.5380 - accuracy:
0.8766
0.8781 - val loss: 0.5663 - val accuracy: 0.8657
Epoch 158/220
1/750 [.................] - ETA: 0s - loss: 0.6490 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5249 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.5268 - accuracy:
272/750 [======>.....] - ETA: 0s - loss: 0.5325 - accuracy:
0.8797
363/750 [========>.....] - ETA: 0s - loss: 0.5298 - accuracy:
0.8801
453/750 [=========>.....] - ETA: 0s - loss: 0.5302 - accuracy:
0.8798
547/750 [=========>.....] - ETA: 0s - loss: 0.5341 - accuracy:
0.8788
640/750 [===========>....] - ETA: 0s - loss: 0.5346 - accuracy:
0.8785
0.8781 - val_loss: 0.5636 - val_accuracy: 0.8675
Epoch 159/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4096 - accuracy:
0.9219
95/750 [==>.....] - ETA: 0s - loss: 0.5321 - accuracy:
188/750 [=====>.....] - ETA: 0s - loss: 0.5281 - accuracy:
0.8797
277/750 [=======>.....] - ETA: 0s - loss: 0.5338 - accuracy:
0.8783
371/750 [========>.....] - ETA: 0s - loss: 0.5330 - accuracy:
0.8781
463/750 [==========>.....] - ETA: 0s - loss: 0.5344 - accuracy:
0.8781
556/750 [============>.....] - ETA: 0s - loss: 0.5319 - accuracy:
0.8776
0.8777 - val loss: 0.5636 - val accuracy: 0.8663
Epoch 160/220
1/750 [.....] - ETA: 0s - loss: 0.6908 - accuracy:
0.8438
91/750 [==>.....] - ETA: 0s - loss: 0.5212 - accuracy:
186/750 [=====>.....] - ETA: 0s - loss: 0.5248 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8831
363/750 [=======>.....] - ETA: 0s - loss: 0.5312 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.5348 - accuracy:
0.8788
543/750 [=========>.....] - ETA: 0s - loss: 0.5345 - accuracy:
636/750 [============>....] - ETA: 0s - loss: 0.5348 - accuracy:
0.8786
728/750 [===============>.] - ETA: 0s - loss: 0.5335 - accuracy:
0.8786
0.8783 - val_loss: 0.5650 - val_accuracy: 0.8662
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.6249 - accuracy:
0.8281
92/750 [==>....... - accuracy:
0.8731
182/750 [=====>...... - ETA: 0s - loss: 0.5465 - accuracy:
0.8719
```

```
273/750 [=======>.....] - ETA: 0s - loss: 0.5391 - accuracy:
0.8756
360/750 [========>.....] - ETA: 0s - loss: 0.5373 - accuracy:
0.8776
451/750 [=========>.....] - ETA: 0s - loss: 0.5332 - accuracy:
0.8790
544/750 [=========>.....] - ETA: 0s - loss: 0.5345 - accuracy:
0.8790
630/750 [============>....] - ETA: 0s - loss: 0.5342 - accuracy:
0.8790
722/750 [===============>..] - ETA: 0s - loss: 0.5327 - accuracy:
0.8795
0.8793 - val loss: 0.5647 - val accuracy: 0.8655
Epoch 162/220
1/750 [.....] - ETA: 0s - loss: 0.4839 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5196 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.5299 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.5322 - accuracy:
0.8786
360/750 [=========>.....] - ETA: 0s - loss: 0.5347 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.5341 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5339 - accuracy:
0.8781
0.8795
0.8795 - val_loss: 0.5611 - val_accuracy: 0.8676
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.7056 - accuracy:
0.8281
91/750 [==>....... - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.5389 - accuracy:
0.8763
269/750 [======>..... - ETA: 0s - loss: 0.5351 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.5335 - accuracy:
0.8797
447/750 [========>...... - ETA: 0s - loss: 0.5323 - accuracy:
```

```
540/750 [=========>.....] - ETA: 0s - loss: 0.5307 - accuracy:
0.8792
0.8791
0.8787 - val_loss: 0.5612 - val_accuracy: 0.8671
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.4756 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5411 - accuracy:
0.8773
183/750 [=====>.....] - ETA: 0s - loss: 0.5268 - accuracy:
0.8816
273/750 [=======>.....] - ETA: 0s - loss: 0.5281 - accuracy:
0.8896
364/750 [========>.....] - ETA: 0s - loss: 0.5281 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 0.5289 - accuracy:
548/750 [==========>.....] - ETA: 0s - loss: 0.5286 - accuracy:
627/750 [============>....] - ETA: 0s - loss: 0.5288 - accuracy:
0.8795 - val_loss: 0.5608 - val_accuracy: 0.8680
Epoch 165/220
1/750 [...... 0.4505 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5354 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.5337 - accuracy:
0.8768
273/750 [======>.....] - ETA: 0s - loss: 0.5327 - accuracy:
0.8783
364/750 [=======>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8791
458/750 [==========>.....] - ETA: 0s - loss: 0.5301 - accuracy:
547/750 [==========>.....] - ETA: 0s - loss: 0.5289 - accuracy:
0.8807
```

```
0.8803 - val loss: 0.5606 - val accuracy: 0.8673
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.4632 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5235 - accuracy:
0.8792
175/750 [=====>...... - ETA: 0s - loss: 0.5222 - accuracy:
0.8838
268/750 [=======>.....] - ETA: 0s - loss: 0.5272 - accuracy:
0.8813
358/750 [========>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8794
449/750 [=========>.....] - ETA: 0s - loss: 0.5301 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.5295 - accuracy:
0.8801
630/750 [===============>.....] - ETA: 0s - loss: 0.5298 - accuracy:
0.8796
0.8796 - val_loss: 0.5586 - val_accuracy: 0.8673
Epoch 167/220
1/750 [.....] - ETA: 0s - loss: 0.5351 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5176 - accuracy:
0.8846
172/750 [====>...... - ETA: 0s - loss: 0.5313 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.5403 - accuracy:
0.8760
348/750 [========>.....] - ETA: 0s - loss: 0.5372 - accuracy:
0.8776
437/750 [========>.....] - ETA: 0s - loss: 0.5330 - accuracy:
0.8786
524/750 [=========>.....] - ETA: 0s - loss: 0.5306 - accuracy:
0.8794
705/750 [===============>..] - ETA: 0s - loss: 0.5290 - accuracy:
0.8799 - val loss: 0.5585 - val accuracy: 0.8675
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.4244 - accuracy:
0.9531
```

```
84/750 [==>...... - ETA: 0s - loss: 0.5298 - accuracy:
0.8798
170/750 [====>.....] - ETA: 0s - loss: 0.5278 - accuracy:
0.8794
260/750 [======>.....] - ETA: 0s - loss: 0.5308 - accuracy:
0.8784
351/750 [=======>.....] - ETA: 0s - loss: 0.5288 - accuracy:
0.8793
421/750 [========>..... - ETA: 0s - loss: 0.5286 - accuracy:
0.8789
512/750 [=========>.....] - ETA: 0s - loss: 0.5274 - accuracy:
0.8790
0.8798 - val loss: 0.5594 - val_accuracy: 0.8679
Epoch 169/220
1/750 [...... - ETA: 0s - loss: 0.4523 - accuracy:
93/750 [==>...... - accuracy:
0.8832
187/750 [=====>.....] - ETA: 0s - loss: 0.5260 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.5280 - accuracy:
456/750 [==========>.....] - ETA: 0s - loss: 0.5337 - accuracy:
0.8795
548/750 [==========>.....] - ETA: 0s - loss: 0.5310 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 0.5281 - accuracy:
750/750 [============= ] - 1s 680us/step - loss: 0.5269 - accuracy:
0.8806 - val loss: 0.5602 - val accuracy: 0.8669
Epoch 170/220
1/750 [...... 0.5063 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5163 - accuracy:
0.8826
182/750 [=====>...... - ETA: 0s - loss: 0.5236 - accuracy:
275/750 [=======>..... - ETA: 0s - loss: 0.5258 - accuracy:
0.8781
```

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364/750 [=======>.....] - ETA: 0s - loss: 0.5222 - accuracy:
0.8805
454/750 [==========>.....] - ETA: 0s - loss: 0.5253 - accuracy:
0.8799
543/750 [==========>.....] - ETA: 0s - loss: 0.5251 - accuracy:
0.8799
633/750 [============>....] - ETA: 0s - loss: 0.5255 - accuracy:
0.8894
750/750 [============= ] - 1s 686us/step - loss: 0.5259 - accuracy:
0.8802 - val_loss: 0.5577 - val_accuracy: 0.8673
Epoch 171/220
 1/750 [.....] - ETA: 0s - loss: 0.5268 - accuracy:
94/750 [==>....... - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.5221 - accuracy:
0.8831
270/750 [======>..... - ETA: 0s - loss: 0.5251 - accuracy:
0.8814
362/750 [=======>.....] - ETA: 0s - loss: 0.5240 - accuracy:
0.8819
449/750 [========>.....] - ETA: 0s - loss: 0.5267 - accuracy:
0.8799
539/750 [=========>.....] - ETA: 0s - loss: 0.5268 - accuracy:
0.8794
631/750 [===============>....] - ETA: 0s - loss: 0.5259 - accuracy:
0.8797
0.8804 - val loss: 0.5564 - val accuracy: 0.8672
Epoch 172/220
 1/750 [.....] - ETA: 0s - loss: 0.4857 - accuracy:
0.8906
90/750 [==>.....] - ETA: 0s - loss: 0.5269 - accuracy:
0.8769
183/750 [=====>.....] - ETA: 0s - loss: 0.5289 - accuracy:
0.8788
274/750 [======>..... - ETA: 0s - loss: 0.5200 - accuracy:
0.8811
364/750 [=======>.....] - ETA: 0s - loss: 0.5217 - accuracy:
0.8896
453/750 [=========>.....] - ETA: 0s - loss: 0.5239 - accuracy:
0.8799
543/750 [==========>.....] - ETA: 0s - loss: 0.5225 - accuracy:
0.8896
```

```
0.8814
750/750 [================ ] - 1s 681us/step - loss: 0.5247 - accuracy:
0.8806 - val_loss: 0.5585 - val_accuracy: 0.8682
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.4529 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5523 - accuracy:
0.8693
183/750 [=====>.....] - ETA: 0s - loss: 0.5338 - accuracy:
0.8754
271/750 [======>..... - ETA: 0s - loss: 0.5313 - accuracy:
0.8767
356/750 [=======>.....] - ETA: 0s - loss: 0.5286 - accuracy:
445/750 [==========>.....] - ETA: 0s - loss: 0.5286 - accuracy:
0.8769
531/750 [=========>.....] - ETA: 0s - loss: 0.5262 - accuracy:
0.8784
0.8791
0.8803 - val loss: 0.5558 - val accuracy: 0.8683
Epoch 174/220
1/750 [.....] - ETA: 0s - loss: 0.4774 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5320 - accuracy:
184/750 [=====>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8839
272/750 [======>..... - ETA: 0s - loss: 0.5215 - accuracy:
0.8838
366/750 [========>.....] - ETA: 0s - loss: 0.5212 - accuracy:
0.8833
457/750 [=========>...... - ETA: 0s - loss: 0.5224 - accuracy:
0.8827
551/750 [==========>.....] - ETA: 0s - loss: 0.5215 - accuracy:
0.8823
0.8812 - val_loss: 0.5558 - val_accuracy: 0.8684
```

```
1/750 [.....] - ETA: 0s - loss: 0.4784 - accuracy:
0.8594
94/750 [==>.....] - ETA: 0s - loss: 0.5168 - accuracy:
188/750 [=====>.....] - ETA: 0s - loss: 0.5266 - accuracy:
0.8783
279/750 [=======>...... - ETA: 0s - loss: 0.5248 - accuracy:
0.8894
371/750 [========>.....] - ETA: 0s - loss: 0.5210 - accuracy:
0.8824
463/750 [==========>.....] - ETA: 0s - loss: 0.5235 - accuracy:
0.8819
554/750 [===============>.....] - ETA: 0s - loss: 0.5233 - accuracy:
0.8813
0.8814
0.8816 - val_loss: 0.5547 - val_accuracy: 0.8677
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.6422 - accuracy:
0.8125
94/750 [==>.....] - ETA: 0s - loss: 0.5089 - accuracy:
188/750 [=====>.....] - ETA: 0s - loss: 0.5152 - accuracy:
0.8837
278/750 [=======>.....] - ETA: 0s - loss: 0.5176 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.5171 - accuracy:
0.8831
463/750 [==========>.....] - ETA: 0s - loss: 0.5192 - accuracy:
552/750 [==========>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8820
645/750 [============>....] - ETA: 0s - loss: 0.5235 - accuracy:
0.8824
0.8825 - val loss: 0.5563 - val accuracy: 0.8677
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.5216 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8811
```

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186/750 [=====>...... - ETA: 0s - loss: 0.5207 - accuracy:
0.8845
278/750 [=======>.....] - ETA: 0s - loss: 0.5268 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.5262 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.5245 - accuracy:
552/750 [==========>.....] - ETA: 0s - loss: 0.5231 - accuracy:
0.8813
645/750 [============>....] - ETA: 0s - loss: 0.5228 - accuracy:
0.8817 - val loss: 0.5542 - val accuracy: 0.8686
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.4741 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5278 - accuracy:
184/750 [=====>.....] - ETA: 0s - loss: 0.5244 - accuracy:
0.8899
278/750 [=======>.....] - ETA: 0s - loss: 0.5240 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.5215 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.5213 - accuracy:
551/750 [============>.....] - ETA: 0s - loss: 0.5225 - accuracy:
0.8814
645/750 [============>....] - ETA: 0s - loss: 0.5216 - accuracy:
0.8821
0.8821 - val_loss: 0.5525 - val_accuracy: 0.8682
Epoch 179/220
1/750 [.....] - ETA: 0s - loss: 0.4776 - accuracy:
0.9062
94/750 [==>.....] - ETA: 0s - loss: 0.5243 - accuracy:
0.8790
188/750 [=====>...... - ETA: 0s - loss: 0.5149 - accuracy:
280/750 [=======>.....] - ETA: 0s - loss: 0.5139 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.5189 - accuracy:
0.8827
```

```
462/750 [==========>.....] - ETA: 0s - loss: 0.5165 - accuracy:
0.8833
555/750 [=============>.....] - ETA: 0s - loss: 0.5176 - accuracy:
0.8820
0.8821
0.8819 - val loss: 0.5558 - val accuracy: 0.8685
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.5247 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5141 - accuracy:
0.8831
185/750 [=====>.....] - ETA: 0s - loss: 0.5215 - accuracy:
280/750 [=======>.....] - ETA: 0s - loss: 0.5223 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.5242 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.5209 - accuracy:
0.8824
558/750 [==========>.....] - ETA: 0s - loss: 0.5213 - accuracy:
0.8818
0.8824
0.8826 - val_loss: 0.5515 - val_accuracy: 0.8678
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.4565 - accuracy:
95/750 [==>.....] - ETA: 0s - loss: 0.5327 - accuracy:
186/750 [=====>.....] - ETA: 0s - loss: 0.5275 - accuracy:
0.8784
279/750 [=======>.....] - ETA: 0s - loss: 0.5243 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.5220 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.5217 - accuracy:
0.8898
555/750 [==========>.....] - ETA: 0s - loss: 0.5187 - accuracy:
```

```
0.8822
0.8821 - val_loss: 0.5557 - val_accuracy: 0.8675
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.5900 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5311 - accuracy:
0.8748
181/750 [=====>.....] - ETA: 0s - loss: 0.5237 - accuracy:
0.8768
270/750 [======>.....] - ETA: 0s - loss: 0.5231 - accuracy:
0.8773
361/750 [=======>.....] - ETA: 0s - loss: 0.5211 - accuracy:
0.8785
452/750 [==========>.....] - ETA: 0s - loss: 0.5200 - accuracy:
0.8799
543/750 [==========>.....] - ETA: 0s - loss: 0.5180 - accuracy:
634/750 [============>....] - ETA: 0s - loss: 0.5167 - accuracy:
0.8824 - val loss: 0.5511 - val accuracy: 0.8695
Epoch 183/220
1/750 [.................] - ETA: 0s - loss: 0.6648 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5079 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.5160 - accuracy:
274/750 [======>.....] - ETA: 0s - loss: 0.5198 - accuracy:
0.8841
362/750 [========>.....] - ETA: 0s - loss: 0.5162 - accuracy:
0.8841
452/750 [=========>.....] - ETA: 0s - loss: 0.5153 - accuracy:
0.8845
540/750 [=========>.....] - ETA: 0s - loss: 0.5170 - accuracy:
0.8837
629/750 [===========>....] - ETA: 0s - loss: 0.5180 - accuracy:
721/750 [===============>..] - ETA: 0s - loss: 0.5173 - accuracy:
750/750 [================ ] - 1s 692us/step - loss: 0.5170 - accuracy:
0.8833 - val_loss: 0.5507 - val_accuracy: 0.8685
Epoch 184/220
```

```
1/750 [...... - ETA: 0s - loss: 0.5884 - accuracy:
0.8594
92/750 [==>.....] - ETA: 0s - loss: 0.5296 - accuracy:
0.8784
185/750 [=====>.....] - ETA: 0s - loss: 0.5128 - accuracy:
276/750 [=======>..... - ETA: 0s - loss: 0.5160 - accuracy:
0.8821
364/750 [========>.....] - ETA: 0s - loss: 0.5166 - accuracy:
0.8816
451/750 [==========>.....] - ETA: 0s - loss: 0.5165 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5158 - accuracy:
0.8831
0.8831
0.8832 - val loss: 0.5495 - val accuracy: 0.8687
Epoch 185/220
1/750 [...... - ETA: 0s - loss: 0.6545 - accuracy:
0.8594
0.8813
182/750 [=====>.....] - ETA: 0s - loss: 0.5174 - accuracy:
0.8821
274/750 [=======>.....] - ETA: 0s - loss: 0.5179 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.5206 - accuracy:
0.8801
452/750 [==========>.....] - ETA: 0s - loss: 0.5200 - accuracy:
0.8811
544/750 [=========>.....] - ETA: 0s - loss: 0.5168 - accuracy:
637/750 [============>....] - ETA: 0s - loss: 0.5157 - accuracy:
0.8826
0.8830
0.8829 - val loss: 0.5505 - val accuracy: 0.8694
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.5068 - accuracy:
92/750 [==>...... - accuracy:
185/750 [=====>...... - ETA: 0s - loss: 0.5212 - accuracy:
0.8796
```

```
278/750 [=======>.....] - ETA: 0s - loss: 0.5142 - accuracy:
0.8823
370/750 [========>.....] - ETA: 0s - loss: 0.5156 - accuracy:
0.8824
462/750 [=========>..... - ETA: 0s - loss: 0.5147 - accuracy:
553/750 [==========>.....] - ETA: 0s - loss: 0.5152 - accuracy:
0.8825
648/750 [============>....] - ETA: 0s - loss: 0.5145 - accuracy:
0.8826
0.8834
0.8834 - val loss: 0.5497 - val accuracy: 0.8698
Epoch 187/220
1/750 [.....] - ETA: 0s - loss: 0.5449 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5208 - accuracy:
0.8831
187/750 [=====>...... - ETA: 0s - loss: 0.5183 - accuracy:
0.8824
274/750 [=======>.....] - ETA: 0s - loss: 0.5185 - accuracy:
0.8824
360/750 [=========>.....] - ETA: 0s - loss: 0.5190 - accuracy:
453/750 [=========>.....] - ETA: 0s - loss: 0.5190 - accuracy:
0.8811
545/750 [==========>.....] - ETA: 0s - loss: 0.5160 - accuracy:
0.8816
0.8824
0.8830 - val_loss: 0.5514 - val_accuracy: 0.8686
Epoch 188/220
1/750 [...... 0.5780 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.4997 - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.5025 - accuracy:
0.8857
276/750 [=======>..... - ETA: 0s - loss: 0.5090 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.5098 - accuracy:
461/750 [=========>...... - ETA: 0s - loss: 0.5115 - accuracy:
0.8849
```

```
555/750 [============>.....] - ETA: 0s - loss: 0.5125 - accuracy:
0.8844
0.8836
0.8839 - val_loss: 0.5483 - val_accuracy: 0.8695
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.7015 - accuracy:
0.7969
94/750 [==>.....] - ETA: 0s - loss: 0.5025 - accuracy:
0.8863
187/750 [=====>.....] - ETA: 0s - loss: 0.5030 - accuracy:
0.8886
278/750 [=======>.....] - ETA: 0s - loss: 0.5084 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.5127 - accuracy:
0.8854
457/750 [=========>.....] - ETA: 0s - loss: 0.5131 - accuracy:
0.8846
551/750 [============>.....] - ETA: 0s - loss: 0.5119 - accuracy:
0.8841
644/750 [=============>....] - ETA: 0s - loss: 0.5129 - accuracy:
0.8833
750/750 [================ ] - 1s 672us/step - loss: 0.5128 - accuracy:
0.8832 - val_loss: 0.5476 - val_accuracy: 0.8697
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.6883 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5185 - accuracy:
0.8829
188/750 [=====>.....] - ETA: 0s - loss: 0.5186 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.5188 - accuracy:
0.8831
370/750 [=======>...... - ETA: 0s - loss: 0.5136 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.5112 - accuracy:
0.8861
554/750 [===============>.....] - ETA: 0s - loss: 0.5106 - accuracy:
0.8857
0.8844
```

```
0.8844 - val loss: 0.5469 - val accuracy: 0.8703
Epoch 191/220
1/750 [.....] - ETA: 0s - loss: 0.3647 - accuracy:
0.9844
93/750 [==>.....] - ETA: 0s - loss: 0.5201 - accuracy:
0.8847
185/750 [=====>...... - ETA: 0s - loss: 0.5136 - accuracy:
0.8841
278/750 [=======>.....] - ETA: 0s - loss: 0.5126 - accuracy:
0.8836
366/750 [=======>.....] - ETA: 0s - loss: 0.5117 - accuracy:
0.8826
459/750 [==========>.....] - ETA: 0s - loss: 0.5105 - accuracy:
551/750 [===============>.....] - ETA: 0s - loss: 0.5111 - accuracy:
643/750 [===============>.....] - ETA: 0s - loss: 0.5104 - accuracy:
0.8842 - val_loss: 0.5491 - val_accuracy: 0.8697
Epoch 192/220
1/750 [.....] - ETA: 0s - loss: 0.3954 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5146 - accuracy:
0.8854
184/750 [=====>.....] - ETA: 0s - loss: 0.5190 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.5170 - accuracy:
0.8826
368/750 [========>.....] - ETA: 0s - loss: 0.5164 - accuracy:
0.8826
460/750 [=========>.....] - ETA: 0s - loss: 0.5148 - accuracy:
0.8834
553/750 [==========>.....] - ETA: 0s - loss: 0.5153 - accuracy:
0.8829
0.8848 - val loss: 0.5461 - val accuracy: 0.8710
Epoch 193/220
1/750 [.....] - ETA: 0s - loss: 0.3938 - accuracy:
0.9531
```

```
91/750 [==>...... - ETA: 0s - loss: 0.5142 - accuracy:
0.8867
186/750 [=====>.....] - ETA: 0s - loss: 0.5118 - accuracy:
278/750 [=======>..... - ETA: 0s - loss: 0.5093 - accuracy:
0.8856
367/750 [========>.....] - ETA: 0s - loss: 0.5115 - accuracy:
0.8847
458/750 [=========>.....] - ETA: 0s - loss: 0.5092 - accuracy:
0.8862
551/750 [==========>.....] - ETA: 0s - loss: 0.5098 - accuracy:
0.8846 - val loss: 0.5466 - val_accuracy: 0.8693
Epoch 194/220
1/750 [...... - ETA: 0s - loss: 0.4557 - accuracy:
91/750 [==>....... - accuracy:
0.8851
184/750 [=====>......] - ETA: 0s - loss: 0.5027 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.5095 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.5092 - accuracy:
0.8844
458/750 [==========>.....] - ETA: 0s - loss: 0.5098 - accuracy:
547/750 [==========>.....] - ETA: 0s - loss: 0.5090 - accuracy:
640/750 [============>....] - ETA: 0s - loss: 0.5094 - accuracy:
733/750 [==============>.] - ETA: 0s - loss: 0.5094 - accuracy:
0.8848
750/750 [============== ] - 1s 678us/step - loss: 0.5092 - accuracy:
0.8849 - val_loss: 0.5465 - val_accuracy: 0.8699
Epoch 195/220
1/750 [...... o.4689 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5098 - accuracy:
184/750 [=====>.....] - ETA: 0s - loss: 0.5150 - accuracy:
0.8815
279/750 [=======>..... - ETA: 0s - loss: 0.5133 - accuracy:
0.8825
```

```
370/750 [========>.....] - ETA: 0s - loss: 0.5075 - accuracy:
0.8849
459/750 [==========>.....] - ETA: 0s - loss: 0.5060 - accuracy:
0.8851
548/750 [=========>.....] - ETA: 0s - loss: 0.5081 - accuracy:
0.8848
635/750 [===========>....] - ETA: 0s - loss: 0.5075 - accuracy:
0.8850
0.8847
750/750 [============= ] - 1s 682us/step - loss: 0.5086 - accuracy:
0.8848 - val_loss: 0.5453 - val_accuracy: 0.8724
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.4478 - accuracy:
94/750 [==>....... - accuracy:
183/750 [=====>.....] - ETA: 0s - loss: 0.5066 - accuracy:
275/750 [=======>..... - ETA: 0s - loss: 0.5062 - accuracy:
0.8884
369/750 [=======>.....] - ETA: 0s - loss: 0.5056 - accuracy:
0.8884
460/750 [=========>.....] - ETA: 0s - loss: 0.5081 - accuracy:
553/750 [==========>.....] - ETA: 0s - loss: 0.5097 - accuracy:
648/750 [==============>....] - ETA: 0s - loss: 0.5095 - accuracy:
0.8860 - val loss: 0.5439 - val accuracy: 0.8722
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.5644 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.4975 - accuracy:
0.8895
176/750 [=====>.....] - ETA: 0s - loss: 0.5094 - accuracy:
0.8849
264/750 [======>..... - ETA: 0s - loss: 0.5076 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.5047 - accuracy:
452/750 [=========>.....] - ETA: 0s - loss: 0.5035 - accuracy:
0.8864
544/750 [=========>.....] - ETA: 0s - loss: 0.5053 - accuracy:
0.8863
```

```
0.8857
0.8849
0.8850 - val_loss: 0.5431 - val_accuracy: 0.8721
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.6589 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5039 - accuracy:
0.8894
183/750 [=====>.....] - ETA: 0s - loss: 0.5070 - accuracy:
0.8873
275/750 [=======>..... - ETA: 0s - loss: 0.5024 - accuracy:
0.8885
364/750 [========>.....] - ETA: 0s - loss: 0.4961 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.5001 - accuracy:
546/750 [=========>.....] - ETA: 0s - loss: 0.5035 - accuracy:
0.8867
0.8854 - val loss: 0.5431 - val accuracy: 0.8714
Epoch 199/220
1/750 [.....] - ETA: 0s - loss: 0.7231 - accuracy:
95/750 [==>.....] - ETA: 0s - loss: 0.5240 - accuracy:
188/750 [=====>.....] - ETA: 0s - loss: 0.5151 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.5099 - accuracy:
0.8826
364/750 [========>.....] - ETA: 0s - loss: 0.5099 - accuracy:
0.8831
450/750 [=========>...... - ETA: 0s - loss: 0.5056 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.5035 - accuracy:
0.8859
718/750 [==============>..] - ETA: 0s - loss: 0.5054 - accuracy:
0.8853 - val_loss: 0.5442 - val_accuracy: 0.8696
```

```
1/750 [.....] - ETA: 0s - loss: 0.3857 - accuracy:
0.9531
93/750 [==>.....] - ETA: 0s - loss: 0.5142 - accuracy:
0.8782
188/750 [=====>.....] - ETA: 0s - loss: 0.5073 - accuracy:
0.8823
280/750 [=======>..... - ETA: 0s - loss: 0.5081 - accuracy:
0.8832
372/750 [========>.....] - ETA: 0s - loss: 0.5072 - accuracy:
465/750 [==========>.....] - ETA: 0s - loss: 0.5061 - accuracy:
0.8842
556/750 [==============>.....] - ETA: 0s - loss: 0.5067 - accuracy:
0.8846
0.8844
0.8854
0.8857 - val_loss: 0.5421 - val_accuracy: 0.8720
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.5593 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5210 - accuracy:
184/750 [=====>...... - ETA: 0s - loss: 0.5150 - accuracy:
0.8842
276/750 [=======>.....] - ETA: 0s - loss: 0.5030 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.5033 - accuracy:
0.8878
456/750 [==========>.....] - ETA: 0s - loss: 0.5025 - accuracy:
0.8878
545/750 [=========>.....] - ETA: 0s - loss: 0.5050 - accuracy:
0.8864
632/750 [============>....] - ETA: 0s - loss: 0.5051 - accuracy:
0.8864
0.8861 - val loss: 0.5416 - val accuracy: 0.8708
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.4660 - accuracy:
0.8750
93/750 [==>.....] - ETA: 0s - loss: 0.5087 - accuracy:
```

```
184/750 [=====>...... - ETA: 0s - loss: 0.5034 - accuracy:
0.8854
277/750 [=======>.....] - ETA: 0s - loss: 0.4969 - accuracy:
0.8898
367/750 [=======>.....] - ETA: 0s - loss: 0.5001 - accuracy:
0.8877
457/750 [=========>.....] - ETA: 0s - loss: 0.5035 - accuracy:
0.8881
548/750 [==========>.....] - ETA: 0s - loss: 0.5040 - accuracy:
0.8875
639/750 [===========>....] - ETA: 0s - loss: 0.5034 - accuracy:
0.8876
750/750 [================ ] - 1s 680us/step - loss: 0.5042 - accuracy:
0.8871 - val loss: 0.5408 - val accuracy: 0.8701
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.4784 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4941 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4975 - accuracy:
0.8916
263/750 [=======>.....] - ETA: 0s - loss: 0.5029 - accuracy:
0.8883
358/750 [=======>.....] - ETA: 0s - loss: 0.4997 - accuracy:
0.8880
452/750 [==========>.....] - ETA: 0s - loss: 0.5009 - accuracy:
0.8872
545/750 [==========>.....] - ETA: 0s - loss: 0.5043 - accuracy:
0.8866
635/750 [===========>....] - ETA: 0s - loss: 0.5034 - accuracy:
0.8867
0.8871
0.8869 - val_loss: 0.5407 - val_accuracy: 0.8708
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.5143 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.4999 - accuracy:
186/750 [=====>...... - ETA: 0s - loss: 0.4935 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.4961 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.5002 - accuracy:
0.8876
```

```
458/750 [==========>.....] - ETA: 0s - loss: 0.5009 - accuracy:
0.8872
549/750 [==========>.....] - ETA: 0s - loss: 0.5012 - accuracy:
0.8873
0.8873
0.8874 - val loss: 0.5406 - val accuracy: 0.8733
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.6334 - accuracy:
0.8281
91/750 [==>.....] - ETA: 0s - loss: 0.4938 - accuracy:
0.8893
180/750 [=====>.....] - ETA: 0s - loss: 0.4929 - accuracy:
0.8919
265/750 [=======>.....] - ETA: 0s - loss: 0.5000 - accuracy:
0.8881
354/750 [=======>.....] - ETA: 0s - loss: 0.5020 - accuracy:
0.8870
447/750 [=========>.....] - ETA: 0s - loss: 0.5055 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.5042 - accuracy:
0.8858
0.8866
0.8863 - val_loss: 0.5421 - val_accuracy: 0.8705
Epoch 206/220
1/750 [.....] - ETA: 0s - loss: 0.4377 - accuracy:
0.8906
95/750 [==>.....] - ETA: 0s - loss: 0.4961 - accuracy:
0.8911
187/750 [=====>.....] - ETA: 0s - loss: 0.5027 - accuracy:
0.8870
281/750 [=======>.....] - ETA: 0s - loss: 0.5036 - accuracy:
0.8870
372/750 [=======>.....] - ETA: 0s - loss: 0.5009 - accuracy:
0.8879
466/750 [==========>.....] - ETA: 0s - loss: 0.4997 - accuracy:
558/750 [============>.....] - ETA: 0s - loss: 0.5009 - accuracy:
0.8877
0.8879
```

```
0.8868
750/750 [================ ] - 1s 670us/step - loss: 0.5015 - accuracy:
0.8864 - val loss: 0.5420 - val accuracy: 0.8702
Epoch 207/220
 1/750 [.....] - ETA: 0s - loss: 0.5793 - accuracy:
0.8438
90/750 [==>.....] - ETA: 0s - loss: 0.5112 - accuracy:
0.8819
176/750 [=====>.....] - ETA: 0s - loss: 0.5083 - accuracy:
0.8828
267/750 [======>.....] - ETA: 0s - loss: 0.5018 - accuracy:
0.8865
359/750 [=======>.....] - ETA: 0s - loss: 0.5023 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.4993 - accuracy:
0.8873
544/750 [==========>.....] - ETA: 0s - loss: 0.5006 - accuracy:
637/750 [============>....] - ETA: 0s - loss: 0.4999 - accuracy:
0.8876
0.8877 - val loss: 0.5393 - val accuracy: 0.8718
Epoch 208/220
 1/750 [.................] - ETA: 0s - loss: 0.5008 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5067 - accuracy:
0.8821
187/750 [=====>.....] - ETA: 0s - loss: 0.5060 - accuracy:
0.8849
276/750 [=======>.....] - ETA: 0s - loss: 0.4981 - accuracy:
0.8876
369/750 [========>.....] - ETA: 0s - loss: 0.5008 - accuracy:
0.8869
463/750 [=========>.....] - ETA: 0s - loss: 0.5013 - accuracy:
0.8867
553/750 [==============>.....] - ETA: 0s - loss: 0.5009 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.4988 - accuracy:
742/750 [===============>.] - ETA: 0s - loss: 0.5003 - accuracy:
0.8869
0.8869 - val_loss: 0.5398 - val_accuracy: 0.8714
Epoch 209/220
```

```
1/750 [...... - ETA: 0s - loss: 0.4848 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5104 - accuracy:
0.8813
185/750 [=====>.....] - ETA: 0s - loss: 0.5064 - accuracy:
0.8834
275/750 [=======>.....] - ETA: 0s - loss: 0.4990 - accuracy:
0.8883
364/750 [========>.....] - ETA: 0s - loss: 0.5038 - accuracy:
0.8858
456/750 [==========>.....] - ETA: 0s - loss: 0.5040 - accuracy:
550/750 [============>.....] - ETA: 0s - loss: 0.5004 - accuracy:
0.8873
0.8877
0.8878 - val loss: 0.5384 - val accuracy: 0.8723
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.4049 - accuracy:
0.9375
0.8849
185/750 [=====>.....] - ETA: 0s - loss: 0.5121 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.5070 - accuracy:
0.8849
372/750 [========>.....] - ETA: 0s - loss: 0.5047 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.5033 - accuracy:
554/750 [==========>.....] - ETA: 0s - loss: 0.5017 - accuracy:
0.8871
645/750 [============>....] - ETA: 0s - loss: 0.5004 - accuracy:
0.8877
0.8883
0.8883 - val loss: 0.5403 - val accuracy: 0.8706
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.4812 - accuracy:
0.9219
93/750 [==>....... - accuracy:
185/750 [=====>.....] - ETA: 0s - loss: 0.4913 - accuracy:
0.8914
```

```
274/750 [=======>...... - ETA: 0s - loss: 0.4943 - accuracy:
0.8901
365/750 [========>.....] - ETA: 0s - loss: 0.4981 - accuracy:
0.8883
458/750 [=========>..... - ETA: 0s - loss: 0.4961 - accuracy:
0.8894
550/750 [===========>.....] - ETA: 0s - loss: 0.4954 - accuracy:
0.8886
644/750 [============>....] - ETA: 0s - loss: 0.4984 - accuracy:
0.8876
0.8874
0.8876 - val_loss: 0.5379 - val_accuracy: 0.8721
Epoch 212/220
1/750 [.....] - ETA: 0s - loss: 0.5521 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.4956 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.4942 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.4975 - accuracy:
0.8893
367/750 [=========>.....] - ETA: 0s - loss: 0.4933 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.4941 - accuracy:
552/750 [==============>.....] - ETA: 0s - loss: 0.4960 - accuracy:
0.8876
0.8874 - val_loss: 0.5366 - val_accuracy: 0.8730
Epoch 213/220
1/750 [...... 0.6710 - accuracy:
93/750 [==>...... - accuracy:
185/750 [=====>.....] - ETA: 0s - loss: 0.4992 - accuracy:
0.8863
278/750 [=======>..... - ETA: 0s - loss: 0.5020 - accuracy:
0.8844
367/750 [=======>.....] - ETA: 0s - loss: 0.4994 - accuracy:
459/750 [=========>...... - ETA: 0s - loss: 0.4973 - accuracy:
0.8874
```

```
546/750 [=========>.....] - ETA: 0s - loss: 0.4956 - accuracy:
0.8887
0.8884
0.8881 - val_loss: 0.5370 - val_accuracy: 0.8733
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.4519 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.4886 - accuracy:
0.8921
183/750 [=====>...... - ETA: 0s - loss: 0.4867 - accuracy:
0.8923
272/750 [=======>.....] - ETA: 0s - loss: 0.4913 - accuracy:
364/750 [========>.....] - ETA: 0s - loss: 0.4938 - accuracy:
454/750 [=========>.....] - ETA: 0s - loss: 0.4928 - accuracy:
0.8890
546/750 [=========>.....] - ETA: 0s - loss: 0.4937 - accuracy:
635/750 [============>....] - ETA: 0s - loss: 0.4953 - accuracy:
0.8885
0.8880 - val_loss: 0.5379 - val_accuracy: 0.8733
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.4297 - accuracy:
94/750 [==>.....] - ETA: 0s - loss: 0.4884 - accuracy:
0.8886
185/750 [=====>.....] - ETA: 0s - loss: 0.4922 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.4929 - accuracy:
0.8882
369/750 [========>.....] - ETA: 0s - loss: 0.4974 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.4971 - accuracy:
553/750 [============>.....] - ETA: 0s - loss: 0.4977 - accuracy:
0.8879
0.8887
```

```
0.8884 - val loss: 0.5383 - val accuracy: 0.8712
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.3625 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.4893 - accuracy:
0.8962
182/750 [=====>...... - ETA: 0s - loss: 0.4931 - accuracy:
0.8916
275/750 [=======>.....] - ETA: 0s - loss: 0.4923 - accuracy:
0.8911
366/750 [=======>.....] - ETA: 0s - loss: 0.4929 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.4923 - accuracy:
550/750 [===============>.....] - ETA: 0s - loss: 0.4928 - accuracy:
0.8901
0.8896 - val_loss: 0.5357 - val_accuracy: 0.8726
Epoch 217/220
1/750 [.....] - ETA: 0s - loss: 0.5312 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.4950 - accuracy:
272/750 [=======>.....] - ETA: 0s - loss: 0.4929 - accuracy:
0.8894
365/750 [=======>.....] - ETA: 0s - loss: 0.4948 - accuracy:
458/750 [=========>.....] - ETA: 0s - loss: 0.4955 - accuracy:
0.8888
551/750 [==========>.....] - ETA: 0s - loss: 0.4942 - accuracy:
0.8898
0.8896
0.8888 - val loss: 0.5362 - val accuracy: 0.8740
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.4789 - accuracy:
```

```
89/750 [==>...... - ETA: 0s - loss: 0.5143 - accuracy:
0.8822
183/750 [=====>.....] - ETA: 0s - loss: 0.5033 - accuracy:
275/750 [=======>..... - ETA: 0s - loss: 0.5019 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.4965 - accuracy:
0.8884
458/750 [=========>...... - ETA: 0s - loss: 0.4936 - accuracy:
0.8888
551/750 [==========>.....] - ETA: 0s - loss: 0.4939 - accuracy:
0.8894
0.8894 - val loss: 0.5352 - val_accuracy: 0.8725
Epoch 219/220
1/750 [...... - ETA: 0s - loss: 0.4281 - accuracy:
0.8906
92/750 [==>.....] - ETA: 0s - loss: 0.4988 - accuracy:
0.8871
184/750 [=====>......] - ETA: 0s - loss: 0.4911 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.4935 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.4928 - accuracy:
0.8884
457/750 [==========>.....] - ETA: 0s - loss: 0.4968 - accuracy:
551/750 [============>.....] - ETA: 0s - loss: 0.4964 - accuracy:
0.8882
642/750 [============>....] - ETA: 0s - loss: 0.4960 - accuracy:
0.8877
737/750 [=============>.] - ETA: 0s - loss: 0.4941 - accuracy:
0.8884
750/750 [============== ] - 1s 672us/step - loss: 0.4935 - accuracy:
0.8889 - val loss: 0.5341 - val accuracy: 0.8732
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.3851 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.4871 - accuracy:
0.8888
182/750 [=====>.....] - ETA: 0s - loss: 0.4884 - accuracy:
0.8884
272/750 [=======>..... - ETA: 0s - loss: 0.4878 - accuracy:
0.8914
```

```
367/750 [=======>...... - ETA: 0s - loss: 0.4951 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.4971 - accuracy:
0.8877
548/750 [==========>.....] - ETA: 0s - loss: 0.4954 - accuracy:
0.8882
641/750 [============>....] - ETA: 0s - loss: 0.4930 - accuracy:
0.8891
0.8899
750/750 [============= ] - 1s 672us/step - loss: 0.4928 - accuracy:
0.8896 - val_loss: 0.5361 - val_accuracy: 0.8716
1/313 [.....] - ETA: 3s - loss: 0.5323 - accuracy:
116/313 [========>..... - ETA: 0s - loss: 0.5678 - accuracy:
0.8669
237/313 [================>.....] - ETA: 0s - loss: 0.5690 - accuracy:
Testing loss: 0.5635800957679749
Testing accuracy: 86.54999732971191%
```

Running for Model 8/12

Model: "sequential_8"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 50)	39250
hidden1 (Dense)	(None, 50)	2550
hidden2 (Dense)	(None, 50)	2550
hidden3 (Dense)	(None, 50)	2550
output_layer (Dense)	(None, 10)	510

Total params: 47,410 Trainable params: 47,410 Non-trainable params: 0

```
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.001 and L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 50, 'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size': 50, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 50,
```

```
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 50,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation_function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 3:07 - loss: 2.6295 - accuracy:
67/750 [=>.....] - ETA: 0s - loss: 2.6052 - accuracy: 0.0921
136/750 [====>...... - ETA: 0s - loss: 2.5972 - accuracy:
209/750 [=====>...... - ETA: 0s - loss: 2.5880 - accuracy:
0.1049
284/750 [=======>.....] - ETA: 0s - loss: 2.5794 - accuracy:
0.1136
354/750 [=========>.....] - ETA: 0s - loss: 2.5727 - accuracy:
0.1247
428/750 [=========>...... - ETA: 0s - loss: 2.5661 - accuracy:
503/750 [===========>.....] - ETA: 0s - loss: 2.5596 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 2.5535 - accuracy:
0.1616
728/750 [==============>.] - ETA: 0s - loss: 2.5412 - accuracy:
0.1698
750/750 [============= ] - 1s 933us/step - loss: 2.5396 - accuracy:
0.1720 - val_loss: 2.4805 - val_accuracy: 0.2500
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 2.4693 - accuracy:
0.3125
78/750 [==>.....] - ETA: 0s - loss: 2.4722 - accuracy:
0.2680
152/750 [====>.....] - ETA: 0s - loss: 2.4654 - accuracy:
0.2707
227/750 [======>.....] - ETA: 0s - loss: 2.4592 - accuracy:
0.2726
304/750 [=======>.....] - ETA: 0s - loss: 2.4510 - accuracy:
0.2816
381/750 [========>.....] - ETA: 0s - loss: 2.4430 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 2.4343 - accuracy:
0.2891
533/750 [=========>.....] - ETA: 0s - loss: 2.4259 - accuracy:
0.2935
611/750 [===========>.....] - ETA: 0s - loss: 2.4165 - accuracy:
0.2975
689/750 [===========>...] - ETA: 0s - loss: 2.4061 - accuracy:
```

```
0.3026
750/750 [=============== ] - 1s 802us/step - loss: 2.3978 - accuracy:
0.3061 - val_loss: 2.2935 - val_accuracy: 0.3543
Epoch 3/220
 1/750 [.....] - ETA: 0s - loss: 2.2649 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 2.2745 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 2.2642 - accuracy:
0.3669
227/750 [======>.....] - ETA: 0s - loss: 2.2509 - accuracy:
0.3696
305/750 [========>.....] - ETA: 0s - loss: 2.2348 - accuracy:
0.3781
382/750 [=========>.....] - ETA: 0s - loss: 2.2193 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 2.2025 - accuracy:
0.3913
533/750 [==========>.....] - ETA: 0s - loss: 2.1838 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 2.1669 - accuracy:
0.4088
750/750 [============== ] - 1s 810us/step - loss: 2.1312 - accuracy:
0.4215 - val_loss: 1.9363 - val_accuracy: 0.4921
Epoch 4/220
 1/750 [....... - loss: 2.0241 - accuracy:
0.4219
77/750 [==>.....] - ETA: 0s - loss: 1.9150 - accuracy:
0.5006
153/750 [====>.....] - ETA: 0s - loss: 1.8935 - accuracy:
230/750 [======>...... - ETA: 0s - loss: 1.8725 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 1.8487 - accuracy:
0.5161
380/750 [========>.....] - ETA: 0s - loss: 1.8249 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 1.8006 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 1.7748 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 1.7525 - accuracy:
0.5499
685/750 [============>...] - ETA: 0s - loss: 1.7289 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 1.7100 - accuracy:
```

```
0.5641 - val_loss: 1.4955 - val_accuracy: 0.6399
Epoch 5/220
```

```
1/750 [.....] - ETA: 0s - loss: 1.5520 - accuracy:
0.6094
75/750 [==>.....] - ETA: 0s - loss: 1.4582 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 1.4495 - accuracy:
0.6531
223/750 [=====>..... - ETA: 0s - loss: 1.4370 - accuracy:
300/750 [=======>..... - ETA: 0s - loss: 1.4185 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 1.4050 - accuracy:
0.6696
456/750 [==========>.....] - ETA: 0s - loss: 1.3922 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 1.3761 - accuracy:
0.6673
0.6701
682/750 [============>...] - ETA: 0s - loss: 1.3506 - accuracy:
0.6719
750/750 [=============== ] - 1s 813us/step - loss: 1.3398 - accuracy:
0.6740 - val loss: 1.2194 - val accuracy: 0.7004
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 1.1611 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 1.2078 - accuracy:
0.6997
156/750 [=====>.....] - ETA: 0s - loss: 1.2066 - accuracy:
0.6983
232/750 [======>.....] - ETA: 0s - loss: 1.1921 - accuracy:
307/750 [=======>..... - ETA: 0s - loss: 1.1851 - accuracy:
0.7963
385/750 [========>.....] - ETA: 0s - loss: 1.1784 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 1.1682 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 1.1604 - accuracy:
0.7113
614/750 [============>.....] - ETA: 0s - loss: 1.1525 - accuracy:
0.7136
0.7139 - val loss: 1.0823 - val accuracy: 0.7226
Epoch 7/220
```

```
1/750 [.....] - ETA: 0s - loss: 1.1494 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 1.0704 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 1.0740 - accuracy:
0.7284
230/750 [======>..... - ETA: 0s - loss: 1.0677 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 1.0639 - accuracy:
0.7317
382/750 [========>..... - ETA: 0s - loss: 1.0585 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 1.0506 - accuracy:
0.7348
535/750 [=========>.....] - ETA: 0s - loss: 1.0499 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 1.0466 - accuracy:
0.7329
0.7345 - val loss: 1.0061 - val accuracy: 0.7372
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 1.1383 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.9853 - accuracy:
0.7385
152/750 [=====>.....] - ETA: 0s - loss: 0.9916 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.9843 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.9876 - accuracy:
381/750 [=======>>.....] - ETA: 0s - loss: 0.9876 - accuracy:
0.7461
458/750 [==========>.....] - ETA: 0s - loss: 0.9842 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.9850 - accuracy:
0.7486
0.7493 - val_loss: 0.9576 - val_accuracy: 0.7503
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 1.0900 - accuracy:
```

```
0.7344
77/750 [==>.....] - ETA: 0s - loss: 0.9661 - accuracy:
0.7486
154/750 [=====>.....] - ETA: 0s - loss: 0.9571 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.9505 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.9461 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.9472 - accuracy:
459/750 [=========>...... - ETA: 0s - loss: 0.9437 - accuracy:
0.7603
536/750 [==========>.....] - ETA: 0s - loss: 0.9442 - accuracy:
0.7596
0.7596
688/750 [=============>...] - ETA: 0s - loss: 0.9392 - accuracy:
0.7596
0.7604 - val_loss: 0.9231 - val_accuracy: 0.7607
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 0.9099 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.9402 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.9366 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.9305 - accuracy:
0.7607
307/750 [=======>.....] - ETA: 0s - loss: 0.9215 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.9207 - accuracy:
459/750 [=========>...... - ETA: 0s - loss: 0.9143 - accuracy:
0.7686
532/750 [==========>.....] - ETA: 0s - loss: 0.9118 - accuracy:
0.7689
608/750 [===========>.....] - ETA: 0s - loss: 0.9117 - accuracy:
0.7703
0.7704 - val loss: 0.8978 - val accuracy: 0.7696
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 0.8642 - accuracy:
0.7969
77/750 [==>.....] - ETA: 0s - loss: 0.8843 - accuracy:
```

```
0.7839
153/750 [=====>.....] - ETA: 0s - loss: 0.8920 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.8920 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.8935 - accuracy:
0.7741
384/750 [=======>.....] - ETA: 0s - loss: 0.8896 - accuracy:
0.7748
459/750 [==========>.....] - ETA: 0s - loss: 0.8884 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.8895 - accuracy:
0.7748
0.7748
0.7762 - val loss: 0.8771 - val accuracy: 0.7771
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 1.0215 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.8818 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.8768 - accuracy:
0.7816
227/750 [======>.....] - ETA: 0s - loss: 0.8788 - accuracy:
0.7819
304/750 [========>.....] - ETA: 0s - loss: 0.8757 - accuracy:
0.7828
379/750 [========>.....] - ETA: 0s - loss: 0.8699 - accuracy:
0.7849
455/750 [==========>.....] - ETA: 0s - loss: 0.8694 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.8697 - accuracy:
0.7842
684/750 [============>...] - ETA: 0s - loss: 0.8690 - accuracy:
0.7836 - val loss: 0.8610 - val accuracy: 0.7812
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 0.9228 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.8628 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.8469 - accuracy:
```

```
0.7939
230/750 [======>.....] - ETA: 0s - loss: 0.8470 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.8468 - accuracy:
0.7921
383/750 [=======>..... - ETA: 0s - loss: 0.8491 - accuracy:
0.7915
458/750 [=========>.....] - ETA: 0s - loss: 0.8497 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.8510 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.8516 - accuracy:
0.7899
0.7899
750/750 [============== ] - 1s 810us/step - loss: 0.8527 - accuracy:
0.7897 - val loss: 0.8490 - val accuracy: 0.7850
Epoch 14/220
1/750 [...... 0.8154 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.8395 - accuracy:
153/750 [====>...... - ETA: 0s - loss: 0.8388 - accuracy:
0.7908
228/750 [======>.....] - ETA: 0s - loss: 0.8385 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.8422 - accuracy:
0.7934
381/750 [=========>.....] - ETA: 0s - loss: 0.8403 - accuracy:
0.7948
457/750 [==========>.....] - ETA: 0s - loss: 0.8397 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.8387 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 0.8383 - accuracy:
0.7956
0.7949
0.7940 - val_loss: 0.8358 - val_accuracy: 0.7902
Epoch 15/220
79/750 [==>....... - ETA: 0s - loss: 0.8333 - accuracy:
0.7959
151/750 [====>.....] - ETA: 0s - loss: 0.8348 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.8373 - accuracy:
```

```
0.7945
304/750 [========>.....] - ETA: 0s - loss: 0.8350 - accuracy:
0.7963
381/750 [========>.....] - ETA: 0s - loss: 0.8331 - accuracy:
0.7965
456/750 [=========>.....] - ETA: 0s - loss: 0.8292 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.8272 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.8284 - accuracy:
0.7973
750/750 [============= ] - 1s 802us/step - loss: 0.8287 - accuracy:
0.7977 - val_loss: 0.8252 - val_accuracy: 0.7967
Epoch 16/220
1/750 [...... - ETA: 0s - loss: 0.8408 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.8005 - accuracy:
0.8983
153/750 [====>.....] - ETA: 0s - loss: 0.8085 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.8128 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.8145 - accuracy:
384/750 [=======>..... - ETA: 0s - loss: 0.8162 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.8167 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.8166 - accuracy:
0.8036
0.8024 - val_loss: 0.8158 - val_accuracy: 0.8013
Epoch 17/220
1/750 [.....] - ETA: 0s - loss: 0.8325 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.8129 - accuracy:
157/750 [=====>.....] - ETA: 0s - loss: 0.8170 - accuracy:
234/750 [======>..... - ETA: 0s - loss: 0.8177 - accuracy:
312/750 [=======>..... - ETA: 0s - loss: 0.8115 - accuracy:
```

```
0.8056
389/750 [==========>.....] - ETA: 0s - loss: 0.8093 - accuracy:
467/750 [==========>.....] - ETA: 0s - loss: 0.8106 - accuracy:
0.8047
544/750 [===========>.....] - ETA: 0s - loss: 0.8110 - accuracy:
621/750 [============>.....] - ETA: 0s - loss: 0.8107 - accuracy:
750/750 [============= ] - 1s 798us/step - loss: 0.8097 - accuracy:
0.8059 - val loss: 0.8091 - val accuracy: 0.8033
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.9443 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.8068 - accuracy:
0.8121
155/750 [====>.....] - ETA: 0s - loss: 0.8014 - accuracy:
0.8109
230/750 [======>.....] - ETA: 0s - loss: 0.8045 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.8049 - accuracy:
0.8097
385/750 [========>.....] - ETA: 0s - loss: 0.8027 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.8026 - accuracy:
0.8096
537/750 [=========>.....] - ETA: 0s - loss: 0.8019 - accuracy:
0.8091 - val loss: 0.8011 - val accuracy: 0.8057
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 0.7409 - accuracy:
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.8030 - accuracy:
0.8097
231/750 [======>.....] - ETA: 0s - loss: 0.7962 - accuracy:
0.8119
307/750 [=======>.....] - ETA: 0s - loss: 0.7990 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.8006 - accuracy:
```

```
0.8108
462/750 [==========>.....] - ETA: 0s - loss: 0.8004 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.7984 - accuracy:
0.8104
691/750 [=============>...] - ETA: 0s - loss: 0.7966 - accuracy:
750/750 [=============== ] - 1s 805us/step - loss: 0.7943 - accuracy:
0.8124 - val_loss: 0.7943 - val_accuracy: 0.8074
Epoch 20/220
1/750 [.....] - ETA: 0s - loss: 0.7037 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.7964 - accuracy:
0.8019
154/750 [====>...... - ETA: 0s - loss: 0.7901 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.7888 - accuracy:
0.8104
305/750 [=======>.....] - ETA: 0s - loss: 0.7908 - accuracy:
0.8114
381/750 [=======>..... - ETA: 0s - loss: 0.7910 - accuracy:
0.8119
456/750 [==========>.....] - ETA: 0s - loss: 0.7879 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.7899 - accuracy:
0.8136
594/750 [===========>.....] - ETA: 0s - loss: 0.7896 - accuracy:
668/750 [==============>....] - ETA: 0s - loss: 0.7891 - accuracy:
0.8146 - val loss: 0.7879 - val accuracy: 0.8105
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 0.9143 - accuracy:
0.7031
76/750 [==>.....] - ETA: 0s - loss: 0.7990 - accuracy:
0.8117
229/750 [======>.....] - ETA: 0s - loss: 0.7859 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.7832 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.7809 - accuracy:
```

```
0.8169
458/750 [==========>.....] - ETA: 0s - loss: 0.7804 - accuracy:
0.8177
535/750 [==========>.....] - ETA: 0s - loss: 0.7779 - accuracy:
0.8186
0.8190
683/750 [============>...] - ETA: 0s - loss: 0.7797 - accuracy:
750/750 [=============== ] - 1s 814us/step - loss: 0.7811 - accuracy:
0.8177 - val_loss: 0.7811 - val_accuracy: 0.8142
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.7575 - accuracy:
0.8281
75/750 [==>.....] - ETA: 0s - loss: 0.7702 - accuracy:
0.8256
151/750 [=====>.....] - ETA: 0s - loss: 0.7643 - accuracy:
228/750 [======>....... - ETA: 0s - loss: 0.7688 - accuracy:
304/750 [=======>..... - ETA: 0s - loss: 0.7701 - accuracy:
0.8214
382/750 [========>.....] - ETA: 0s - loss: 0.7716 - accuracy:
0.8205
459/750 [==========>.....] - ETA: 0s - loss: 0.7736 - accuracy:
0.8191
534/750 [==========>.....] - ETA: 0s - loss: 0.7757 - accuracy:
0.8186
0.8196
750/750 [=============== ] - 1s 808us/step - loss: 0.7748 - accuracy:
0.8192 - val loss: 0.7765 - val accuracy: 0.8144
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.8507 - accuracy:
0.7969
77/750 [==>.....] - ETA: 0s - loss: 0.7651 - accuracy:
0.8257
153/750 [====>.....] - ETA: 0s - loss: 0.7732 - accuracy:
0.8213
229/750 [======>.....] - ETA: 0s - loss: 0.7719 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.7747 - accuracy:
384/750 [=======>..... - ETA: 0s - loss: 0.7736 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.7731 - accuracy:
```

```
0.8197
535/750 [==========>.....] - ETA: 0s - loss: 0.7700 - accuracy:
0.8217
0.8216 - val loss: 0.7719 - val accuracy: 0.8168
Epoch 24/220
1/750 [.....] - ETA: 0s - loss: 0.6707 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.7600 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.7641 - accuracy:
231/750 [======>...... - ETA: 0s - loss: 0.7624 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.7643 - accuracy:
384/750 [========>>.....] - ETA: 0s - loss: 0.7655 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.7610 - accuracy:
0.8245
536/750 [==========>.....] - ETA: 0s - loss: 0.7652 - accuracy:
0.8225
0.8232 - val_loss: 0.7665 - val_accuracy: 0.8173
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.7230 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.7438 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.7463 - accuracy:
0.8268
228/750 [======>.....] - ETA: 0s - loss: 0.7464 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.7517 - accuracy:
382/750 [========>>.....] - ETA: 0s - loss: 0.7501 - accuracy:
0.8283
458/750 [=========>...... - ETA: 0s - loss: 0.7523 - accuracy:
0.8264
536/750 [==========>.....] - ETA: 0s - loss: 0.7579 - accuracy:
```

```
0.8243
0.8245
750/750 [================ ] - 1s 805us/step - loss: 0.7590 - accuracy:
0.8251 - val loss: 0.7613 - val accuracy: 0.8221
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.7622 - accuracy:
0.8281
78/750 [==>.....] - ETA: 0s - loss: 0.7579 - accuracy:
0.8297
154/750 [====>.....] - ETA: 0s - loss: 0.7543 - accuracy:
0.8288
232/750 [======>.....] - ETA: 0s - loss: 0.7503 - accuracy:
0.8297
305/750 [=======>>.....] - ETA: 0s - loss: 0.7518 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.7489 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.7491 - accuracy:
0.8298
537/750 [=========>.....] - ETA: 0s - loss: 0.7537 - accuracy:
0.8286
0.8271
750/750 [============== ] - 1s 813us/step - loss: 0.7543 - accuracy:
0.8269 - val loss: 0.7567 - val accuracy: 0.8236
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.6346 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.7471 - accuracy:
153/750 [====>...... - ETA: 0s - loss: 0.7433 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.7465 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.7476 - accuracy:
380/750 [========>>.....] - ETA: 0s - loss: 0.7458 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.7466 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.7470 - accuracy:
```

```
750/750 [=============== ] - 1s 809us/step - loss: 0.7493 - accuracy:
0.8289 - val loss: 0.7532 - val accuracy: 0.8261
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.8254 - accuracy:
0.8311
153/750 [====>...... - ETA: 0s - loss: 0.7428 - accuracy:
0.8297
230/750 [======>.....] - ETA: 0s - loss: 0.7486 - accuracy:
0.8280
305/750 [========>.....] - ETA: 0s - loss: 0.7478 - accuracy:
0.8314
381/750 [========>.....] - ETA: 0s - loss: 0.7464 - accuracy:
0.8311
458/750 [==========>.....] - ETA: 0s - loss: 0.7474 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.7457 - accuracy:
0.8317
686/750 [===========>...] - ETA: 0s - loss: 0.7440 - accuracy:
750/750 [============= ] - 1s 808us/step - loss: 0.7454 - accuracy:
0.8302 - val_loss: 0.7495 - val_accuracy: 0.8262
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.6899 - accuracy:
0.8281
78/750 [==>.....] - ETA: 0s - loss: 0.7350 - accuracy:
0.8293
154/750 [====>.....] - ETA: 0s - loss: 0.7559 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.7427 - accuracy:
0.8319
305/750 [=======>.....] - ETA: 0s - loss: 0.7417 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.7415 - accuracy:
458/750 [=========>.....] - ETA: 0s - loss: 0.7418 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.7419 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.7395 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 0.7401 - accuracy:
```

```
0.8339
750/750 [================ ] - 1s 802us/step - loss: 0.7409 - accuracy:
0.8334 - val_loss: 0.7480 - val_accuracy: 0.8278
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.5901 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.7268 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.7349 - accuracy:
230/750 [======>..... - ETA: 0s - loss: 0.7357 - accuracy:
0.8351
308/750 [========>.....] - ETA: 0s - loss: 0.7375 - accuracy:
384/750 [=========>.....] - ETA: 0s - loss: 0.7355 - accuracy:
0.8343
460/750 [=========>.....] - ETA: 0s - loss: 0.7338 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.7342 - accuracy:
0.8343
750/750 [============= ] - 1s 800us/step - loss: 0.7371 - accuracy:
0.8332 - val_loss: 0.7416 - val_accuracy: 0.8298
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.7425 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.7346 - accuracy:
0.8325
153/750 [====>.....] - ETA: 0s - loss: 0.7297 - accuracy:
0.8351
231/750 [======>.....] - ETA: 0s - loss: 0.7289 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.7292 - accuracy:
0.8386
383/750 [========>.....] - ETA: 0s - loss: 0.7321 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.7332 - accuracy:
0.8366
538/750 [=========>.....] - ETA: 0s - loss: 0.7324 - accuracy:
0.8361
692/750 [============>...] - ETA: 0s - loss: 0.7336 - accuracy:
750/750 [============= ] - 1s 809us/step - loss: 0.7332 - accuracy:
```

```
0.8340 - val_loss: 0.7396 - val_accuracy: 0.8315 Epoch 32/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6285 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.7312 - accuracy:
0.8369
154/750 [====>...... - ETA: 0s - loss: 0.7334 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.7395 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.7359 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.7339 - accuracy:
0.8349
460/750 [=========>.....] - ETA: 0s - loss: 0.7336 - accuracy:
0.8353
538/750 [==========>.....] - ETA: 0s - loss: 0.7293 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.7295 - accuracy:
0.8361
0.8362 - val loss: 0.7350 - val accuracy: 0.8310
Epoch 33/220
1/750 [...... 0.6816 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.7165 - accuracy:
0.8377
152/750 [=====>.....] - ETA: 0s - loss: 0.7230 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.7243 - accuracy:
0.8396
297/750 [=======>..... - ETA: 0s - loss: 0.7282 - accuracy:
371/750 [========>.....] - ETA: 0s - loss: 0.7289 - accuracy:
0.8359
447/750 [=========>.....] - ETA: 0s - loss: 0.7303 - accuracy:
0.8346
521/750 [=========>.....] - ETA: 0s - loss: 0.7283 - accuracy:
0.8356
597/750 [============>.....] - ETA: 0s - loss: 0.7268 - accuracy:
672/750 [==============>....] - ETA: 0s - loss: 0.7260 - accuracy:
0.8375
750/750 [============= ] - 1s 820us/step - loss: 0.7258 - accuracy:
```

```
0.8374 - val_loss: 0.7325 - val_accuracy: 0.8328 Epoch 34/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6496 - accuracy:
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.7299 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.7288 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.7223 - accuracy:
306/750 [=======>..... - ETA: 0s - loss: 0.7209 - accuracy:
382/750 [=========>.....] - ETA: 0s - loss: 0.7213 - accuracy:
0.8395
459/750 [=========>.....] - ETA: 0s - loss: 0.7217 - accuracy:
0.8391
536/750 [==========>.....] - ETA: 0s - loss: 0.7241 - accuracy:
688/750 [============>...] - ETA: 0s - loss: 0.7217 - accuracy:
750/750 [================ ] - 1s 806us/step - loss: 0.7227 - accuracy:
0.8379 - val loss: 0.7282 - val accuracy: 0.8341
Epoch 35/220
 1/750 [........................] - ETA: 0s - loss: 0.9022 - accuracy:
0.7031
79/750 [==>.....] - ETA: 0s - loss: 0.7216 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.7183 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.7231 - accuracy:
0.8389
305/750 [=======>..... - ETA: 0s - loss: 0.7218 - accuracy:
379/750 [========>.....] - ETA: 0s - loss: 0.7205 - accuracy:
0.8396
456/750 [==========>.....] - ETA: 0s - loss: 0.7205 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.7230 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.7214 - accuracy:
750/750 [============= ] - 1s 806us/step - loss: 0.7196 - accuracy:
0.8397 - val_loss: 0.7265 - val_accuracy: 0.8346
Epoch 36/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7378 - accuracy:
0.8594
75/750 [==>....... - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.7293 - accuracy:
0.8341
228/750 [======>.....] - ETA: 0s - loss: 0.7234 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.7234 - accuracy:
381/750 [========>..... - ETA: 0s - loss: 0.7228 - accuracy:
456/750 [==========>.....] - ETA: 0s - loss: 0.7219 - accuracy:
0.8374
533/750 [==========>.....] - ETA: 0s - loss: 0.7197 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.7188 - accuracy:
0.8394
0.8403 - val loss: 0.7233 - val accuracy: 0.8363
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.6606 - accuracy:
0.8125
76/750 [==>.....] - ETA: 0s - loss: 0.7213 - accuracy:
0.8361
154/750 [=====>.....] - ETA: 0s - loss: 0.7283 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.7192 - accuracy:
0.8382
307/750 [=======>.....] - ETA: 0s - loss: 0.7178 - accuracy:
0.8382
385/750 [=======>>.....] - ETA: 0s - loss: 0.7173 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.7180 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.7167 - accuracy:
0.8399
616/750 [===========>.....] - ETA: 0s - loss: 0.7136 - accuracy:
0.8496
0.8410 - val_loss: 0.7204 - val_accuracy: 0.8363
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.6610 - accuracy:
```

```
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.6973 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.7030 - accuracy:
0.8461
229/750 [======>.....] - ETA: 0s - loss: 0.7043 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.7061 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.7082 - accuracy:
454/750 [=========>...... - ETA: 0s - loss: 0.7108 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.7095 - accuracy:
609/750 [============>.....] - ETA: 0s - loss: 0.7097 - accuracy:
0.8429
684/750 [=============>...] - ETA: 0s - loss: 0.7091 - accuracy:
0.8429
750/750 [================ ] - 1s 809us/step - loss: 0.7103 - accuracy:
0.8424 - val_loss: 0.7173 - val_accuracy: 0.8379
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.7555 - accuracy:
75/750 [==>....... - accuracy:
0.8381
153/750 [====>.....] - ETA: 0s - loss: 0.7165 - accuracy:
0.8364
230/750 [======>.....] - ETA: 0s - loss: 0.7125 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.7095 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.7081 - accuracy:
0.8428
460/750 [=========>..... - ETA: 0s - loss: 0.7100 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.7072 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.7085 - accuracy:
0.8426 - val loss: 0.7160 - val accuracy: 0.8375
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.6599 - accuracy:
0.7969
77/750 [==>.....] - ETA: 0s - loss: 0.7107 - accuracy:
```

```
0.8385
153/750 [=====>.....] - ETA: 0s - loss: 0.7100 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.7098 - accuracy:
307/750 [======>.....] - ETA: 0s - loss: 0.7077 - accuracy:
381/750 [=======>.....] - ETA: 0s - loss: 0.7065 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.7077 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.7072 - accuracy:
0.8431
0.8433
0.8439 - val loss: 0.7151 - val accuracy: 0.8387
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.7608 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.7095 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.7026 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.7005 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.7016 - accuracy:
381/750 [========>.....] - ETA: 0s - loss: 0.6996 - accuracy:
459/750 [==========>.....] - ETA: 0s - loss: 0.6987 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.6990 - accuracy:
0.8443
685/750 [============>...] - ETA: 0s - loss: 0.7027 - accuracy:
0.8443 - val loss: 0.7112 - val accuracy: 0.8395
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.5514 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.6942 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.6956 - accuracy:
```

```
0.8468
229/750 [======>.....] - ETA: 0s - loss: 0.6960 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.6953 - accuracy:
0.8469
384/750 [========>....] - ETA: 0s - loss: 0.6947 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.6956 - accuracy:
0.8467
538/750 [==========>.....] - ETA: 0s - loss: 0.6962 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.6987 - accuracy:
0.8449
750/750 [============= ] - 1s 804us/step - loss: 0.6995 - accuracy:
0.8450 - val loss: 0.7078 - val accuracy: 0.8419
Epoch 43/220
1/750 [...... 0.6753 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.7031 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.7014 - accuracy:
0.8460
230/750 [======>.....] - ETA: 0s - loss: 0.7003 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.6961 - accuracy:
382/750 [=========>.....] - ETA: 0s - loss: 0.6990 - accuracy:
0.8469
458/750 [==========>.....] - ETA: 0s - loss: 0.6960 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.6955 - accuracy:
0.8462 - val_loss: 0.7074 - val_accuracy: 0.8407
Epoch 44/220
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.6890 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.6902 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.6907 - accuracy:
```

```
0.8501
308/750 [========>.....] - ETA: 0s - loss: 0.6944 - accuracy:
384/750 [=========>.....] - ETA: 0s - loss: 0.6970 - accuracy:
0.8474
462/750 [=========>.....] - ETA: 0s - loss: 0.6961 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.6951 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.6943 - accuracy:
0.8471
750/750 [============= ] - 1s 804us/step - loss: 0.6945 - accuracy:
0.8471 - val_loss: 0.7050 - val_accuracy: 0.8418
Epoch 45/220
1/750 [...... - ETA: 0s - loss: 0.6536 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.6858 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.6949 - accuracy:
0.8470
232/750 [======>.....] - ETA: 0s - loss: 0.6924 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.6931 - accuracy:
385/750 [=======>>.....] - ETA: 0s - loss: 0.6911 - accuracy:
0.8481
462/750 [=========>.....] - ETA: 0s - loss: 0.6924 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.6927 - accuracy:
0.8471
0.8480 - val_loss: 0.7022 - val_accuracy: 0.8427
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.6974 - accuracy:
0.8125
75/750 [==>.....] - ETA: 0s - loss: 0.6935 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.6983 - accuracy:
0.8441
230/750 [======>..... - ETA: 0s - loss: 0.7012 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.6940 - accuracy:
```

```
0.8477
385/750 [=========>:....] - ETA: 0s - loss: 0.6972 - accuracy:
0.8470
461/750 [==========>.....] - ETA: 0s - loss: 0.6939 - accuracy:
0.8474
538/750 [==========>.....] - ETA: 0s - loss: 0.6932 - accuracy:
616/750 [============>.....] - ETA: 0s - loss: 0.6904 - accuracy:
750/750 [============= ] - 1s 805us/step - loss: 0.6896 - accuracy:
0.8482 - val loss: 0.7002 - val accuracy: 0.8426
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.6877 - accuracy:
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.6940 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.6938 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.6921 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.6923 - accuracy:
0.8461
384/750 [========>.....] - ETA: 0s - loss: 0.6900 - accuracy:
0.8464
459/750 [=========>.....] - ETA: 0s - loss: 0.6884 - accuracy:
0.8481
539/750 [==========>.....] - ETA: 0s - loss: 0.6874 - accuracy:
0.8490
0.8492 - val loss: 0.6972 - val accuracy: 0.8449
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.6260 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.6918 - accuracy:
0.8446
232/750 [======>.....] - ETA: 0s - loss: 0.6889 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.6875 - accuracy:
385/750 [==========>.....] - ETA: 0s - loss: 0.6872 - accuracy:
```

```
0.8478
463/750 [==========>.....] - ETA: 0s - loss: 0.6838 - accuracy:
0.8491
539/750 [=========>.....] - ETA: 0s - loss: 0.6850 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.6853 - accuracy:
0.8496
750/750 [=============== ] - 1s 802us/step - loss: 0.6851 - accuracy:
0.8495 - val_loss: 0.6954 - val_accuracy: 0.8457
Epoch 49/220
1/750 [.....] - ETA: 0s - loss: 0.7561 - accuracy:
0.7656
76/750 [==>.....] - ETA: 0s - loss: 0.6792 - accuracy:
0.8534
155/750 [=====>.....] - ETA: 0s - loss: 0.6780 - accuracy:
229/750 [======>..... - ETA: 0s - loss: 0.6817 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.6807 - accuracy:
0.8529
385/750 [========>.....] - ETA: 0s - loss: 0.6808 - accuracy:
0.8519
460/750 [==========>.....] - ETA: 0s - loss: 0.6814 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.6810 - accuracy:
0.8519
0.8526
0.8511 - val loss: 0.6954 - val accuracy: 0.8459
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.7507 - accuracy:
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.6978 - accuracy:
0.8444
154/750 [====>.....] - ETA: 0s - loss: 0.6947 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.6888 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.6905 - accuracy:
0.8484
386/750 [=======>>.....] - ETA: 0s - loss: 0.6799 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.6779 - accuracy:
```

```
540/750 [==========>.....] - ETA: 0s - loss: 0.6799 - accuracy:
0.8517
0.8514
0.8510 - val loss: 0.6945 - val accuracy: 0.8472
Epoch 51/220
1/750 [...... - ETA: 0s - loss: 0.5396 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6856 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.6805 - accuracy:
231/750 [======>...... - ETA: 0s - loss: 0.6758 - accuracy:
0.8511
306/750 [=======>..... - ETA: 0s - loss: 0.6751 - accuracy:
0.8526
383/750 [=======>>.....] - ETA: 0s - loss: 0.6773 - accuracy:
458/750 [=========>.....] - ETA: 0s - loss: 0.6794 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.6812 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.6777 - accuracy:
0.8516 - val loss: 0.6914 - val accuracy: 0.8482
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.6699 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.6662 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.6722 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.6731 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.6707 - accuracy:
381/750 [========>>.....] - ETA: 0s - loss: 0.6733 - accuracy:
0.8544
458/750 [=========>...... - ETA: 0s - loss: 0.6775 - accuracy:
0.8531
537/750 [==========>.....] - ETA: 0s - loss: 0.6802 - accuracy:
```

```
0.8518
686/750 [============>...] - ETA: 0s - loss: 0.6787 - accuracy:
750/750 [================ ] - 1s 804us/step - loss: 0.6768 - accuracy:
0.8529 - val loss: 0.6894 - val accuracy: 0.8462
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.7322 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.6664 - accuracy:
0.8546
154/750 [=====>.....] - ETA: 0s - loss: 0.6679 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.6751 - accuracy:
308/750 [=======>>.....] - ETA: 0s - loss: 0.6763 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.6752 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.6760 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.6740 - accuracy:
0.8531
750/750 [============= ] - 1s 806us/step - loss: 0.6748 - accuracy:
0.8535 - val loss: 0.6878 - val accuracy: 0.8467
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.8443 - accuracy:
0.7812
78/750 [==>.....] - ETA: 0s - loss: 0.6782 - accuracy:
155/750 [====>...... - ETA: 0s - loss: 0.6733 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.6775 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.6743 - accuracy:
385/750 [========>>.....] - ETA: 0s - loss: 0.6781 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.6769 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.6776 - accuracy:
```

```
0.8516
0.8521 - val loss: 0.6851 - val accuracy: 0.8484
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.6838 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6830 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.6682 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.6726 - accuracy:
301/750 [========>.....] - ETA: 0s - loss: 0.6746 - accuracy:
378/750 [========>.....] - ETA: 0s - loss: 0.6722 - accuracy:
456/750 [==========>.....] - ETA: 0s - loss: 0.6703 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.6689 - accuracy:
0.8539
609/750 [===========>.....] - ETA: 0s - loss: 0.6709 - accuracy:
0.8536
686/750 [============>...] - ETA: 0s - loss: 0.6709 - accuracy:
750/750 [============= ] - 1s 812us/step - loss: 0.6710 - accuracy:
0.8539 - val_loss: 0.6837 - val_accuracy: 0.8490
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.6509 - accuracy:
0.8125
77/750 [==>.....] - ETA: 0s - loss: 0.6761 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.6681 - accuracy:
0.8509
230/750 [======>.....] - ETA: 0s - loss: 0.6649 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.6711 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.6718 - accuracy:
0.8523
458/750 [=========>.....] - ETA: 0s - loss: 0.6691 - accuracy:
0.8541
533/750 [=========>.....] - ETA: 0s - loss: 0.6699 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 0.6684 - accuracy:
0.8541
```

```
0.8543
0.8548 - val_loss: 0.6848 - val_accuracy: 0.8478
Epoch 57/220
1/750 [.....] - ETA: 0s - loss: 0.6906 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6770 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.6663 - accuracy:
228/750 [======>...... - ETA: 0s - loss: 0.6665 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.6642 - accuracy:
0.8551
381/750 [=========>.....] - ETA: 0s - loss: 0.6669 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 0.6695 - accuracy:
0.8541
535/750 [==========>.....] - ETA: 0s - loss: 0.6702 - accuracy:
0.8543
0.8546
0.8550 - val_loss: 0.6797 - val_accuracy: 0.8505
Epoch 58/220
1/750 [...... 0.4767 - accuracy:
0.9531
69/750 [=>.....] - ETA: 0s - loss: 0.6726 - accuracy:
0.8519
144/750 [====>.....] - ETA: 0s - loss: 0.6726 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.6667 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.6638 - accuracy:
0.8551
373/750 [========>.....] - ETA: 0s - loss: 0.6672 - accuracy:
0.8549
452/750 [==========>.....] - ETA: 0s - loss: 0.6657 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.6662 - accuracy:
678/750 [============>...] - ETA: 0s - loss: 0.6667 - accuracy:
750/750 [============= ] - 1s 817us/step - loss: 0.6654 - accuracy:
```

```
0.8556 - val_loss: 0.6784 - val_accuracy: 0.8510 Epoch 59/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5883 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6712 - accuracy:
0.8509
154/750 [====>...... - ETA: 0s - loss: 0.6581 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.6607 - accuracy:
307/750 [=======>..... - ETA: 0s - loss: 0.6575 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.6595 - accuracy:
0.8568
460/750 [=========>.....] - ETA: 0s - loss: 0.6594 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.6629 - accuracy:
750/750 [============= ] - 1s 828us/step - loss: 0.6636 - accuracy:
0.8557 - val_loss: 0.6769 - val_accuracy: 0.8502
Epoch 60/220
1/750 [...... 0.7678 - accuracy:
0.7969
77/750 [==>.....] - ETA: 0s - loss: 0.6623 - accuracy:
0.8533
152/750 [====>.....] - ETA: 0s - loss: 0.6610 - accuracy:
0.8571
229/750 [======>.....] - ETA: 0s - loss: 0.6568 - accuracy:
0.8596
301/750 [=======>.....] - ETA: 0s - loss: 0.6562 - accuracy:
0.8601
377/750 [========>.....] - ETA: 0s - loss: 0.6551 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.6592 - accuracy:
0.8570
531/750 [=========>.....] - ETA: 0s - loss: 0.6580 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.6614 - accuracy:
750/750 [============= ] - 1s 809us/step - loss: 0.6622 - accuracy:
```

```
0.8565 - val_loss: 0.6754 - val_accuracy: 0.8507 Epoch 61/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7091 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6609 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.6668 - accuracy:
220/750 [=====>.....] - ETA: 0s - loss: 0.6557 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.6546 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.6557 - accuracy:
0.8595
449/750 [=========>.....] - ETA: 0s - loss: 0.6607 - accuracy:
0.8577
524/750 [=========>.....] - ETA: 0s - loss: 0.6610 - accuracy:
678/750 [============>...] - ETA: 0s - loss: 0.6620 - accuracy:
0.8569
750/750 [================ ] - 1s 816us/step - loss: 0.6603 - accuracy:
0.8570 - val loss: 0.6739 - val accuracy: 0.8518
Epoch 62/220
 1/750 [.....] - ETA: 0s - loss: 0.7712 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.6579 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.6684 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.6667 - accuracy:
0.8549
311/750 [=======>..... - ETA: 0s - loss: 0.6621 - accuracy:
0.8573
386/750 [========>.....] - ETA: 0s - loss: 0.6620 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.6597 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.6599 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.6601 - accuracy:
750/750 [============== ] - 1s 805us/step - loss: 0.6586 - accuracy:
0.8568 - val loss: 0.6741 - val accuracy: 0.8503
Epoch 63/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7411 - accuracy:
0.7656
76/750 [==>.....] - ETA: 0s - loss: 0.6675 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.6616 - accuracy:
0.8587
231/750 [======>.....] - ETA: 0s - loss: 0.6634 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.6625 - accuracy:
0.8571
384/750 [=======>..... - ETA: 0s - loss: 0.6576 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.6559 - accuracy:
0.8584
535/750 [==========>.....] - ETA: 0s - loss: 0.6589 - accuracy:
0.8576
613/750 [============>.....] - ETA: 0s - loss: 0.6579 - accuracy:
0.8582 - val loss: 0.6731 - val accuracy: 0.8518
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.6130 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.6626 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.6575 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.6615 - accuracy:
0.8559
307/750 [=======>.....] - ETA: 0s - loss: 0.6620 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.6648 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.6600 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.6585 - accuracy:
607/750 [=============>.....] - ETA: 0s - loss: 0.6550 - accuracy:
0.8581
0.8584 - val_loss: 0.6715 - val_accuracy: 0.8513
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.6106 - accuracy:
```

```
0.8438
79/750 [==>.....] - ETA: 0s - loss: 0.6520 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.6566 - accuracy:
0.8580
229/750 [======>.....] - ETA: 0s - loss: 0.6577 - accuracy:
0.8579
304/750 [=======>.....] - ETA: 0s - loss: 0.6582 - accuracy:
381/750 [========>.....] - ETA: 0s - loss: 0.6556 - accuracy:
456/750 [=========>...... - ETA: 0s - loss: 0.6556 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.6545 - accuracy:
606/750 [============>.....] - ETA: 0s - loss: 0.6552 - accuracy:
0.8579
685/750 [============>...] - ETA: 0s - loss: 0.6537 - accuracy:
0.8586
0.8581 - val_loss: 0.6708 - val_accuracy: 0.8537
Epoch 66/220
1/750 [...... - ETA: 0s - loss: 0.8488 - accuracy:
0.8996
76/750 [==>.....] - ETA: 0s - loss: 0.6484 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.6586 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.6584 - accuracy:
302/750 [========>.....] - ETA: 0s - loss: 0.6601 - accuracy:
380/750 [========>.....] - ETA: 0s - loss: 0.6586 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 0.6577 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.6553 - accuracy:
0.8589
611/750 [============>.....] - ETA: 0s - loss: 0.6534 - accuracy:
0.8596 - val_loss: 0.6682 - val_accuracy: 0.8518
Epoch 67/220
1/750 [.....] - ETA: 0s - loss: 0.7301 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.6479 - accuracy:
```

```
0.8637
154/750 [====>.....] - ETA: 0s - loss: 0.6566 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.6555 - accuracy:
309/750 [======>.....] - ETA: 0s - loss: 0.6509 - accuracy:
385/750 [=======>>.....] - ETA: 0s - loss: 0.6510 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.6507 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.6474 - accuracy:
0.8611
0.8603
0.8594
750/750 [============== ] - 1s 805us/step - loss: 0.6506 - accuracy:
0.8598 - val loss: 0.6666 - val accuracy: 0.8535
Epoch 68/220
1/750 [.....] - ETA: 0s - loss: 0.7538 - accuracy:
66/750 [=>.....] - ETA: 0s - loss: 0.6273 - accuracy:
0.8641
143/750 [====>.....] - ETA: 0s - loss: 0.6446 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6465 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.6469 - accuracy:
0.8626
374/750 [========>.....] - ETA: 0s - loss: 0.6468 - accuracy:
0.8616
452/750 [==========>.....] - ETA: 0s - loss: 0.6471 - accuracy:
0.8611
527/750 [=========>.....] - ETA: 0s - loss: 0.6498 - accuracy:
0.8601
0.8607
678/750 [============>...] - ETA: 0s - loss: 0.6484 - accuracy:
0.8604 - val loss: 0.6655 - val accuracy: 0.8531
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.6648 - accuracy:
0.8750
77/750 [==>.....] - ETA: 0s - loss: 0.6506 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.6460 - accuracy:
```

```
0.8582
232/750 [======>.....] - ETA: 0s - loss: 0.6444 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.6474 - accuracy:
388/750 [========>.....] - ETA: 0s - loss: 0.6473 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.6431 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.6445 - accuracy:
615/750 [===========>.....] - ETA: 0s - loss: 0.6444 - accuracy:
0.8609
0.8599
750/750 [============= ] - 1s 804us/step - loss: 0.6476 - accuracy:
0.8595 - val loss: 0.6659 - val accuracy: 0.8535
Epoch 70/220
1/750 [...... 0.5049 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.6484 - accuracy:
0.8596
155/750 [====>...... - ETA: 0s - loss: 0.6435 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.6403 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.6411 - accuracy:
384/750 [=========>.....] - ETA: 0s - loss: 0.6460 - accuracy:
0.8617
460/750 [==========>.....] - ETA: 0s - loss: 0.6459 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.6476 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.6479 - accuracy:
0.8601
0.8611
0.8609 - val_loss: 0.6619 - val_accuracy: 0.8543
Epoch 71/220
1/750 [...... 0.5350 - accuracy:
76/750 [==>....... - accuracy:
0.8594
146/750 [====>.....] - ETA: 0s - loss: 0.6510 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.6499 - accuracy:
```

```
0.8597
298/750 [=======>.....] - ETA: 0s - loss: 0.6481 - accuracy:
375/750 [========>.....] - ETA: 0s - loss: 0.6461 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.6470 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.6461 - accuracy:
0.8607
599/750 [============>.....] - ETA: 0s - loss: 0.6462 - accuracy:
675/750 [============>...] - ETA: 0s - loss: 0.6462 - accuracy:
750/750 [============= ] - 1s 816us/step - loss: 0.6450 - accuracy:
0.8615 - val_loss: 0.6627 - val_accuracy: 0.8532
Epoch 72/220
1/750 [...... - ETA: 0s - loss: 0.5281 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6418 - accuracy:
0.8571
154/750 [====>...... - ETA: 0s - loss: 0.6381 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.6414 - accuracy:
0.8601
310/750 [=======>.....] - ETA: 0s - loss: 0.6406 - accuracy:
388/750 [=======>>.....] - ETA: 0s - loss: 0.6370 - accuracy:
0.8631
466/750 [==========>.....] - ETA: 0s - loss: 0.6404 - accuracy:
0.8624
541/750 [==========>.....] - ETA: 0s - loss: 0.6411 - accuracy:
0.8610 - val_loss: 0.6609 - val_accuracy: 0.8533
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.5414 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6367 - accuracy:
0.8687
154/750 [=====>.....] - ETA: 0s - loss: 0.6495 - accuracy:
0.8626
231/750 [======>...... - ETA: 0s - loss: 0.6454 - accuracy:
0.8619
309/750 [=======>.....] - ETA: 0s - loss: 0.6406 - accuracy:
```

```
0.8637
384/750 [==========>.....] - ETA: 0s - loss: 0.6374 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.6390 - accuracy:
0.8636
538/750 [==========>.....] - ETA: 0s - loss: 0.6413 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.6422 - accuracy:
750/750 [============= ] - 1s 797us/step - loss: 0.6419 - accuracy:
0.8624 - val_loss: 0.6607 - val_accuracy: 0.8531
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.5748 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6571 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.6509 - accuracy:
0.8574
232/750 [======>.....] - ETA: 0s - loss: 0.6451 - accuracy:
0.8586
310/750 [=======>.....] - ETA: 0s - loss: 0.6396 - accuracy:
0.8696
386/750 [========>.....] - ETA: 0s - loss: 0.6424 - accuracy:
459/750 [=========>.....] - ETA: 0s - loss: 0.6440 - accuracy:
0.8608
537/750 [==========>.....] - ETA: 0s - loss: 0.6413 - accuracy:
0.8619
0.8625 - val loss: 0.6584 - val accuracy: 0.8548
Epoch 75/220
1/750 [...... - ETA: 0s - loss: 0.7833 - accuracy:
0.8125
75/750 [==>.....] - ETA: 0s - loss: 0.6485 - accuracy:
148/750 [====>......] - ETA: 0s - loss: 0.6458 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6417 - accuracy:
0.8617
292/750 [=======>..... - ETA: 0s - loss: 0.6406 - accuracy:
0.8629
366/750 [=========>.....] - ETA: 0s - loss: 0.6385 - accuracy:
```

```
0.8627
439/750 [=========>.....] - ETA: 0s - loss: 0.6375 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.6371 - accuracy:
0.8624
590/750 [=============>.....] - ETA: 0s - loss: 0.6370 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.6384 - accuracy:
750/750 [============= ] - 1s 828us/step - loss: 0.6393 - accuracy:
0.8625 - val loss: 0.6590 - val accuracy: 0.8533
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.5782 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6152 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.6352 - accuracy:
0.8629
223/750 [=====>>.....] - ETA: 0s - loss: 0.6421 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.6394 - accuracy:
379/750 [========>.....] - ETA: 0s - loss: 0.6391 - accuracy:
457/750 [=========>.....] - ETA: 0s - loss: 0.6410 - accuracy:
0.8598
534/750 [==========>.....] - ETA: 0s - loss: 0.6390 - accuracy:
0.8616
0.8617
0.8618 - val loss: 0.6542 - val accuracy: 0.8572
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.7357 - accuracy:
0.8438
79/750 [==>.....] - ETA: 0s - loss: 0.6576 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.6482 - accuracy:
233/750 [======>.....] - ETA: 0s - loss: 0.6368 - accuracy:
311/750 [=======>..... - ETA: 0s - loss: 0.6390 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.6384 - accuracy:
```

```
0.8696
463/750 [==========>.....] - ETA: 0s - loss: 0.6383 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.6361 - accuracy:
0.8623
688/750 [============>...] - ETA: 0s - loss: 0.6345 - accuracy:
0.8631
750/750 [================ ] - 1s 802us/step - loss: 0.6364 - accuracy:
0.8626 - val_loss: 0.6537 - val_accuracy: 0.8567
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.8297 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6442 - accuracy:
0.8578
153/750 [=====>.....] - ETA: 0s - loss: 0.6423 - accuracy:
0.8601
229/750 [======>.....] - ETA: 0s - loss: 0.6380 - accuracy:
0.8629
307/750 [=======>.....] - ETA: 0s - loss: 0.6365 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.6364 - accuracy:
0.8643
460/750 [==========>.....] - ETA: 0s - loss: 0.6386 - accuracy:
0.8621
536/750 [==========>.....] - ETA: 0s - loss: 0.6381 - accuracy:
0.8626
750/750 [=============== ] - 1s 797us/step - loss: 0.6351 - accuracy:
0.8637 - val loss: 0.6539 - val accuracy: 0.8570
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.6272 - accuracy:
0.8906
78/750 [==>....... - accuracy:
0.8566
156/750 [====>.....] - ETA: 0s - loss: 0.6349 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.6338 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.6310 - accuracy:
0.8621
384/750 [=======>..... - ETA: 0s - loss: 0.6287 - accuracy:
458/750 [==========>.....] - ETA: 0s - loss: 0.6300 - accuracy:
```

```
0.8634
537/750 [==========>.....] - ETA: 0s - loss: 0.6317 - accuracy:
0.8644
0.8646
0.8642 - val loss: 0.6517 - val accuracy: 0.8555
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.5672 - accuracy:
78/750 [==>...... - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.6254 - accuracy:
0.8685
228/750 [======>...... - ETA: 0s - loss: 0.6270 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.6296 - accuracy:
383/750 [=======>>.....] - ETA: 0s - loss: 0.6276 - accuracy:
0.8664
459/750 [==========>.....] - ETA: 0s - loss: 0.6313 - accuracy:
0.8645
536/750 [==========>.....] - ETA: 0s - loss: 0.6315 - accuracy:
0.8641
690/750 [============>...] - ETA: 0s - loss: 0.6317 - accuracy:
0.8641 - val_loss: 0.6503 - val_accuracy: 0.8572
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.7394 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6337 - accuracy:
0.8598
150/750 [=====>.....] - ETA: 0s - loss: 0.6287 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.6324 - accuracy:
301/750 [========>.....] - ETA: 0s - loss: 0.6341 - accuracy:
379/750 [=======>.....] - ETA: 0s - loss: 0.6331 - accuracy:
457/750 [=========>...... - ETA: 0s - loss: 0.6340 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.6347 - accuracy:
```

```
0.8627
750/750 [=============== ] - 1s 810us/step - loss: 0.6312 - accuracy:
0.8636 - val loss: 0.6530 - val accuracy: 0.8558
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.6568 - accuracy:
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.6415 - accuracy:
0.8573
154/750 [=====>.....] - ETA: 0s - loss: 0.6272 - accuracy:
0.8642
231/750 [======>.....] - ETA: 0s - loss: 0.6258 - accuracy:
0.8647
309/750 [=======>>.....] - ETA: 0s - loss: 0.6302 - accuracy:
387/750 [========>.....] - ETA: 0s - loss: 0.6314 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.6314 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.6327 - accuracy:
750/750 [=============== ] - 1s 804us/step - loss: 0.6302 - accuracy:
0.8646 - val loss: 0.6490 - val accuracy: 0.8569
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.8150 - accuracy:
0.8125
77/750 [==>.....] - ETA: 0s - loss: 0.6283 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.6301 - accuracy:
0.8649
232/750 [======>.....] - ETA: 0s - loss: 0.6351 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.6334 - accuracy:
386/750 [========>>.....] - ETA: 0s - loss: 0.6310 - accuracy:
0.8644
464/750 [=========>.....] - ETA: 0s - loss: 0.6308 - accuracy:
0.8645
540/750 [=========>.....] - ETA: 0s - loss: 0.6306 - accuracy:
```

```
0.8653 - val loss: 0.6482 - val accuracy: 0.8572
Epoch 84/220
 1/750 [.....] - ETA: 0s - loss: 0.6402 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6162 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.6202 - accuracy:
0.8669
230/750 [======>.....] - ETA: 0s - loss: 0.6223 - accuracy:
0.8671
306/750 [========>.....] - ETA: 0s - loss: 0.6246 - accuracy:
0.8663
378/750 [========>.....] - ETA: 0s - loss: 0.6220 - accuracy:
0.8671
455/750 [==========>.....] - ETA: 0s - loss: 0.6229 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.6220 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.6215 - accuracy:
0.8689
684/750 [============>...] - ETA: 0s - loss: 0.6249 - accuracy:
750/750 [============= ] - 1s 806us/step - loss: 0.6273 - accuracy:
0.8659 - val_loss: 0.6467 - val_accuracy: 0.8583
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.5270 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6390 - accuracy:
0.8596
154/750 [====>.....] - ETA: 0s - loss: 0.6317 - accuracy:
0.8614
230/750 [======>.....] - ETA: 0s - loss: 0.6304 - accuracy:
0.8627
304/750 [========>.....] - ETA: 0s - loss: 0.6297 - accuracy:
0.8624
383/750 [========>.....] - ETA: 0s - loss: 0.6293 - accuracy:
0.8633
460/750 [=========>.....] - ETA: 0s - loss: 0.6296 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.6284 - accuracy:
0.8646
615/750 [===========>.....] - ETA: 0s - loss: 0.6305 - accuracy:
690/750 [===========>...] - ETA: 0s - loss: 0.6284 - accuracy:
```

```
0.8653
750/750 [================ ] - 1s 801us/step - loss: 0.6262 - accuracy:
0.8663 - val_loss: 0.6455 - val_accuracy: 0.8581
Epoch 86/220
 1/750 [.....] - ETA: 0s - loss: 0.6088 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6243 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.6198 - accuracy:
0.8689
226/750 [======>..... - ETA: 0s - loss: 0.6231 - accuracy:
0.8673
301/750 [========>.....] - ETA: 0s - loss: 0.6198 - accuracy:
0.8684
376/750 [=========>.....] - ETA: 0s - loss: 0.6211 - accuracy:
0.8679
455/750 [=========>...........] - ETA: 0s - loss: 0.6218 - accuracy:
0.8677
532/750 [==========>.....] - ETA: 0s - loss: 0.6236 - accuracy:
0.8674
609/750 [===========>.....] - ETA: 0s - loss: 0.6245 - accuracy:
0.8668
0.8669
750/750 [============= ] - 1s 804us/step - loss: 0.6249 - accuracy:
0.8668 - val_loss: 0.6455 - val_accuracy: 0.8588
Epoch 87/220
 1/750 [...... - loss: 0.7810 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6294 - accuracy:
0.8608
149/750 [====>.....] - ETA: 0s - loss: 0.6328 - accuracy:
0.8608
225/750 [======>.....] - ETA: 0s - loss: 0.6312 - accuracy:
0.8623
297/750 [=======>.....] - ETA: 0s - loss: 0.6224 - accuracy:
0.8669
375/750 [========>.....] - ETA: 0s - loss: 0.6215 - accuracy:
0.8674
451/750 [=========>.....] - ETA: 0s - loss: 0.6197 - accuracy:
0.8683
529/750 [=========>.....] - ETA: 0s - loss: 0.6209 - accuracy:
0.8676
607/750 [===========>.....] - ETA: 0s - loss: 0.6200 - accuracy:
0.8677
678/750 [============>...] - ETA: 0s - loss: 0.6209 - accuracy:
0.8677
750/750 [============= ] - 1s 812us/step - loss: 0.6237 - accuracy:
```

```
0.8662 - val_loss: 0.6432 - val_accuracy: 0.8587 Epoch 88/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6366 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.6277 - accuracy:
155/750 [====>...... - ETA: 0s - loss: 0.6211 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.6233 - accuracy:
303/750 [=======>..... - ETA: 0s - loss: 0.6213 - accuracy:
376/750 [=======>>.....] - ETA: 0s - loss: 0.6202 - accuracy:
0.8674
450/750 [=========>.....] - ETA: 0s - loss: 0.6201 - accuracy:
0.8671
526/750 [=========>.....] - ETA: 0s - loss: 0.6212 - accuracy:
0.8664
677/750 [============>...] - ETA: 0s - loss: 0.6227 - accuracy:
0.8675
750/750 [================ ] - 1s 813us/step - loss: 0.6225 - accuracy:
0.8673 - val loss: 0.6436 - val accuracy: 0.8578
Epoch 89/220
 1/750 [.....] - ETA: 0s - loss: 0.5411 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.6308 - accuracy:
0.8693
156/750 [=====>.....] - ETA: 0s - loss: 0.6229 - accuracy:
0.8696
235/750 [======>.....] - ETA: 0s - loss: 0.6248 - accuracy:
0.8672
307/750 [=======>.....] - ETA: 0s - loss: 0.6244 - accuracy:
383/750 [========>.....] - ETA: 0s - loss: 0.6262 - accuracy:
0.8643
460/750 [=========>.....] - ETA: 0s - loss: 0.6243 - accuracy:
0.8651
535/750 [=========>.....] - ETA: 0s - loss: 0.6241 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.6246 - accuracy:
0.8669
750/750 [============= ] - 1s 801us/step - loss: 0.6216 - accuracy:
0.8662 - val_loss: 0.6415 - val_accuracy: 0.8581
Epoch 90/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3950 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.6090 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.6090 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.6126 - accuracy:
0.8701
303/750 [=======>..... - ETA: 0s - loss: 0.6169 - accuracy:
0.8681
377/750 [=======>..... - ETA: 0s - loss: 0.6177 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.6179 - accuracy:
0.8687
528/750 [==========>.....] - ETA: 0s - loss: 0.6167 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.6196 - accuracy:
0.8668 - val loss: 0.6404 - val accuracy: 0.8592
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.5613 - accuracy:
0.9219
77/750 [==>.....] - ETA: 0s - loss: 0.6225 - accuracy:
0.8673
150/750 [====>...... - ETA: 0s - loss: 0.6209 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.6204 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.6174 - accuracy:
380/750 [=======>>.....] - ETA: 0s - loss: 0.6132 - accuracy:
0.8694
453/750 [==========>.....] - ETA: 0s - loss: 0.6142 - accuracy:
0.8697
526/750 [=========>.....] - ETA: 0s - loss: 0.6167 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.6174 - accuracy:
0.8676
0.8687
0.8676 - val_loss: 0.6397 - val_accuracy: 0.8596
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.5657 - accuracy:
```

```
75/750 [==>.....] - ETA: 0s - loss: 0.6295 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.6164 - accuracy:
0.8694
230/750 [======>.....] - ETA: 0s - loss: 0.6090 - accuracy:
0.8711
307/750 [=======>.....] - ETA: 0s - loss: 0.6082 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.6125 - accuracy:
461/750 [=========>...... - ETA: 0s - loss: 0.6158 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.6182 - accuracy:
0.8679
0.8680
688/750 [=============>...] - ETA: 0s - loss: 0.6157 - accuracy:
0.8681 - val_loss: 0.6389 - val_accuracy: 0.8587
Epoch 93/220
1/750 [...... - ETA: 0s - loss: 0.6727 - accuracy:
0.8281
79/750 [==>.....] - ETA: 0s - loss: 0.6295 - accuracy:
157/750 [====>.....] - ETA: 0s - loss: 0.6286 - accuracy:
0.8633
235/750 [======>.....] - ETA: 0s - loss: 0.6293 - accuracy:
313/750 [========>.....] - ETA: 0s - loss: 0.6236 - accuracy:
0.8669
387/750 [========>.....] - ETA: 0s - loss: 0.6199 - accuracy:
0.8679
462/750 [=========>...... - ETA: 0s - loss: 0.6195 - accuracy:
0.8683
535/750 [==========>.....] - ETA: 0s - loss: 0.6164 - accuracy:
0.8687
609/750 [===========>.....] - ETA: 0s - loss: 0.6176 - accuracy:
0.8681
0.8676
0.8680 - val_loss: 0.6369 - val_accuracy: 0.8599
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.7021 - accuracy:
0.8125
80/750 [==>.....] - ETA: 0s - loss: 0.6145 - accuracy:
```

```
0.8711
158/750 [=====>.....] - ETA: 0s - loss: 0.6140 - accuracy:
234/750 [======>.....] - ETA: 0s - loss: 0.6150 - accuracy:
307/750 [======>.....] - ETA: 0s - loss: 0.6155 - accuracy:
0.8684
383/750 [=======>>.....] - ETA: 0s - loss: 0.6139 - accuracy:
0.8684
461/750 [==========>.....] - ETA: 0s - loss: 0.6153 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.6164 - accuracy:
0.8682
750/750 [============== ] - 1s 798us/step - loss: 0.6157 - accuracy:
0.8682 - val loss: 0.6366 - val accuracy: 0.8611
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.5027 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.6284 - accuracy:
0.8684
155/750 [====>.....] - ETA: 0s - loss: 0.6129 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.6079 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.6116 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8699
459/750 [==========>.....] - ETA: 0s - loss: 0.6125 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.6151 - accuracy:
0.8680
0.8680
692/750 [============>...] - ETA: 0s - loss: 0.6151 - accuracy:
0.8687
0.8692 - val loss: 0.6369 - val accuracy: 0.8598
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.4513 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6254 - accuracy:
0.8645
152/750 [====>.....] - ETA: 0s - loss: 0.6166 - accuracy:
```

```
0.8685
227/750 [======>.....] - ETA: 0s - loss: 0.6147 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.6147 - accuracy:
0.8683
383/750 [========>....] - ETA: 0s - loss: 0.6122 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.6116 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.6154 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.6139 - accuracy:
0.8693
0.8683
750/750 [============== ] - 1s 802us/step - loss: 0.6134 - accuracy:
0.8686 - val_loss: 0.6350 - val_accuracy: 0.8608
Epoch 97/220
1/750 [...... 0.7408 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.6129 - accuracy:
156/750 [====>...... - ETA: 0s - loss: 0.6079 - accuracy:
234/750 [======>.....] - ETA: 0s - loss: 0.6085 - accuracy:
312/750 [=======>.....] - ETA: 0s - loss: 0.6093 - accuracy:
0.8685
389/750 [=========>.....] - ETA: 0s - loss: 0.6100 - accuracy:
0.8678
468/750 [==========>.....] - ETA: 0s - loss: 0.6105 - accuracy:
0.8681
544/750 [==========>.....] - ETA: 0s - loss: 0.6104 - accuracy:
0.8674
619/750 [===========>.....] - ETA: 0s - loss: 0.6116 - accuracy:
0.8681
0.8678
0.8686 - val_loss: 0.6341 - val_accuracy: 0.8609
Epoch 98/220
1/750 [...... 0.6808 - accuracy:
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.6203 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.6139 - accuracy:
0.8706
230/750 [======>.....] - ETA: 0s - loss: 0.6203 - accuracy:
```

```
309/750 [========>.....] - ETA: 0s - loss: 0.6180 - accuracy:
388/750 [========>.....] - ETA: 0s - loss: 0.6155 - accuracy:
0.8678
465/750 [=========>.....] - ETA: 0s - loss: 0.6150 - accuracy:
540/750 [=========>.....] - ETA: 0s - loss: 0.6124 - accuracy:
0.8671
693/750 [============>...] - ETA: 0s - loss: 0.6118 - accuracy:
750/750 [============= ] - 1s 800us/step - loss: 0.6112 - accuracy:
0.8687 - val_loss: 0.6354 - val_accuracy: 0.8595
Epoch 99/220
1/750 [.....] - ETA: 0s - loss: 0.6056 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.6250 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.6160 - accuracy:
0.8706
231/750 [======>.....] - ETA: 0s - loss: 0.6087 - accuracy:
0.8720
308/750 [=======>.....] - ETA: 0s - loss: 0.6080 - accuracy:
0.8721
384/750 [=======>:....] - ETA: 0s - loss: 0.6108 - accuracy:
0.8711
461/750 [==========>.....] - ETA: 0s - loss: 0.6081 - accuracy:
537/750 [==========>.....] - ETA: 0s - loss: 0.6100 - accuracy:
0.8694
0.8695 - val_loss: 0.6330 - val_accuracy: 0.8599
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.5518 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5905 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.5990 - accuracy:
228/750 [======>...... - ETA: 0s - loss: 0.5998 - accuracy:
303/750 [=======>.....] - ETA: 0s - loss: 0.6027 - accuracy:
```

```
0.8714
379/750 [==========>.....] - ETA: 0s - loss: 0.6039 - accuracy:
455/750 [==========>.....] - ETA: 0s - loss: 0.6066 - accuracy:
0.8698
532/750 [==========>.....] - ETA: 0s - loss: 0.6100 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.6078 - accuracy:
750/750 [============= ] - 1s 811us/step - loss: 0.6090 - accuracy:
0.8699 - val loss: 0.6307 - val accuracy: 0.8605
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.6171 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.6127 - accuracy:
0.8669
156/750 [====>.....] - ETA: 0s - loss: 0.6080 - accuracy:
0.8698
231/750 [======>.....] - ETA: 0s - loss: 0.6091 - accuracy:
0.8706
310/750 [=======>..... - ETA: 0s - loss: 0.6094 - accuracy:
0.8708
388/750 [========>.....] - ETA: 0s - loss: 0.6106 - accuracy:
464/750 [=========>.....] - ETA: 0s - loss: 0.6103 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.6097 - accuracy:
0.8704 - val loss: 0.6306 - val accuracy: 0.8607
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.4964 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.6251 - accuracy:
154/750 [=====>...... - accuracy:
0.8651
232/750 [======>.....] - ETA: 0s - loss: 0.6182 - accuracy:
309/750 [=======>..... - ETA: 0s - loss: 0.6169 - accuracy:
387/750 [========>.....] - ETA: 0s - loss: 0.6153 - accuracy:
```

```
0.8665
466/750 [==========>.....] - ETA: 0s - loss: 0.6125 - accuracy:
0.8678
537/750 [==========>.....] - ETA: 0s - loss: 0.6097 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.6066 - accuracy:
750/750 [================ ] - 1s 808us/step - loss: 0.6070 - accuracy:
0.8704 - val_loss: 0.6284 - val_accuracy: 0.8618
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.5518 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.6167 - accuracy:
0.8693
153/750 [=====>.....] - ETA: 0s - loss: 0.6064 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.6060 - accuracy:
0.8739
302/750 [=======>.....] - ETA: 0s - loss: 0.6080 - accuracy:
379/750 [=======>:....] - ETA: 0s - loss: 0.6074 - accuracy:
453/750 [==========>.....] - ETA: 0s - loss: 0.6073 - accuracy:
0.8711
528/750 [==========>.....] - ETA: 0s - loss: 0.6070 - accuracy:
0.8709
750/750 [================ ] - 1s 820us/step - loss: 0.6057 - accuracy:
0.8709 - val loss: 0.6281 - val accuracy: 0.8624
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.6860 - accuracy:
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.5986 - accuracy:
0.8754
152/750 [====>.....] - ETA: 0s - loss: 0.6035 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.6045 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.6050 - accuracy:
372/750 [========>.....] - ETA: 0s - loss: 0.6058 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.6044 - accuracy:
```

```
0.8725
527/750 [==========>.....] - ETA: 0s - loss: 0.6053 - accuracy:
604/750 [============>.....] - ETA: 0s - loss: 0.6059 - accuracy:
0.8716
0.8714
750/750 [================ ] - 1s 814us/step - loss: 0.6047 - accuracy:
0.8711 - val loss: 0.6273 - val accuracy: 0.8600
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.5970 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6098 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.5927 - accuracy:
0.8723
232/750 [======>...... - ETA: 0s - loss: 0.5942 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.5987 - accuracy:
385/750 [========>>.....] - ETA: 0s - loss: 0.5982 - accuracy:
0.8718
462/750 [==========>.....] - ETA: 0s - loss: 0.5974 - accuracy:
0.8731
540/750 [==========>.....] - ETA: 0s - loss: 0.5993 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.6024 - accuracy:
0.8716
0.8709 - val_loss: 0.6265 - val_accuracy: 0.8619
Epoch 106/220
1/750 [.....] - ETA: 0s - loss: 0.5425 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6118 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.6020 - accuracy:
0.8703
232/750 [======>.....] - ETA: 0s - loss: 0.6080 - accuracy:
0.8689
307/750 [========>.....] - ETA: 0s - loss: 0.6038 - accuracy:
385/750 [========>>.....] - ETA: 0s - loss: 0.6024 - accuracy:
463/750 [=========>...... - ETA: 0s - loss: 0.6012 - accuracy:
542/750 [==========>.....] - ETA: 0s - loss: 0.6018 - accuracy:
```

```
0.8708
0.8716
750/750 [================ ] - 1s 802us/step - loss: 0.6027 - accuracy:
0.8719 - val loss: 0.6258 - val accuracy: 0.8618
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.6079 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6076 - accuracy:
0.8744
154/750 [=====>.....] - ETA: 0s - loss: 0.6031 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.6031 - accuracy:
0.8729
305/750 [=======>>.....] - ETA: 0s - loss: 0.6042 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.6038 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.6057 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.6073 - accuracy:
0.8704
750/750 [============== ] - 1s 808us/step - loss: 0.6015 - accuracy:
0.8712 - val loss: 0.6257 - val accuracy: 0.8626
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.8627 - accuracy:
0.7344
78/750 [==>.....] - ETA: 0s - loss: 0.5927 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.5977 - accuracy:
0.8749
232/750 [======>.....] - ETA: 0s - loss: 0.5939 - accuracy:
310/750 [=======>.....] - ETA: 0s - loss: 0.5957 - accuracy:
0.8744
389/750 [========>>.....] - ETA: 0s - loss: 0.5973 - accuracy:
465/750 [=========>.....] - ETA: 0s - loss: 0.5998 - accuracy:
543/750 [=========>.....] - ETA: 0s - loss: 0.6010 - accuracy:
```

```
0.8716
750/750 [=============== ] - 1s 801us/step - loss: 0.6007 - accuracy:
0.8721 - val loss: 0.6242 - val accuracy: 0.8627
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.6657 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5983 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.5968 - accuracy:
0.8763
224/750 [======>.....] - ETA: 0s - loss: 0.5968 - accuracy:
0.8763
301/750 [========>.....] - ETA: 0s - loss: 0.5963 - accuracy:
378/750 [========>.....] - ETA: 0s - loss: 0.5985 - accuracy:
0.8741
457/750 [==========>.....] - ETA: 0s - loss: 0.5987 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.5988 - accuracy:
0.8731
686/750 [===========>...] - ETA: 0s - loss: 0.5981 - accuracy:
750/750 [============= ] - 1s 805us/step - loss: 0.5995 - accuracy:
0.8722 - val_loss: 0.6224 - val_accuracy: 0.8643
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.6409 - accuracy:
0.8438
76/750 [==>.....] - ETA: 0s - loss: 0.5835 - accuracy:
0.8777
153/750 [====>.....] - ETA: 0s - loss: 0.5987 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.6004 - accuracy:
305/750 [========>.....] - ETA: 0s - loss: 0.6015 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.6037 - accuracy:
0.8691
459/750 [=========>.....] - ETA: 0s - loss: 0.6043 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.6011 - accuracy:
614/750 [===========>.....] - ETA: 0s - loss: 0.5997 - accuracy:
0.8716
```

```
0.8724
0.8725 - val_loss: 0.6213 - val_accuracy: 0.8634
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.4884 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5946 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.6064 - accuracy:
232/750 [======>...... - ETA: 0s - loss: 0.6036 - accuracy:
0.8699
310/750 [========>.....] - ETA: 0s - loss: 0.6009 - accuracy:
0.8713
388/750 [=========>.....] - ETA: 0s - loss: 0.6008 - accuracy:
0.8713
463/750 [=========>.....] - ETA: 0s - loss: 0.5993 - accuracy:
0.8719
541/750 [==========>.....] - ETA: 0s - loss: 0.5990 - accuracy:
0.8721
0.8727
750/750 [============= ] - 1s 800us/step - loss: 0.5976 - accuracy:
0.8725 - val_loss: 0.6208 - val_accuracy: 0.8634
Epoch 112/220
1/750 [...... 0.5528 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.5984 - accuracy:
0.8694
157/750 [====>.....] - ETA: 0s - loss: 0.5988 - accuracy:
236/750 [======>.....] - ETA: 0s - loss: 0.5968 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.5983 - accuracy:
0.8724
389/750 [========>.....] - ETA: 0s - loss: 0.5955 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.5952 - accuracy:
0.8733
538/750 [=========>.....] - ETA: 0s - loss: 0.5937 - accuracy:
0.8741
615/750 [============>.....] - ETA: 0s - loss: 0.5924 - accuracy:
0.8739
692/750 [============>...] - ETA: 0s - loss: 0.5941 - accuracy:
0.8736
750/750 [============= ] - 1s 800us/step - loss: 0.5964 - accuracy:
```

```
0.8731 - val_loss: 0.6200 - val_accuracy: 0.8629 Epoch 113/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6315 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6007 - accuracy:
155/750 [====>...... - ETA: 0s - loss: 0.6101 - accuracy:
0.8697
232/750 [======>.....] - ETA: 0s - loss: 0.6087 - accuracy:
0.8691
309/750 [=======>.....] - ETA: 0s - loss: 0.6000 - accuracy:
385/750 [==========>.....] - ETA: 0s - loss: 0.6016 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.5970 - accuracy:
0.8743
539/750 [=========>.....] - ETA: 0s - loss: 0.5994 - accuracy:
0.8731
691/750 [============>...] - ETA: 0s - loss: 0.5966 - accuracy:
0.8734
750/750 [=============== ] - 1s 801us/step - loss: 0.5954 - accuracy:
0.8736 - val loss: 0.6201 - val accuracy: 0.8633
Epoch 114/220
 1/750 [.................] - ETA: 0s - loss: 0.5885 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5863 - accuracy:
0.8778
152/750 [=====>.....] - ETA: 0s - loss: 0.5892 - accuracy:
0.8769
228/750 [======>.....] - ETA: 0s - loss: 0.5920 - accuracy:
0.8760
306/750 [=======>..... - ETA: 0s - loss: 0.5951 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.5967 - accuracy:
459/750 [==========>.....] - ETA: 0s - loss: 0.5963 - accuracy:
0.8724
537/750 [=========>.....] - ETA: 0s - loss: 0.5953 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.5941 - accuracy:
750/750 [============== ] - 1s 804us/step - loss: 0.5947 - accuracy:
0.8726 - val_loss: 0.6193 - val_accuracy: 0.8635
Epoch 115/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5193 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5953 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.5937 - accuracy:
0.8746
232/750 [======>..... - ETA: 0s - loss: 0.5971 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.5916 - accuracy:
0.8734
384/750 [=======>..... - ETA: 0s - loss: 0.5905 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.5896 - accuracy:
0.8749
539/750 [=========>.....] - ETA: 0s - loss: 0.5935 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.5919 - accuracy:
0.8741 - val loss: 0.6184 - val accuracy: 0.8639
Epoch 116/220
1/750 [.....] - ETA: 0s - loss: 0.6493 - accuracy:
0.7969
76/750 [==>.....] - ETA: 0s - loss: 0.6057 - accuracy:
0.8697
153/750 [=====>.....] - ETA: 0s - loss: 0.5924 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.5993 - accuracy:
0.8693
304/750 [=======>.....] - ETA: 0s - loss: 0.5918 - accuracy:
0.8716
382/750 [=======>>.....] - ETA: 0s - loss: 0.5896 - accuracy:
0.8736
460/750 [==========>.....] - ETA: 0s - loss: 0.5911 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.5923 - accuracy:
615/750 [=============>.....] - ETA: 0s - loss: 0.5930 - accuracy:
0.8737 - val_loss: 0.6182 - val_accuracy: 0.8633
Epoch 117/220
1/750 [.....] - ETA: 0s - loss: 0.7328 - accuracy:
```

```
0.8125
76/750 [==>.....] - ETA: 0s - loss: 0.6017 - accuracy:
0.8734
153/750 [=====>.....] - ETA: 0s - loss: 0.5952 - accuracy:
0.8746
230/750 [======>.....] - ETA: 0s - loss: 0.5916 - accuracy:
0.8749
308/750 [=======>.....] - ETA: 0s - loss: 0.5904 - accuracy:
0.8747
385/750 [========>.....] - ETA: 0s - loss: 0.5943 - accuracy:
454/750 [=========>...... - ETA: 0s - loss: 0.5926 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.5926 - accuracy:
0.8741
0.8745
687/750 [============>...] - ETA: 0s - loss: 0.5896 - accuracy:
0.8741 - val_loss: 0.6157 - val_accuracy: 0.8641
Epoch 118/220
1/750 [...... - ETA: 0s - loss: 0.4843 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5863 - accuracy:
0.8784
156/750 [====>.....] - ETA: 0s - loss: 0.5967 - accuracy:
0.8711
232/750 [======>.....] - ETA: 0s - loss: 0.5922 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.5929 - accuracy:
387/750 [========>.....] - ETA: 0s - loss: 0.5926 - accuracy:
466/750 [=========>.....] - ETA: 0s - loss: 0.5912 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.5906 - accuracy:
0.8751
616/750 [============>.....] - ETA: 0s - loss: 0.5898 - accuracy:
0.8741 - val_loss: 0.6157 - val_accuracy: 0.8643
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.5887 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5893 - accuracy:
```

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0.8774
150/750 [=====>.....] - ETA: 0s - loss: 0.5943 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.5911 - accuracy:
305/750 [======>.....] - ETA: 0s - loss: 0.5888 - accuracy:
382/750 [=======>>.....] - ETA: 0s - loss: 0.5928 - accuracy:
459/750 [==========>.....] - ETA: 0s - loss: 0.5891 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.5881 - accuracy:
750/750 [============== ] - 1s 797us/step - loss: 0.5899 - accuracy:
0.8746 - val loss: 0.6141 - val accuracy: 0.8637
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.5537 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5794 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.5821 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.5850 - accuracy:
0.8769
310/750 [========>.....] - ETA: 0s - loss: 0.5877 - accuracy:
0.8759
385/750 [========>.....] - ETA: 0s - loss: 0.5865 - accuracy:
0.8767
464/750 [==========>.....] - ETA: 0s - loss: 0.5899 - accuracy:
0.8751
542/750 [=========>.....] - ETA: 0s - loss: 0.5914 - accuracy:
695/750 [============>...] - ETA: 0s - loss: 0.5899 - accuracy:
0.8751 - val loss: 0.6141 - val accuracy: 0.8641
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.5900 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5844 - accuracy:
0.8746
151/750 [====>.....] - ETA: 0s - loss: 0.5781 - accuracy:
```

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0.8799
229/750 [======>.....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8796
305/750 [=======>.....] - ETA: 0s - loss: 0.5789 - accuracy:
0.8789
383/750 [=======>....] - ETA: 0s - loss: 0.5805 - accuracy:
0.8771
459/750 [=========>.....] - ETA: 0s - loss: 0.5851 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.5864 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.5882 - accuracy:
0.8743
750/750 [============== ] - 1s 805us/step - loss: 0.5878 - accuracy:
0.8748 - val_loss: 0.6133 - val_accuracy: 0.8641
Epoch 122/220
1/750 [...... 0.5743 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5776 - accuracy:
0.8894
153/750 [====>...... - ETA: 0s - loss: 0.5901 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.5842 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.5866 - accuracy:
0.8765
386/750 [=========>.....] - ETA: 0s - loss: 0.5859 - accuracy:
0.8760
457/750 [==========>.....] - ETA: 0s - loss: 0.5855 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.5855 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.5863 - accuracy:
0.8756 - val_loss: 0.6133 - val_accuracy: 0.8641
Epoch 123/220
1/750 [...... 0.6226 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5988 - accuracy:
0.8694
156/750 [====>.....] - ETA: 0s - loss: 0.5880 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.5843 - accuracy:
```

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0.8759
308/750 [========>.....] - ETA: 0s - loss: 0.5791 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.5848 - accuracy:
0.8761
464/750 [=========>.....] - ETA: 0s - loss: 0.5860 - accuracy:
543/750 [=========>.....] - ETA: 0s - loss: 0.5870 - accuracy:
697/750 [============>...] - ETA: 0s - loss: 0.5868 - accuracy:
0.8754
750/750 [============= ] - 1s 794us/step - loss: 0.5860 - accuracy:
0.8753 - val_loss: 0.6131 - val_accuracy: 0.8642
Epoch 124/220
1/750 [...... - ETA: 0s - loss: 0.7791 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5952 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.5969 - accuracy:
0.8744
230/750 [======>.....] - ETA: 0s - loss: 0.5883 - accuracy:
0.8750
307/750 [=======>.....] - ETA: 0s - loss: 0.5865 - accuracy:
384/750 [=======>.....] - ETA: 0s - loss: 0.5847 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.5843 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.5832 - accuracy:
0.8757 - val_loss: 0.6106 - val_accuracy: 0.8643
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.4426 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5760 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.5821 - accuracy:
0.8793
232/750 [======>..... - ETA: 0s - loss: 0.5810 - accuracy:
0.8779
308/750 [========>.....] - ETA: 0s - loss: 0.5860 - accuracy:
```

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0.8766
383/750 [==========>.....] - ETA: 0s - loss: 0.5835 - accuracy:
0.8766
460/750 [==========>.....] - ETA: 0s - loss: 0.5809 - accuracy:
0.8774
539/750 [==========>.....] - ETA: 0s - loss: 0.5821 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.5834 - accuracy:
750/750 [============= ] - 1s 801us/step - loss: 0.5842 - accuracy:
0.8756 - val loss: 0.6112 - val accuracy: 0.8652
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.5332 - accuracy:
0.8906
80/750 [==>.....] - ETA: 0s - loss: 0.5935 - accuracy:
0.8746
157/750 [====>.....] - ETA: 0s - loss: 0.5928 - accuracy:
0.8741
233/750 [======>.....] - ETA: 0s - loss: 0.5915 - accuracy:
0.8747
311/750 [=======>.....] - ETA: 0s - loss: 0.5899 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.5841 - accuracy:
0.8756
464/750 [=========>.....] - ETA: 0s - loss: 0.5844 - accuracy:
0.8754
541/750 [==========>.....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8763
0.8763
0.8761 - val loss: 0.6090 - val accuracy: 0.8652
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.6570 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5823 - accuracy:
0.8796
230/750 [======>.....] - ETA: 0s - loss: 0.5814 - accuracy:
0.8785
308/750 [=======>..... - ETA: 0s - loss: 0.5826 - accuracy:
0.8764
385/750 [========>.....] - ETA: 0s - loss: 0.5818 - accuracy:
```

```
0.8773
460/750 [==========>.....] - ETA: 0s - loss: 0.5822 - accuracy:
0.8770
538/750 [==========>.....] - ETA: 0s - loss: 0.5800 - accuracy:
691/750 [=============>...] - ETA: 0s - loss: 0.5821 - accuracy:
0.8764
0.8760 - val_loss: 0.6092 - val_accuracy: 0.8657
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.4362 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5818 - accuracy:
0.8778
156/750 [=====>.....] - ETA: 0s - loss: 0.5827 - accuracy:
0.8724
232/750 [======>.....] - ETA: 0s - loss: 0.5837 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.5842 - accuracy:
387/750 [========>.....] - ETA: 0s - loss: 0.5829 - accuracy:
0.8753
464/750 [==========>.....] - ETA: 0s - loss: 0.5816 - accuracy:
541/750 [==========>.....] - ETA: 0s - loss: 0.5809 - accuracy:
0.8764
750/750 [=============== ] - 1s 798us/step - loss: 0.5814 - accuracy:
0.8760 - val loss: 0.6102 - val accuracy: 0.8648
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.6934 - accuracy:
0.7656
80/750 [==>.....] - ETA: 0s - loss: 0.5880 - accuracy:
0.8723
150/750 [====>.....] - ETA: 0s - loss: 0.5831 - accuracy:
226/750 [======>......] - ETA: 0s - loss: 0.5808 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.5854 - accuracy:
380/750 [=======>>..... - ETA: 0s - loss: 0.5817 - accuracy:
456/750 [==========>.....] - ETA: 0s - loss: 0.5796 - accuracy:
```

```
0.8764
533/750 [==========>.....] - ETA: 0s - loss: 0.5790 - accuracy:
0.8771
0.8774
750/750 [================ ] - 1s 810us/step - loss: 0.5805 - accuracy:
0.8772 - val loss: 0.6058 - val accuracy: 0.8675
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.5818 - accuracy:
75/750 [==>....... - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.5762 - accuracy:
0.8777
222/750 [======>.....] - ETA: 0s - loss: 0.5727 - accuracy:
0.8793
298/750 [=======>...... - ETA: 0s - loss: 0.5758 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.5771 - accuracy:
0.8783
445/750 [==========>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8787
520/750 [===========>.....] - ETA: 0s - loss: 0.5803 - accuracy:
596/750 [=============>.....] - ETA: 0s - loss: 0.5801 - accuracy:
665/750 [============>....] - ETA: 0s - loss: 0.5798 - accuracy:
0.8765 - val loss: 0.6060 - val accuracy: 0.8661
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.6492 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.5855 - accuracy:
0.8748
153/750 [====>.....] - ETA: 0s - loss: 0.5819 - accuracy:
0.8777
228/750 [======>.....] - ETA: 0s - loss: 0.5904 - accuracy:
303/750 [========>.....] - ETA: 0s - loss: 0.5800 - accuracy:
0.8778
377/750 [=======>..... - ETA: 0s - loss: 0.5773 - accuracy:
0.8783
453/750 [==========>.....] - ETA: 0s - loss: 0.5792 - accuracy:
```

```
0.8771
528/750 [==========>.....] - ETA: 0s - loss: 0.5815 - accuracy:
605/750 [============>.....] - ETA: 0s - loss: 0.5803 - accuracy:
0.8760
0.8773
0.8770 - val loss: 0.6074 - val accuracy: 0.8648
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.6997 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.5535 - accuracy:
0.8881
148/750 [====>.....] - ETA: 0s - loss: 0.5648 - accuracy:
0.8828
219/750 [======>...... - ETA: 0s - loss: 0.5711 - accuracy:
292/750 [=======>...... - ETA: 0s - loss: 0.5749 - accuracy:
0.8779
366/750 [=======>.....] - ETA: 0s - loss: 0.5778 - accuracy:
0.8759
436/750 [==========>.....] - ETA: 0s - loss: 0.5738 - accuracy:
0.8779
507/750 [===========>.....] - ETA: 0s - loss: 0.5736 - accuracy:
0.8779
576/750 [=============>.....] - ETA: 0s - loss: 0.5746 - accuracy:
0.8771
647/750 [============>....] - ETA: 0s - loss: 0.5760 - accuracy:
0.8764
0.8764 - val loss: 0.6060 - val accuracy: 0.8642
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.5424 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.5822 - accuracy:
0.8791
151/750 [====>.....] - ETA: 0s - loss: 0.5761 - accuracy:
0.8791
228/750 [======>.....] - ETA: 0s - loss: 0.5706 - accuracy:
0.8799
302/750 [========>.....] - ETA: 0s - loss: 0.5699 - accuracy:
379/750 [=======>..... - ETA: 0s - loss: 0.5708 - accuracy:
456/750 [==========>.....] - ETA: 0s - loss: 0.5738 - accuracy:
```

```
0.8782
533/750 [==========>.....] - ETA: 0s - loss: 0.5755 - accuracy:
0.8774
0.8773 - val loss: 0.6054 - val accuracy: 0.8661
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.4690 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5647 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.5753 - accuracy:
0.8788
229/750 [======>...... - ETA: 0s - loss: 0.5774 - accuracy:
305/750 [=======>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8766
383/750 [=======>>.....] - ETA: 0s - loss: 0.5784 - accuracy:
0.8766
457/750 [=========>.....] - ETA: 0s - loss: 0.5745 - accuracy:
0.8778
534/750 [==========>.....] - ETA: 0s - loss: 0.5765 - accuracy:
0.8776
686/750 [============>...] - ETA: 0s - loss: 0.5769 - accuracy:
0.8769
0.8773 - val loss: 0.6043 - val accuracy: 0.8668
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.6536 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5842 - accuracy:
0.8774
153/750 [=====>.....] - ETA: 0s - loss: 0.5764 - accuracy:
0.8769
230/750 [======>.....] - ETA: 0s - loss: 0.5791 - accuracy:
0.8763
308/750 [========>.....] - ETA: 0s - loss: 0.5718 - accuracy:
382/750 [=======>.....] - ETA: 0s - loss: 0.5722 - accuracy:
0.8784
458/750 [=========>...... - ETA: 0s - loss: 0.5755 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5757 - accuracy:
```

```
0.8779
685/750 [============>...] - ETA: 0s - loss: 0.5750 - accuracy:
0.8779
750/750 [================ ] - 1s 809us/step - loss: 0.5754 - accuracy:
0.8776 - val loss: 0.6047 - val accuracy: 0.8664
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.5198 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5833 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.5826 - accuracy:
0.8751
230/750 [======>.....] - ETA: 0s - loss: 0.5806 - accuracy:
0.8760
307/750 [=======>.....] - ETA: 0s - loss: 0.5763 - accuracy:
0.8783
384/750 [========>.....] - ETA: 0s - loss: 0.5762 - accuracy:
427/750 [========>.....] - ETA: 0s - loss: 0.5740 - accuracy:
494/750 [===========>.....] - ETA: 0s - loss: 0.5724 - accuracy:
571/750 [============>.....] - ETA: 0s - loss: 0.5729 - accuracy:
0.8783
723/750 [==============>..] - ETA: 0s - loss: 0.5746 - accuracy:
0.8778 - val_loss: 0.6035 - val_accuracy: 0.8646
Epoch 137/220
1/750 [.....] - ETA: 0s - loss: 0.5322 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.5627 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8767
223/750 [======>.....] - ETA: 0s - loss: 0.5708 - accuracy:
0.8786
299/750 [=======>.....] - ETA: 0s - loss: 0.5720 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.5736 - accuracy:
0.8783
452/750 [=========>...... - ETA: 0s - loss: 0.5714 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.5736 - accuracy:
```

```
0.8773
0.8781
0.8781
750/750 [================ ] - 1s 834us/step - loss: 0.5734 - accuracy:
0.8778 - val loss: 0.6011 - val accuracy: 0.8673
Epoch 138/220
1/750 [.....] - ETA: 1s - loss: 0.7820 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5617 - accuracy:
0.8801
145/750 [====>.....] - ETA: 0s - loss: 0.5676 - accuracy:
0.8791
220/750 [======>.....] - ETA: 0s - loss: 0.5701 - accuracy:
0.8781
296/750 [=======>..... - ETA: 0s - loss: 0.5729 - accuracy:
0.8778
372/750 [=======>.....] - ETA: 0s - loss: 0.5730 - accuracy:
448/750 [========>.....] - ETA: 0s - loss: 0.5742 - accuracy:
0.8786
526/750 [==========>.....] - ETA: 0s - loss: 0.5730 - accuracy:
0.8783
750/750 [============ ] - 1s 822us/step - loss: 0.5727 - accuracy:
0.8777 - val loss: 0.6011 - val accuracy: 0.8663
Epoch 139/220
1/750 [.....] - ETA: 1s - loss: 0.5944 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.5614 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.5687 - accuracy:
0.8831
221/750 [======>.....] - ETA: 0s - loss: 0.5689 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.5667 - accuracy:
0.8813
374/750 [=======>.....] - ETA: 0s - loss: 0.5689 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.5729 - accuracy:
0.8784
527/750 [=========>.....] - ETA: 0s - loss: 0.5720 - accuracy:
```

```
0.8783
750/750 [=============== ] - 1s 814us/step - loss: 0.5716 - accuracy:
0.8783 - val loss: 0.6027 - val accuracy: 0.8655
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.5137 - accuracy:
62/750 [=>.....] - ETA: 0s - loss: 0.5752 - accuracy:
139/750 [====>...... - ETA: 0s - loss: 0.5633 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.5692 - accuracy:
0.8823
291/750 [=======>.....] - ETA: 0s - loss: 0.5712 - accuracy:
0.8803
366/750 [=======>.....] - ETA: 0s - loss: 0.5676 - accuracy:
0.8811
440/750 [=========>.....] - ETA: 0s - loss: 0.5695 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.5680 - accuracy:
0.8898
596/750 [============>.....] - ETA: 0s - loss: 0.5698 - accuracy:
0.8803
750/750 [=============== ] - 1s 817us/step - loss: 0.5710 - accuracy:
0.8790 - val loss: 0.6028 - val accuracy: 0.8638
Epoch 141/220
1/750 [.....] - ETA: 0s - loss: 0.5283 - accuracy:
0.9219
79/750 [==>.....] - ETA: 0s - loss: 0.5912 - accuracy:
0.8708
156/750 [====>..... - ETA: 0s - loss: 0.5805 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.5753 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.5720 - accuracy:
0.8770
384/750 [========>>.....] - ETA: 0s - loss: 0.5702 - accuracy:
462/750 [=========>.....] - ETA: 0s - loss: 0.5709 - accuracy:
0.8779
538/750 [=========>.....] - ETA: 0s - loss: 0.5700 - accuracy:
```

```
0.8781
750/750 [=============== ] - 1s 801us/step - loss: 0.5703 - accuracy:
0.8786 - val loss: 0.5992 - val accuracy: 0.8674
Epoch 142/220
 1/750 [.....] - ETA: 0s - loss: 0.5896 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5701 - accuracy:
0.8780
150/750 [====>...... - ETA: 0s - loss: 0.5660 - accuracy:
0.8799
229/750 [======>.....] - ETA: 0s - loss: 0.5738 - accuracy:
0.8767
304/750 [========>.....] - ETA: 0s - loss: 0.5690 - accuracy:
0.8796
381/750 [=======>.....] - ETA: 0s - loss: 0.5699 - accuracy:
0.8791
460/750 [==========>.....] - ETA: 0s - loss: 0.5688 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.5684 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.5680 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.5693 - accuracy:
0.8796
750/750 [============= ] - 1s 801us/step - loss: 0.5692 - accuracy:
0.8794 - val_loss: 0.5974 - val_accuracy: 0.8676
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.6361 - accuracy:
0.8438
76/750 [==>.....] - ETA: 0s - loss: 0.5656 - accuracy:
153/750 [====>.....] - ETA: 0s - loss: 0.5765 - accuracy:
0.8789
227/750 [======>.....] - ETA: 0s - loss: 0.5753 - accuracy:
0.8786
305/750 [=======>.....] - ETA: 0s - loss: 0.5720 - accuracy:
0.8786
381/750 [========>.....] - ETA: 0s - loss: 0.5699 - accuracy:
0.8796
456/750 [=========>.....] - ETA: 0s - loss: 0.5692 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.5666 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.5682 - accuracy:
```

```
0.8794
0.8795 - val_loss: 0.5976 - val_accuracy: 0.8681
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.4771 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5769 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.5583 - accuracy:
228/750 [======>...... - ETA: 0s - loss: 0.5658 - accuracy:
305/750 [========>.....] - ETA: 0s - loss: 0.5635 - accuracy:
0.8823
380/750 [=========>.....] - ETA: 0s - loss: 0.5658 - accuracy:
0.8814
457/750 [=========>.....] - ETA: 0s - loss: 0.5675 - accuracy:
0.8801
532/750 [==========>.....] - ETA: 0s - loss: 0.5679 - accuracy:
0.8796
610/750 [===========>.....] - ETA: 0s - loss: 0.5685 - accuracy:
0.8791
0.8790
750/750 [============= ] - 1s 812us/step - loss: 0.5676 - accuracy:
0.8794 - val_loss: 0.5975 - val_accuracy: 0.8689
Epoch 145/220
 1/750 [...... 0.5650 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.5704 - accuracy:
0.8759
149/750 [====>.....] - ETA: 0s - loss: 0.5690 - accuracy:
0.8778
224/750 [======>...... - ETA: 0s - loss: 0.5649 - accuracy:
302/750 [=======>.....] - ETA: 0s - loss: 0.5672 - accuracy:
0.8784
374/750 [========>.....] - ETA: 0s - loss: 0.5708 - accuracy:
451/750 [==========>.....] - ETA: 0s - loss: 0.5685 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.5684 - accuracy:
0.8784
602/750 [===========>.....] - ETA: 0s - loss: 0.5682 - accuracy:
0.8791
678/750 [============>...] - ETA: 0s - loss: 0.5678 - accuracy:
0.8794
750/750 [============= ] - 1s 820us/step - loss: 0.5667 - accuracy:
```

```
0.8801 - val_loss: 0.5957 - val_accuracy: 0.8677 Epoch 146/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4470 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5502 - accuracy:
151/750 [====>...... - ETA: 0s - loss: 0.5548 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.5586 - accuracy:
0.8817
306/750 [=======>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8896
380/750 [=======>>.....] - ETA: 0s - loss: 0.5625 - accuracy:
0.8898
456/750 [=========>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8807
534/750 [==========>.....] - ETA: 0s - loss: 0.5634 - accuracy:
0.8793
688/750 [============>...] - ETA: 0s - loss: 0.5658 - accuracy:
0.8796
0.8796 - val loss: 0.5960 - val accuracy: 0.8673
Epoch 147/220
 1/750 [................] - ETA: 0s - loss: 0.5936 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5670 - accuracy:
0.8719
154/750 [====>.....] - ETA: 0s - loss: 0.5761 - accuracy:
0.8743
232/750 [======>.....] - ETA: 0s - loss: 0.5657 - accuracy:
0.8780
309/750 [=======>.....] - ETA: 0s - loss: 0.5667 - accuracy:
0.8771
386/750 [========>.....] - ETA: 0s - loss: 0.5673 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.5642 - accuracy:
0.8785
535/750 [==========>.....] - ETA: 0s - loss: 0.5642 - accuracy:
0.8793
613/750 [===========>.....] - ETA: 0s - loss: 0.5656 - accuracy:
0.8794
0.8795
750/750 [============= ] - 1s 805us/step - loss: 0.5653 - accuracy:
0.8796 - val loss: 0.5943 - val accuracy: 0.8687
Epoch 148/220
```

```
0.8281
 78/750 [==>.....] - ETA: 0s - loss: 0.5692 - accuracy:
0.8784
156/750 [====>.....] - ETA: 0s - loss: 0.5715 - accuracy:
0.8766
233/750 [======>.....] - ETA: 0s - loss: 0.5751 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.5726 - accuracy:
0.8776
386/750 [=======>..... - ETA: 0s - loss: 0.5691 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.5665 - accuracy:
0.8899
540/750 [==========>.....] - ETA: 0s - loss: 0.5665 - accuracy:
0.8794
617/750 [============>.....] - ETA: 0s - loss: 0.5656 - accuracy:
0.8802 - val loss: 0.5955 - val accuracy: 0.8677
Epoch 149/220
  1/750 [.....] - ETA: 0s - loss: 0.7040 - accuracy:
0.8281
 78/750 [==>.....] - ETA: 0s - loss: 0.5602 - accuracy:
0.8846
154/750 [=====>.....] - ETA: 0s - loss: 0.5641 - accuracy:
 0.8820  \pm 0.000  \pm 0.0000  \pm 0.000  \pm 0.0000  \pm 0.00000  \pm 0.0000  \pm 0.00
232/750 [======>.....] - ETA: 0s - loss: 0.5605 - accuracy:
0.8822
309/750 [=======>.....] - ETA: 0s - loss: 0.5625 - accuracy:
388/750 [========>.....] - ETA: 0s - loss: 0.5625 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8816
541/750 [=========>.....] - ETA: 0s - loss: 0.5639 - accuracy:
0.8894
0.8803 - val_loss: 0.5943 - val_accuracy: 0.8681
Epoch 150/220
  1/750 [.....] - ETA: 0s - loss: 0.5134 - accuracy:
```

```
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.5676 - accuracy:
156/750 [=====>.....] - ETA: 0s - loss: 0.5743 - accuracy:
0.8747
231/750 [======>.....] - ETA: 0s - loss: 0.5676 - accuracy:
0.8781
307/750 [=======>.....] - ETA: 0s - loss: 0.5650 - accuracy:
0.8794
386/750 [========>.....] - ETA: 0s - loss: 0.5645 - accuracy:
461/750 [=========>...... - ETA: 0s - loss: 0.5603 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.5612 - accuracy:
0.8817
0.8814
694/750 [=============>...] - ETA: 0s - loss: 0.5616 - accuracy:
0.8814
0.8810 - val_loss: 0.5932 - val_accuracy: 0.8688
Epoch 151/220
1/750 [...... - ETA: 0s - loss: 0.5281 - accuracy:
0.8996
78/750 [==>.....] - ETA: 0s - loss: 0.5413 - accuracy:
0.8896
155/750 [====>.....] - ETA: 0s - loss: 0.5540 - accuracy:
0.8807
232/750 [======>.....] - ETA: 0s - loss: 0.5567 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.5601 - accuracy:
0.8807
386/750 [========>.....] - ETA: 0s - loss: 0.5604 - accuracy:
0.8811
463/750 [=========>.....] - ETA: 0s - loss: 0.5577 - accuracy:
0.8823
543/750 [==========>.....] - ETA: 0s - loss: 0.5615 - accuracy:
619/750 [============>.....] - ETA: 0s - loss: 0.5630 - accuracy:
0.8801 - val_loss: 0.5929 - val_accuracy: 0.8681
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.3721 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.5594 - accuracy:
```

```
0.8786
156/750 [=====>.....] - ETA: 0s - loss: 0.5589 - accuracy:
234/750 [======>.....] - ETA: 0s - loss: 0.5597 - accuracy:
312/750 [=======>.....] - ETA: 0s - loss: 0.5571 - accuracy:
0.8817
390/750 [=======>>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8811
468/750 [==========>.....] - ETA: 0s - loss: 0.5612 - accuracy:
544/750 [=========>.....] - ETA: 0s - loss: 0.5628 - accuracy:
0.8801
0.8801
0.8805 - val loss: 0.5919 - val accuracy: 0.8690
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.4285 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5792 - accuracy:
0.8746
153/750 [=====>.....] - ETA: 0s - loss: 0.5761 - accuracy:
0.8764
231/750 [======>.....] - ETA: 0s - loss: 0.5697 - accuracy:
0.8798
307/750 [========>.....] - ETA: 0s - loss: 0.5672 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.5636 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.5583 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.5581 - accuracy:
0.8824
0.8816
694/750 [============>...] - ETA: 0s - loss: 0.5606 - accuracy:
0.8811 - val loss: 0.5904 - val accuracy: 0.8683
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.6592 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5363 - accuracy:
0.8904
157/750 [====>.....] - ETA: 0s - loss: 0.5495 - accuracy:
```

```
0.8850
234/750 [======>.....] - ETA: 0s - loss: 0.5519 - accuracy:
312/750 [========>.....] - ETA: 0s - loss: 0.5518 - accuracy:
0.8836
389/750 [========>....] - ETA: 0s - loss: 0.5551 - accuracy:
466/750 [=========>.....] - ETA: 0s - loss: 0.5580 - accuracy:
545/750 [==========>.....] - ETA: 0s - loss: 0.5572 - accuracy:
618/750 [===========>.....] - ETA: 0s - loss: 0.5575 - accuracy:
0.8820
0.8816 - val loss: 0.5900 - val accuracy: 0.8701
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.4818 - accuracy:
0.9062
80/750 [==>.....] - ETA: 0s - loss: 0.5721 - accuracy:
0.8760
155/750 [====>...... - ETA: 0s - loss: 0.5532 - accuracy:
0.8834
233/750 [======>.....] - ETA: 0s - loss: 0.5605 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.5642 - accuracy:
387/750 [=========>.....] - ETA: 0s - loss: 0.5619 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.5609 - accuracy:
0.8813
533/750 [==========>.....] - ETA: 0s - loss: 0.5608 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.5586 - accuracy:
0.8817
0.8816 - val_loss: 0.5899 - val_accuracy: 0.8683
Epoch 156/220
75/750 [==>.....] - ETA: 0s - loss: 0.5632 - accuracy:
0.8779
153/750 [====>.....] - ETA: 0s - loss: 0.5631 - accuracy:
228/750 [======>..... - ETA: 0s - loss: 0.5613 - accuracy:
```

```
303/750 [========>.....] - ETA: 0s - loss: 0.5616 - accuracy:
381/750 [========>.....] - ETA: 0s - loss: 0.5602 - accuracy:
0.8816
458/750 [=========>.....] - ETA: 0s - loss: 0.5579 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.5579 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.5579 - accuracy:
750/750 [============= ] - 1s 805us/step - loss: 0.5578 - accuracy:
0.8815 - val_loss: 0.5893 - val_accuracy: 0.8683
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.5543 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5549 - accuracy:
0.8821
152/750 [====>.....] - ETA: 0s - loss: 0.5568 - accuracy:
0.8811
229/750 [======>.....] - ETA: 0s - loss: 0.5560 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.5562 - accuracy:
0.8791
382/750 [=======>.....] - ETA: 0s - loss: 0.5587 - accuracy:
0.8791
456/750 [==========>.....] - ETA: 0s - loss: 0.5605 - accuracy:
0.8789
533/750 [=========>.....] - ETA: 0s - loss: 0.5592 - accuracy:
0.8797
0.8804 - val_loss: 0.5900 - val_accuracy: 0.8679
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.3929 - accuracy:
0.9531
78/750 [==>.....] - ETA: 0s - loss: 0.5501 - accuracy:
0.8846
155/750 [=====>.....] - ETA: 0s - loss: 0.5513 - accuracy:
0.8818
232/750 [======>..... - ETA: 0s - loss: 0.5511 - accuracy:
0.8834
309/750 [=======>.....] - ETA: 0s - loss: 0.5523 - accuracy:
```

```
0.8835
386/750 [=========>:....] - ETA: 0s - loss: 0.5524 - accuracy:
0.8837
462/750 [==========>.....] - ETA: 0s - loss: 0.5523 - accuracy:
0.8824
539/750 [==========>.....] - ETA: 0s - loss: 0.5553 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.5538 - accuracy:
 0.8823  \pm 0.000  \pm 0.0000  \pm 0.000  \pm 0.0000  \pm 0.00000  \pm 0.0000  \pm 0.00
750/750 [============= ] - 1s 801us/step - loss: 0.5563 - accuracy:
0.8816 - val loss: 0.5884 - val accuracy: 0.8680
Epoch 159/220
  1/750 [.....] - ETA: 0s - loss: 0.5922 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5636 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.5582 - accuracy:
0.8811
233/750 [======>.....] - ETA: 0s - loss: 0.5562 - accuracy:
0.8811
309/750 [=======>.....] - ETA: 0s - loss: 0.5603 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.5551 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.5560 - accuracy:
0.8823
539/750 [=========>.....] - ETA: 0s - loss: 0.5557 - accuracy:
0.8829
0.8824
0.8824 - val loss: 0.5877 - val accuracy: 0.8702
Epoch 160/220
  1/750 [.....] - ETA: 0s - loss: 0.5026 - accuracy:
0.8594
 77/750 [==>.....] - ETA: 0s - loss: 0.5447 - accuracy:
0.8821
228/750 [======>.....] - ETA: 0s - loss: 0.5484 - accuracy:
0.8823
305/750 [=======>..... - ETA: 0s - loss: 0.5553 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.5543 - accuracy:
```

```
0.8896
451/750 [==========>.....] - ETA: 0s - loss: 0.5527 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.5531 - accuracy:
0.8817
750/750 [============= ] - 1s 829us/step - loss: 0.5550 - accuracy:
0.8816 - val loss: 0.5859 - val accuracy: 0.8708
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.4617 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5581 - accuracy:
0.8811
154/750 [====>.....] - ETA: 0s - loss: 0.5480 - accuracy:
0.8859
231/750 [======>.....] - ETA: 0s - loss: 0.5523 - accuracy:
0.8861
306/750 [=======>.....] - ETA: 0s - loss: 0.5529 - accuracy:
0.8850
386/750 [========>.....] - ETA: 0s - loss: 0.5541 - accuracy:
0.8841
462/750 [=========>.....] - ETA: 0s - loss: 0.5561 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.5561 - accuracy:
0.8816
0.8827
0.8824 - val loss: 0.5854 - val accuracy: 0.8694
Epoch 162/220
1/750 [.....] - ETA: 0s - loss: 0.6186 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.5626 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.5582 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.5506 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.5479 - accuracy:
0.8846
384/750 [========>.....] - ETA: 0s - loss: 0.5466 - accuracy:
```

```
0.8854
460/750 [==========>.....] - ETA: 0s - loss: 0.5480 - accuracy:
0.8841
538/750 [==========>.....] - ETA: 0s - loss: 0.5487 - accuracy:
0.8842
692/750 [=============>...] - ETA: 0s - loss: 0.5533 - accuracy:
0.8827
750/750 [================ ] - 1s 806us/step - loss: 0.5531 - accuracy:
0.8822 - val_loss: 0.5857 - val_accuracy: 0.8704
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.6705 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5470 - accuracy:
0.8833
151/750 [====>...... - ETA: 0s - loss: 0.5477 - accuracy:
0.8823
226/750 [======>.....] - ETA: 0s - loss: 0.5526 - accuracy:
299/750 [======>..... - ETA: 0s - loss: 0.5529 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.5498 - accuracy:
0.8838
447/750 [=========>.....] - ETA: 0s - loss: 0.5526 - accuracy:
0.8826
521/750 [=========>.....] - ETA: 0s - loss: 0.5520 - accuracy:
0.8829
598/750 [===========>.....] - ETA: 0s - loss: 0.5545 - accuracy:
0.8827
0.8828 - val loss: 0.5864 - val accuracy: 0.8693
Epoch 164/220
1/750 [...... - ETA: 0s - loss: 0.5679 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.5371 - accuracy:
0.8879
226/750 [======>.....] - ETA: 0s - loss: 0.5485 - accuracy:
304/750 [=======>..... - ETA: 0s - loss: 0.5473 - accuracy:
0.8841
379/750 [========>.....] - ETA: 0s - loss: 0.5509 - accuracy:
```

```
0.8829
456/750 [==========>.....] - ETA: 0s - loss: 0.5489 - accuracy:
0.8831
535/750 [==========>.....] - ETA: 0s - loss: 0.5517 - accuracy:
0.8823
689/750 [============>...] - ETA: 0s - loss: 0.5510 - accuracy:
0.8824 - val_loss: 0.5848 - val_accuracy: 0.8706
Epoch 165/220
1/750 [.....] - ETA: 0s - loss: 0.6641 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.5560 - accuracy:
154/750 [====>.....] - ETA: 0s - loss: 0.5539 - accuracy:
0.8848
231/750 [======>.....] - ETA: 0s - loss: 0.5565 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.5560 - accuracy:
0.8807
382/750 [========>.....] - ETA: 0s - loss: 0.5549 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.5521 - accuracy:
0.8826
533/750 [==========>.....] - ETA: 0s - loss: 0.5506 - accuracy:
0.8829
0.8829 - val loss: 0.5835 - val accuracy: 0.8693
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.5914 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.5344 - accuracy:
0.8869
153/750 [====>.....] - ETA: 0s - loss: 0.5377 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.5458 - accuracy:
0.8817
306/750 [========>.....] - ETA: 0s - loss: 0.5518 - accuracy:
0.8896
384/750 [=======>..... - ETA: 0s - loss: 0.5509 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.5522 - accuracy:
```

```
0.8805
538/750 [==========>.....] - ETA: 0s - loss: 0.5497 - accuracy:
0.8821
0.8824
0.8827
750/750 [================ ] - 1s 798us/step - loss: 0.5503 - accuracy:
0.8826 - val loss: 0.5836 - val accuracy: 0.8717
Epoch 167/220
1/750 [.....] - ETA: 0s - loss: 0.5134 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5448 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.5437 - accuracy:
0.8868
223/750 [======>...... - ETA: 0s - loss: 0.5445 - accuracy:
0.8856
300/750 [=======>.....] - ETA: 0s - loss: 0.5497 - accuracy:
377/750 [=======>.....] - ETA: 0s - loss: 0.5500 - accuracy:
0.8837
454/750 [==========>.....] - ETA: 0s - loss: 0.5500 - accuracy:
0.8835
531/750 [==========>.....] - ETA: 0s - loss: 0.5498 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 0.5509 - accuracy:
0.8830 - val loss: 0.5821 - val accuracy: 0.8706
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.4770 - accuracy:
0.9219
79/750 [==>.....] - ETA: 0s - loss: 0.5347 - accuracy:
0.8896
154/750 [=====>.....] - ETA: 0s - loss: 0.5434 - accuracy:
0.8879
232/750 [======>.....] - ETA: 0s - loss: 0.5440 - accuracy:
0.8866
311/750 [========>.....] - ETA: 0s - loss: 0.5486 - accuracy:
0.8837
388/750 [========>>.....] - ETA: 0s - loss: 0.5484 - accuracy:
0.8841
466/750 [=========>...... - ETA: 0s - loss: 0.5483 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5487 - accuracy:
```

```
0.8833
695/750 [============>...] - ETA: 0s - loss: 0.5507 - accuracy:
0.8826
0.8832 - val loss: 0.5820 - val accuracy: 0.8712
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.6431 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5585 - accuracy:
0.8793
153/750 [=====>.....] - ETA: 0s - loss: 0.5633 - accuracy:
0.8797
228/750 [======>.....] - ETA: 0s - loss: 0.5541 - accuracy:
0.8834
304/750 [=======>>.....] - ETA: 0s - loss: 0.5490 - accuracy:
0.8844
381/750 [========>.....] - ETA: 0s - loss: 0.5494 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.5468 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.5455 - accuracy:
0.8844
750/750 [============= ] - 1s 805us/step - loss: 0.5480 - accuracy:
0.8838 - val loss: 0.5818 - val accuracy: 0.8716
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.4630 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5502 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.5614 - accuracy:
0.8779
229/750 [======>.....] - ETA: 0s - loss: 0.5588 - accuracy:
307/750 [========>.....] - ETA: 0s - loss: 0.5521 - accuracy:
0.8824
384/750 [========>>.....] - ETA: 0s - loss: 0.5534 - accuracy:
461/750 [=========>.....] - ETA: 0s - loss: 0.5520 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.5495 - accuracy:
0.8825
```

```
0.8831
750/750 [================ ] - 1s 801us/step - loss: 0.5471 - accuracy:
0.8837 - val loss: 0.5812 - val accuracy: 0.8699
Epoch 171/220
 1/750 [.....] - ETA: 0s - loss: 0.5478 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.5397 - accuracy:
155/750 [====>...... - ETA: 0s - loss: 0.5453 - accuracy:
0.8847
232/750 [======>.....] - ETA: 0s - loss: 0.5479 - accuracy:
0.8846
307/750 [========>.....] - ETA: 0s - loss: 0.5501 - accuracy:
0.8822
381/750 [=========>.....] - ETA: 0s - loss: 0.5484 - accuracy:
0.8828
457/750 [==========>.....] - ETA: 0s - loss: 0.5447 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.5435 - accuracy:
0.8844
0.8835
690/750 [===========>...] - ETA: 0s - loss: 0.5462 - accuracy:
0.8834
750/750 [============= ] - 1s 804us/step - loss: 0.5465 - accuracy:
0.8835 - val_loss: 0.5813 - val_accuracy: 0.8698
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.4377 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.5532 - accuracy:
0.8896
154/750 [====>.....] - ETA: 0s - loss: 0.5509 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.5461 - accuracy:
0.8836
307/750 [=======>.....] - ETA: 0s - loss: 0.5425 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.5433 - accuracy:
0.8851
459/750 [=========>.....] - ETA: 0s - loss: 0.5445 - accuracy:
0.8844
534/750 [=========>.....] - ETA: 0s - loss: 0.5443 - accuracy:
613/750 [===========>.....] - ETA: 0s - loss: 0.5456 - accuracy:
688/750 [===========>...] - ETA: 0s - loss: 0.5452 - accuracy:
```

```
0.8837
750/750 [=============== ] - 1s 800us/step - loss: 0.5460 - accuracy:
0.8836 - val_loss: 0.5809 - val_accuracy: 0.8692
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.5799 - accuracy:
0.8281
79/750 [==>.....] - ETA: 0s - loss: 0.5422 - accuracy:
0.8877
157/750 [====>.....] - ETA: 0s - loss: 0.5507 - accuracy:
233/750 [======>...... - ETA: 0s - loss: 0.5448 - accuracy:
312/750 [=======>.....] - ETA: 0s - loss: 0.5449 - accuracy:
388/750 [========>>.....] - ETA: 0s - loss: 0.5462 - accuracy:
466/750 [=========>.....] - ETA: 0s - loss: 0.5475 - accuracy:
0.8839
541/750 [===========>.....] - ETA: 0s - loss: 0.5473 - accuracy:
0.8844
0.8843
750/750 [============= ] - 1s 798us/step - loss: 0.5450 - accuracy:
0.8845 - val_loss: 0.5791 - val_accuracy: 0.8702
Epoch 174/220
1/750 [...... os. - loss: 0.4449 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5615 - accuracy:
0.8862
153/750 [=====>.....] - ETA: 0s - loss: 0.5474 - accuracy:
0.8862
230/750 [======>.....] - ETA: 0s - loss: 0.5491 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.5492 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.5465 - accuracy:
0.8846
461/750 [==========>.....] - ETA: 0s - loss: 0.5454 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.5462 - accuracy:
0.8841
0.8844
696/750 [============>...] - ETA: 0s - loss: 0.5430 - accuracy:
750/750 [============= ] - 1s 793us/step - loss: 0.5442 - accuracy:
```

```
0.8844 - val_loss: 0.5800 - val_accuracy: 0.8706 Epoch 175/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6205 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.5521 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.5525 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.5436 - accuracy:
0.8869
305/750 [=======>.....] - ETA: 0s - loss: 0.5429 - accuracy:
0.8861
384/750 [=======>>.....] - ETA: 0s - loss: 0.5446 - accuracy:
0.8848
458/750 [=========>.....] - ETA: 0s - loss: 0.5433 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.5436 - accuracy:
0.8846
690/750 [============>...] - ETA: 0s - loss: 0.5438 - accuracy:
0.8841
750/750 [================ ] - 1s 801us/step - loss: 0.5435 - accuracy:
0.8843 - val loss: 0.5815 - val accuracy: 0.8692
Epoch 176/220
1/750 [...... os. - loss: 0.4717 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.5439 - accuracy:
0.8847
157/750 [=====>.....] - ETA: 0s - loss: 0.5452 - accuracy:
0.8861
234/750 [======>.....] - ETA: 0s - loss: 0.5431 - accuracy:
0.8858
311/750 [=======>..... - ETA: 0s - loss: 0.5451 - accuracy:
0.8839
388/750 [========>.....] - ETA: 0s - loss: 0.5464 - accuracy:
467/750 [==========>.....] - ETA: 0s - loss: 0.5424 - accuracy:
0.8846
545/750 [==========>.....] - ETA: 0s - loss: 0.5429 - accuracy:
0.8843
0.8841
0.8842
750/750 [============== ] - 1s 793us/step - loss: 0.5427 - accuracy:
0.8843 - val loss: 0.5794 - val accuracy: 0.8706
Epoch 177/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5024 - accuracy:
0.8281
76/750 [==>.....] - ETA: 0s - loss: 0.5398 - accuracy:
0.8859
153/750 [====>.....] - ETA: 0s - loss: 0.5513 - accuracy:
0.8815
230/750 [======>.....] - ETA: 0s - loss: 0.5481 - accuracy:
306/750 [=======>.....] - ETA: 0s - loss: 0.5505 - accuracy:
384/750 [=======>..... - ETA: 0s - loss: 0.5465 - accuracy:
0.8844
462/750 [==========>.....] - ETA: 0s - loss: 0.5442 - accuracy:
0.8851
540/750 [=========>.....] - ETA: 0s - loss: 0.5432 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.5406 - accuracy:
0.8856
0.8853 - val loss: 0.5766 - val accuracy: 0.8722
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.4942 - accuracy:
0.9219
77/750 [==>.....] - ETA: 0s - loss: 0.5330 - accuracy:
0.8884
156/750 [=====>.....] - ETA: 0s - loss: 0.5425 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.5424 - accuracy:
0.8847
308/750 [=======>.....] - ETA: 0s - loss: 0.5404 - accuracy:
0.8858
386/750 [=======>>.....] - ETA: 0s - loss: 0.5408 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 0.5420 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.5387 - accuracy:
0.8851
0.8849 - val_loss: 0.5776 - val_accuracy: 0.8716
Epoch 179/220
1/750 [.....] - ETA: 0s - loss: 0.5573 - accuracy:
```

```
73/750 [=>.....] - ETA: 0s - loss: 0.5268 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.5392 - accuracy:
0.8841
227/750 [======>.....] - ETA: 0s - loss: 0.5360 - accuracy:
0.8854
302/750 [=======>.....] - ETA: 0s - loss: 0.5366 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.5374 - accuracy:
454/750 [=========>...... - ETA: 0s - loss: 0.5381 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.5390 - accuracy:
0.8861
0.8854
685/750 [============>...] - ETA: 0s - loss: 0.5414 - accuracy:
0.8849
0.8851 - val_loss: 0.5775 - val_accuracy: 0.8719
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.5545 - accuracy:
0.8996
77/750 [==>.....] - ETA: 0s - loss: 0.5407 - accuracy:
0.8874
155/750 [====>.....] - ETA: 0s - loss: 0.5430 - accuracy:
0.8875
226/750 [======>.....] - ETA: 0s - loss: 0.5390 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.5390 - accuracy:
0.8876
381/750 [========>.....] - ETA: 0s - loss: 0.5397 - accuracy:
456/750 [=========>.....] - ETA: 0s - loss: 0.5402 - accuracy:
0.8859
533/750 [==========>.....] - ETA: 0s - loss: 0.5400 - accuracy:
0.8857
608/750 [===========>.....] - ETA: 0s - loss: 0.5380 - accuracy:
0.8860
750/750 [============= ] - 1s 810us/step - loss: 0.5397 - accuracy:
0.8855 - val loss: 0.5771 - val accuracy: 0.8693
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.6255 - accuracy:
0.8281
76/750 [==>.....] - ETA: 0s - loss: 0.5544 - accuracy:
```

```
0.8779
154/750 [====>.....] - ETA: 0s - loss: 0.5400 - accuracy:
0.8816
230/750 [======>.....] - ETA: 0s - loss: 0.5401 - accuracy:
308/750 [======>>.....] - ETA: 0s - loss: 0.5404 - accuracy:
0.8831
386/750 [=======>>.....] - ETA: 0s - loss: 0.5400 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.5400 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.5387 - accuracy:
0.8856
0.8855 - val loss: 0.5752 - val accuracy: 0.8720
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.7359 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.5343 - accuracy:
0.8936
152/750 [====>.....] - ETA: 0s - loss: 0.5397 - accuracy:
229/750 [======>.....] - ETA: 0s - loss: 0.5294 - accuracy:
306/750 [========>.....] - ETA: 0s - loss: 0.5348 - accuracy:
0.8867
385/750 [=========>:....] - ETA: 0s - loss: 0.5355 - accuracy:
0.8869
462/750 [==========>.....] - ETA: 0s - loss: 0.5383 - accuracy:
0.8856
538/750 [==========>.....] - ETA: 0s - loss: 0.5371 - accuracy:
0.8862
691/750 [============>...] - ETA: 0s - loss: 0.5384 - accuracy:
0.8854 - val loss: 0.5752 - val accuracy: 0.8712
Epoch 183/220
1/750 [.....] - ETA: 0s - loss: 0.6539 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.5382 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.5392 - accuracy:
```

```
0.8853
234/750 [======>.....] - ETA: 0s - loss: 0.5405 - accuracy:
0.8856
311/750 [=======>.....] - ETA: 0s - loss: 0.5439 - accuracy:
0.8831
386/750 [=======>.....] - ETA: 0s - loss: 0.5444 - accuracy:
0.8829
463/750 [=========>.....] - ETA: 0s - loss: 0.5417 - accuracy:
538/750 [==========>.....] - ETA: 0s - loss: 0.5379 - accuracy:
614/750 [===========>.....] - ETA: 0s - loss: 0.5383 - accuracy:
0.8859
750/750 [============== ] - 1s 801us/step - loss: 0.5378 - accuracy:
0.8861 - val loss: 0.5756 - val accuracy: 0.8705
Epoch 184/220
1/750 [...... os. - loss: 0.4847 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.5402 - accuracy:
0.8841
156/750 [====>...... - ETA: 0s - loss: 0.5355 - accuracy:
0.8897
233/750 [======>.....] - ETA: 0s - loss: 0.5361 - accuracy:
0.8895
308/750 [=======>.....] - ETA: 0s - loss: 0.5399 - accuracy:
0.8869
386/750 [========>>.....] - ETA: 0s - loss: 0.5385 - accuracy:
0.8865
464/750 [==========>.....] - ETA: 0s - loss: 0.5380 - accuracy:
0.8861
538/750 [==========>.....] - ETA: 0s - loss: 0.5401 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.5377 - accuracy:
0.8857 - val_loss: 0.5736 - val_accuracy: 0.8717
Epoch 185/220
1/750 [...... 0.8390 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5286 - accuracy:
0.8888
151/750 [====>.....] - ETA: 0s - loss: 0.5326 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.5311 - accuracy:
```

```
0.8891
299/750 [=======>.....] - ETA: 0s - loss: 0.5309 - accuracy:
377/750 [========>.....] - ETA: 0s - loss: 0.5318 - accuracy:
453/750 [=========>.....] - ETA: 0s - loss: 0.5355 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.5352 - accuracy:
683/750 [============>...] - ETA: 0s - loss: 0.5372 - accuracy:
0.8857
750/750 [============ ] - 1s 812us/step - loss: 0.5361 - accuracy:
0.8863 - val_loss: 0.5739 - val_accuracy: 0.8700
Epoch 186/220
1/750 [...... - ETA: 0s - loss: 0.4864 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5283 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.5203 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.5296 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.5270 - accuracy:
0.8886
370/750 [=======>.....] - ETA: 0s - loss: 0.5288 - accuracy:
0.8882
444/750 [=========>.....] - ETA: 0s - loss: 0.5307 - accuracy:
0.8878
519/750 [===========>.....] - ETA: 0s - loss: 0.5351 - accuracy:
0.8869
596/750 [============>.....] - ETA: 0s - loss: 0.5367 - accuracy:
0.8866
666/750 [============>....] - ETA: 0s - loss: 0.5363 - accuracy:
0.8864
0.8864 - val_loss: 0.5719 - val_accuracy: 0.8727
Epoch 187/220
1/750 [...... 0.5041 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5226 - accuracy:
0.8881
149/750 [====>.....] - ETA: 0s - loss: 0.5373 - accuracy:
0.8851
226/750 [======>.....] - ETA: 0s - loss: 0.5369 - accuracy:
```

```
0.8838
299/750 [=======>.....] - ETA: 0s - loss: 0.5335 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.5337 - accuracy:
0.8857
453/750 [=========>.....] - ETA: 0s - loss: 0.5318 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.5362 - accuracy:
685/750 [============>...] - ETA: 0s - loss: 0.5358 - accuracy:
0.8861
750/750 [============= ] - 1s 816us/step - loss: 0.5348 - accuracy:
0.8866 - val_loss: 0.5716 - val_accuracy: 0.8720
Epoch 188/220
1/750 [...... - ETA: 0s - loss: 0.5104 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5400 - accuracy:
0.8767
149/750 [====>.....] - ETA: 0s - loss: 0.5342 - accuracy:
0.8831
225/750 [======>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8870
304/750 [=======>.....] - ETA: 0s - loss: 0.5363 - accuracy:
0.8861
380/750 [=======>>.....] - ETA: 0s - loss: 0.5351 - accuracy:
0.8866
454/750 [==========>.....] - ETA: 0s - loss: 0.5317 - accuracy:
0.8871
532/750 [==========>.....] - ETA: 0s - loss: 0.5324 - accuracy:
0.8856 - val_loss: 0.5719 - val_accuracy: 0.8731
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.6288 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5479 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.5384 - accuracy:
0.8871
233/750 [======>..... - ETA: 0s - loss: 0.5365 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.5369 - accuracy:
```

```
0.8848
385/750 [==========>.....] - ETA: 0s - loss: 0.5359 - accuracy:
462/750 [==========>.....] - ETA: 0s - loss: 0.5347 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.5349 - accuracy:
616/750 [===========>.....] - ETA: 0s - loss: 0.5336 - accuracy:
0.8864
750/750 [============= ] - 1s 797us/step - loss: 0.5336 - accuracy:
0.8868 - val loss: 0.5712 - val accuracy: 0.8726
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.5900 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5467 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.5380 - accuracy:
0.8844
226/750 [======>.....] - ETA: 0s - loss: 0.5304 - accuracy:
298/750 [=======>..... - ETA: 0s - loss: 0.5342 - accuracy:
0.8863
376/750 [========>.....] - ETA: 0s - loss: 0.5335 - accuracy:
0.8867
450/750 [=========>.....] - ETA: 0s - loss: 0.5322 - accuracy:
0.8864
526/750 [=========>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8861
0.8869
0.8866 - val loss: 0.5724 - val accuracy: 0.8727
Epoch 191/220
1/750 [.....] - ETA: 0s - loss: 0.5441 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.5323 - accuracy:
0.8861
230/750 [======>.....] - ETA: 0s - loss: 0.5291 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.5336 - accuracy:
382/750 [========>.....] - ETA: 0s - loss: 0.5288 - accuracy:
```

```
0.8885
460/750 [==========>.....] - ETA: 0s - loss: 0.5289 - accuracy:
0.8879
538/750 [==========>.....] - ETA: 0s - loss: 0.5301 - accuracy:
0.8875
690/750 [============>...] - ETA: 0s - loss: 0.5313 - accuracy:
0.8865 - val_loss: 0.5701 - val_accuracy: 0.8730
Epoch 192/220
1/750 [.....] - ETA: 0s - loss: 0.5161 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5394 - accuracy:
0.8833
151/750 [=====>.....] - ETA: 0s - loss: 0.5354 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.5303 - accuracy:
0.8864
303/750 [=======>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8871
381/750 [========>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8874
458/750 [==========>.....] - ETA: 0s - loss: 0.5313 - accuracy:
0.8867
532/750 [==========>.....] - ETA: 0s - loss: 0.5296 - accuracy:
0.8866
608/750 [============>.....] - ETA: 0s - loss: 0.5290 - accuracy:
0.8864
750/750 [=============== ] - 1s 805us/step - loss: 0.5312 - accuracy:
0.8873 - val loss: 0.5689 - val accuracy: 0.8730
Epoch 193/220
1/750 [.....] - ETA: 0s - loss: 0.4926 - accuracy:
0.8594
78/750 [==>....... - accuracy:
0.8866
154/750 [====>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8873
231/750 [======>......] - ETA: 0s - loss: 0.5318 - accuracy:
0.8871
307/750 [=======>.....] - ETA: 0s - loss: 0.5321 - accuracy:
0.8864
385/750 [=======>>.....] - ETA: 0s - loss: 0.5330 - accuracy:
457/750 [==========>.....] - ETA: 0s - loss: 0.5290 - accuracy:
```

```
0.8869
536/750 [==========>.....] - ETA: 0s - loss: 0.5279 - accuracy:
0.8876
0.8868
0.8870 - val loss: 0.5690 - val accuracy: 0.8730
Epoch 194/220
1/750 [...... - ETA: 0s - loss: 0.3813 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.5469 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.5329 - accuracy:
0.8846
232/750 [======>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8834
308/750 [=======>.....] - ETA: 0s - loss: 0.5338 - accuracy:
385/750 [=======>>.....] - ETA: 0s - loss: 0.5341 - accuracy:
0.8851
461/750 [==========>.....] - ETA: 0s - loss: 0.5354 - accuracy:
0.8844
538/750 [==========>.....] - ETA: 0s - loss: 0.5332 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.5318 - accuracy:
750/750 [================ ] - 1s 798us/step - loss: 0.5302 - accuracy:
0.8874 - val loss: 0.5681 - val accuracy: 0.8714
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.5604 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.5348 - accuracy:
0.8871
152/750 [=====>.....] - ETA: 0s - loss: 0.5320 - accuracy:
0.8892
230/750 [======>.....] - ETA: 0s - loss: 0.5303 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.5313 - accuracy:
0.8881
381/750 [========>>.....] - ETA: 0s - loss: 0.5317 - accuracy:
0.8872
456/750 [=========>...... - ETA: 0s - loss: 0.5314 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.5303 - accuracy:
```

```
0.8879
0.8884
0.8878
0.8879 - val loss: 0.5683 - val accuracy: 0.8734
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.5576 - accuracy:
78/750 [==>....... - ETA: 0s - loss: 0.5573 - accuracy:
0.8770
154/750 [=====>.....] - ETA: 0s - loss: 0.5434 - accuracy:
0.8816
230/750 [======>..... - ETA: 0s - loss: 0.5421 - accuracy:
0.8819
308/750 [=======>.....] - ETA: 0s - loss: 0.5353 - accuracy:
383/750 [=======>>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8857
459/750 [=========>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8872
535/750 [==========>.....] - ETA: 0s - loss: 0.5290 - accuracy:
0.8874
685/750 [============>...] - ETA: 0s - loss: 0.5279 - accuracy:
0.8875 - val loss: 0.5691 - val accuracy: 0.8719
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.5096 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5294 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.5292 - accuracy:
0.8869
229/750 [======>.....] - ETA: 0s - loss: 0.5344 - accuracy:
0.8843
304/750 [========>.....] - ETA: 0s - loss: 0.5319 - accuracy:
382/750 [========>>.....] - ETA: 0s - loss: 0.5307 - accuracy:
0.8866
459/750 [=========>...... - ETA: 0s - loss: 0.5298 - accuracy:
0.8864
535/750 [==========>.....] - ETA: 0s - loss: 0.5285 - accuracy:
```

```
0.8867
0.8870
750/750 [================ ] - 1s 805us/step - loss: 0.5281 - accuracy:
0.8874 - val loss: 0.5683 - val accuracy: 0.8727
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.5023 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5293 - accuracy:
155/750 [=====>.....] - ETA: 0s - loss: 0.5320 - accuracy:
230/750 [======>.....] - ETA: 0s - loss: 0.5303 - accuracy:
0.8856
306/750 [=======>>.....] - ETA: 0s - loss: 0.5273 - accuracy:
0.8877
380/750 [========>.....] - ETA: 0s - loss: 0.5277 - accuracy:
0.8871
456/750 [=========>.....] - ETA: 0s - loss: 0.5281 - accuracy:
0.8874
532/750 [==========>.....] - ETA: 0s - loss: 0.5293 - accuracy:
0.8871
0.8876
750/750 [============= ] - 1s 816us/step - loss: 0.5276 - accuracy:
0.8878 - val loss: 0.5665 - val accuracy: 0.8733
Epoch 199/220
1/750 [.....] - ETA: 0s - loss: 0.7314 - accuracy:
0.8438
78/750 [==>.....] - ETA: 0s - loss: 0.5297 - accuracy:
0.8880
155/750 [====>.....] - ETA: 0s - loss: 0.5276 - accuracy:
0.8869
230/750 [======>.....] - ETA: 0s - loss: 0.5288 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.5290 - accuracy:
382/750 [========>>.....] - ETA: 0s - loss: 0.5283 - accuracy:
0.8879
460/750 [=========>.....] - ETA: 0s - loss: 0.5283 - accuracy:
0.8876
534/750 [=========>.....] - ETA: 0s - loss: 0.5263 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.5248 - accuracy:
```

```
0.8884
0.8881 - val loss: 0.5662 - val accuracy: 0.8722
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.6445 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5173 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.5252 - accuracy:
0.8924
224/750 [======>.....] - ETA: 0s - loss: 0.5281 - accuracy:
301/750 [========>.....] - ETA: 0s - loss: 0.5262 - accuracy:
0.8908
378/750 [========>.....] - ETA: 0s - loss: 0.5237 - accuracy:
0.8904
452/750 [==========>.....] - ETA: 0s - loss: 0.5259 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.5248 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.5257 - accuracy:
750/750 [============= ] - 1s 816us/step - loss: 0.5262 - accuracy:
0.8886 - val_loss: 0.5661 - val_accuracy: 0.8730
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.6059 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5209 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.5220 - accuracy:
0.8889
221/750 [======>.....] - ETA: 0s - loss: 0.5247 - accuracy:
0.8886
293/750 [=======>.....] - ETA: 0s - loss: 0.5269 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.5288 - accuracy:
441/750 [========>..... - ETA: 0s - loss: 0.5301 - accuracy:
0.8864
516/750 [=========>.....] - ETA: 0s - loss: 0.5278 - accuracy:
0.8871
585/750 [===========>.....] - ETA: 0s - loss: 0.5265 - accuracy:
0.8876
662/750 [=============>....] - ETA: 0s - loss: 0.5271 - accuracy:
```

```
0.8881
0.8882 - val_loss: 0.5650 - val_accuracy: 0.8727
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.5306 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5096 - accuracy:
153/750 [====>...... - ETA: 0s - loss: 0.5094 - accuracy:
0.8947
229/750 [======>.....] - ETA: 0s - loss: 0.5102 - accuracy:
0.8945
305/750 [========>.....] - ETA: 0s - loss: 0.5137 - accuracy:
0.8925
384/750 [=======>..... - ETA: 0s - loss: 0.5167 - accuracy:
460/750 [==========>.....] - ETA: 0s - loss: 0.5206 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.5222 - accuracy:
0.8898
0.8895
690/750 [===========>...] - ETA: 0s - loss: 0.5247 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 0.5248 - accuracy:
0.8880 - val_loss: 0.5661 - val_accuracy: 0.8743
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.5860 - accuracy:
0.8594
80/750 [==>.....] - ETA: 0s - loss: 0.5232 - accuracy:
0.8865
158/750 [====>.....] - ETA: 0s - loss: 0.5254 - accuracy:
0.8887
236/750 [======>.....] - ETA: 0s - loss: 0.5269 - accuracy:
0.8881
310/750 [=======>.....] - ETA: 0s - loss: 0.5224 - accuracy:
0.8899
386/750 [========>.....] - ETA: 0s - loss: 0.5243 - accuracy:
463/750 [=========>.....] - ETA: 0s - loss: 0.5255 - accuracy:
541/750 [=========>.....] - ETA: 0s - loss: 0.5257 - accuracy:
0.8887
618/750 [===========>.....] - ETA: 0s - loss: 0.5257 - accuracy:
0.8882
692/750 [============>...] - ETA: 0s - loss: 0.5259 - accuracy:
```

```
0.8877
750/750 [=============== ] - 1s 800us/step - loss: 0.5241 - accuracy:
0.8884 - val_loss: 0.5674 - val_accuracy: 0.8711
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.4548 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5310 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.5244 - accuracy:
0.8869
234/750 [======>..... - ETA: 0s - loss: 0.5263 - accuracy:
0.8874
310/750 [=======>.....] - ETA: 0s - loss: 0.5270 - accuracy:
0.8867
388/750 [=========>.....] - ETA: 0s - loss: 0.5241 - accuracy:
0.8879
465/750 [=========>.....] - ETA: 0s - loss: 0.5242 - accuracy:
0.8877
538/750 [==========>.....] - ETA: 0s - loss: 0.5233 - accuracy:
0.8879
0.8885
750/750 [============= ] - 1s 806us/step - loss: 0.5232 - accuracy:
0.8889 - val_loss: 0.5641 - val_accuracy: 0.8725
Epoch 205/220
 1/750 [...... 0.6031 - accuracy:
0.8594
77/750 [==>.....] - ETA: 0s - loss: 0.5383 - accuracy:
0.8791
154/750 [====>.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8833
231/750 [======>...... - ETA: 0s - loss: 0.5307 - accuracy:
308/750 [========>.....] - ETA: 0s - loss: 0.5292 - accuracy:
385/750 [========>.....] - ETA: 0s - loss: 0.5263 - accuracy:
0.8863
459/750 [=========>.....] - ETA: 0s - loss: 0.5253 - accuracy:
0.8871
537/750 [=========>.....] - ETA: 0s - loss: 0.5262 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.5260 - accuracy:
0.8869
692/750 [============>...] - ETA: 0s - loss: 0.5239 - accuracy:
0.8877
750/750 [============= ] - 1s 800us/step - loss: 0.5226 - accuracy:
```

```
0.8884 - val_loss: 0.5626 - val_accuracy: 0.8736 Epoch 206/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5373 - accuracy:
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.5072 - accuracy:
0.8994
156/750 [====>.....] - ETA: 0s - loss: 0.5208 - accuracy:
231/750 [======>.....] - ETA: 0s - loss: 0.5216 - accuracy:
0.8901
310/750 [=======>..... - ETA: 0s - loss: 0.5204 - accuracy:
0.8899
385/750 [=======>>.....] - ETA: 0s - loss: 0.5185 - accuracy:
0.8911
462/750 [=========>.....] - ETA: 0s - loss: 0.5180 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5187 - accuracy:
0.8894
689/750 [============>...] - ETA: 0s - loss: 0.5219 - accuracy:
0.8890 - val loss: 0.5647 - val accuracy: 0.8724
Epoch 207/220
1/750 [...... os - loss: 0.4449 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5147 - accuracy:
0.8916
152/750 [=====>.....] - ETA: 0s - loss: 0.5245 - accuracy:
0.8901
230/750 [======>.....] - ETA: 0s - loss: 0.5265 - accuracy:
0.8893
306/750 [=======>.....] - ETA: 0s - loss: 0.5273 - accuracy:
0.8887
383/750 [========>.....] - ETA: 0s - loss: 0.5238 - accuracy:
461/750 [==========>.....] - ETA: 0s - loss: 0.5220 - accuracy:
536/750 [==========>.....] - ETA: 0s - loss: 0.5215 - accuracy:
0.8897
614/750 [============>.....] - ETA: 0s - loss: 0.5224 - accuracy:
0.8894
0.8897
750/750 [============= ] - 1s 804us/step - loss: 0.5214 - accuracy:
0.8891 - val_loss: 0.5618 - val_accuracy: 0.8753
Epoch 208/220
```

```
1/750 [...... - 6.5570 - accuracy:
79/750 [==>....... - accuracy:
157/750 [====>.....] - ETA: 0s - loss: 0.5216 - accuracy:
0.8906
230/750 [======>.....] - ETA: 0s - loss: 0.5214 - accuracy:
308/750 [=======>.....] - ETA: 0s - loss: 0.5204 - accuracy:
0.8909
387/750 [=======>..... - ETA: 0s - loss: 0.5211 - accuracy:
464/750 [==========>.....] - ETA: 0s - loss: 0.5247 - accuracy:
0.8876
541/750 [==========>.....] - ETA: 0s - loss: 0.5222 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.5206 - accuracy:
0.8894
0.8894 - val loss: 0.5629 - val accuracy: 0.8726
Epoch 209/220
1/750 [.....] - ETA: 0s - loss: 0.4706 - accuracy:
0.9219
78/750 [==>.....] - ETA: 0s - loss: 0.5117 - accuracy:
154/750 [=====>.....] - ETA: 0s - loss: 0.5242 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.5234 - accuracy:
0.8867
310/750 [=======>.....] - ETA: 0s - loss: 0.5227 - accuracy:
0.8871
386/750 [=======>>.....] - ETA: 0s - loss: 0.5210 - accuracy:
0.8880
464/750 [==========>.....] - ETA: 0s - loss: 0.5194 - accuracy:
0.8885
543/750 [=========>.....] - ETA: 0s - loss: 0.5193 - accuracy:
0.8886
0.8889 - val_loss: 0.5610 - val_accuracy: 0.8737
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.3564 - accuracy:
```

```
0.9531
75/750 [==>.....] - ETA: 0s - loss: 0.5295 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.5282 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.5241 - accuracy:
0.8891
309/750 [=======>.....] - ETA: 0s - loss: 0.5228 - accuracy:
0.8887
386/750 [========>.....] - ETA: 0s - loss: 0.5216 - accuracy:
462/750 [=========>...... - ETA: 0s - loss: 0.5219 - accuracy:
539/750 [=========>.....] - ETA: 0s - loss: 0.5210 - accuracy:
0.8901
0.8898
693/750 [============>...] - ETA: 0s - loss: 0.5190 - accuracy:
0.8894 - val_loss: 0.5650 - val_accuracy: 0.8713
Epoch 211/220
1/750 [...... - ETA: 0s - loss: 0.4113 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.5415 - accuracy:
156/750 [====>.....] - ETA: 0s - loss: 0.5344 - accuracy:
232/750 [======>.....] - ETA: 0s - loss: 0.5295 - accuracy:
0.8870
309/750 [=======>.....] - ETA: 0s - loss: 0.5247 - accuracy:
386/750 [========>.....] - ETA: 0s - loss: 0.5221 - accuracy:
0.8891
462/750 [=========>...... - ETA: 0s - loss: 0.5188 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.5181 - accuracy:
0.8909
617/750 [============>.....] - ETA: 0s - loss: 0.5163 - accuracy:
0.8911
0.8903
0.8903 - val_loss: 0.5611 - val_accuracy: 0.8732
Epoch 212/220
1/750 [...... - ETA: 0s - loss: 0.4869 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.5111 - accuracy:
```

```
0.8865
150/750 [=====>.....] - ETA: 0s - loss: 0.5234 - accuracy:
228/750 [======>.....] - ETA: 0s - loss: 0.5198 - accuracy:
307/750 [======>.....] - ETA: 0s - loss: 0.5205 - accuracy:
0.8882
383/750 [=======>>.....] - ETA: 0s - loss: 0.5195 - accuracy:
459/750 [==========>.....] - ETA: 0s - loss: 0.5240 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.5216 - accuracy:
0.8886
0.8897
0.8902
0.8902 - val loss: 0.5611 - val accuracy: 0.8735
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.5715 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.5088 - accuracy:
0.8859
152/750 [====>.....] - ETA: 0s - loss: 0.5147 - accuracy:
0.8884
228/750 [======>.....] - ETA: 0s - loss: 0.5096 - accuracy:
304/750 [========>.....] - ETA: 0s - loss: 0.5121 - accuracy:
0.8899
379/750 [========>.....] - ETA: 0s - loss: 0.5141 - accuracy:
454/750 [==========>.....] - ETA: 0s - loss: 0.5163 - accuracy:
0.8897
528/750 [==========>.....] - ETA: 0s - loss: 0.5181 - accuracy:
0.8888
683/750 [============>...] - ETA: 0s - loss: 0.5180 - accuracy:
0.8895 - val loss: 0.5623 - val accuracy: 0.8725
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.5627 - accuracy:
0.8906
78/750 [==>.....] - ETA: 0s - loss: 0.5084 - accuracy:
155/750 [====>.....] - ETA: 0s - loss: 0.5205 - accuracy:
```

```
0.8904
231/750 [======>.....] - ETA: 0s - loss: 0.5196 - accuracy:
309/750 [=======>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8885
386/750 [=======>.....] - ETA: 0s - loss: 0.5246 - accuracy:
0.8873
463/750 [=========>.....] - ETA: 0s - loss: 0.5217 - accuracy:
543/750 [==========>.....] - ETA: 0s - loss: 0.5220 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.5197 - accuracy:
0.8888
0.8891
750/750 [============= ] - 1s 801us/step - loss: 0.5171 - accuracy:
0.8896 - val loss: 0.5593 - val accuracy: 0.8745
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.7327 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.5142 - accuracy:
154/750 [====>...... - ETA: 0s - loss: 0.5192 - accuracy:
0.8862
231/750 [======>.....] - ETA: 0s - loss: 0.5123 - accuracy:
307/750 [=======>.....] - ETA: 0s - loss: 0.5122 - accuracy:
0.8896
383/750 [=========>.....] - ETA: 0s - loss: 0.5160 - accuracy:
0.8893
459/750 [==========>.....] - ETA: 0s - loss: 0.5185 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.5201 - accuracy:
0.8886
609/750 [===========>.....] - ETA: 0s - loss: 0.5188 - accuracy:
0.8891
0.8897
0.8901 - val_loss: 0.5619 - val_accuracy: 0.8719
Epoch 216/220
1/750 [...... 0.5012 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5333 - accuracy:
0.8824
146/750 [====>.....] - ETA: 0s - loss: 0.5253 - accuracy:
222/750 [=====>.....] - ETA: 0s - loss: 0.5177 - accuracy:
```

```
0.8895
291/750 [=======>.....] - ETA: 0s - loss: 0.5190 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.5165 - accuracy:
0.8886
441/750 [========>..... - ETA: 0s - loss: 0.5162 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.5165 - accuracy:
0.8894
669/750 [============>....] - ETA: 0s - loss: 0.5160 - accuracy:
0.8897
0.8901
750/750 [============= ] - 1s 824us/step - loss: 0.5156 - accuracy:
0.8904 - val loss: 0.5575 - val accuracy: 0.8741
Epoch 217/220
1/750 [...... os. - loss: 0.4401 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.4937 - accuracy:
152/750 [====>...... - ETA: 0s - loss: 0.5075 - accuracy:
0.8961
230/750 [======>.....] - ETA: 0s - loss: 0.5121 - accuracy:
308/750 [=======>..... - ETA: 0s - loss: 0.5123 - accuracy:
0.8926
385/750 [=========>.....] - ETA: 0s - loss: 0.5134 - accuracy:
0.8906
452/750 [==========>.....] - ETA: 0s - loss: 0.5119 - accuracy:
0.8911
528/750 [==========>.....] - ETA: 0s - loss: 0.5150 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.5125 - accuracy:
0.8906
0.8899 - val_loss: 0.5627 - val_accuracy: 0.8723
Epoch 218/220
75/750 [==>....... - accuracy:
0.8898
153/750 [====>.....] - ETA: 0s - loss: 0.5159 - accuracy:
0.8897
231/750 [======>.....] - ETA: 0s - loss: 0.5094 - accuracy:
```

```
0.8922
307/750 [========>.....] - ETA: 0s - loss: 0.5107 - accuracy:
384/750 [========>.....] - ETA: 0s - loss: 0.5110 - accuracy:
0.8909
462/750 [=========>.....] - ETA: 0s - loss: 0.5130 - accuracy:
538/750 [=========>.....] - ETA: 0s - loss: 0.5137 - accuracy:
695/750 [===========>...] - ETA: 0s - loss: 0.5135 - accuracy:
750/750 [============= ] - 1s 802us/step - loss: 0.5146 - accuracy:
0.8905 - val_loss: 0.5583 - val_accuracy: 0.8742
Epoch 219/220
1/750 [...... - ETA: 0s - loss: 0.5153 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.5050 - accuracy:
0.8963
156/750 [====>.....] - ETA: 0s - loss: 0.5124 - accuracy:
0.8937
233/750 [======>.....] - ETA: 0s - loss: 0.5099 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 0.5124 - accuracy:
0.8927
389/750 [=======>>.....] - ETA: 0s - loss: 0.5145 - accuracy:
0.8915
465/750 [==========>.....] - ETA: 0s - loss: 0.5142 - accuracy:
0.8919
542/750 [==========>.....] - ETA: 0s - loss: 0.5145 - accuracy:
0.8912 - val_loss: 0.5581 - val_accuracy: 0.8749
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.4424 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.4990 - accuracy:
0.8964
155/750 [=====>.....] - ETA: 0s - loss: 0.5069 - accuracy:
234/750 [======>.....] - ETA: 0s - loss: 0.5149 - accuracy:
0.8906
311/750 [=======>..... - ETA: 0s - loss: 0.5139 - accuracy:
```

```
0.8908
390/750 [=========>:....] - ETA: 0s - loss: 0.5110 - accuracy:
0.8916
466/750 [==========>.....] - ETA: 0s - loss: 0.5112 - accuracy:
0.8918
543/750 [===========>.....] - ETA: 0s - loss: 0.5126 - accuracy:
0.8908 - val loss: 0.5565 - val accuracy: 0.8753
1/313 [.....] - ETA: 3s - loss: 0.5328 - accuracy:
110/313 [=======>.....] - ETA: 0s - loss: 0.5912 - accuracy:
215/313 [===========>.....] - ETA: 0s - loss: 0.5948 - accuracy:
0.8661
0.8658
Testing loss: 0.5826166868209839
Testing accuracy: 86.58000230789185%
```

Running for Model 9/12

Model: "sequential_9"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 40)	31400
hidden1 (Dense)	(None, 40)	1640
hidden2 (Dense)	(None, 40)	1640
hidden3 (Dense)	(None, 40)	1640
hidden4 (Dense)	(None, 40)	1640
output_layer (Dense)	(None, 10)	410

Total params: 38,370 Trainable params: 38,370 Non-trainable params: 0

```
Training NN with EPOCHS=220, BATCH SIZE=64, LEARNING RATE=0.001 and
L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 40,
'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size':
40, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 40,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 2:08 - loss: 2.5505 - accuracy:
0.1496
80/750 [==>.....] - ETA: 0s - loss: 2.5552 - accuracy: 0.0996
165/750 [====>...... - ETA: 0s - loss: 2.5509 - accuracy:
0.1068
250/750 [======>..... - ETA: 0s - loss: 2.5476 - accuracy:
334/750 [========>...... - ETA: 0s - loss: 2.5444 - accuracy:
418/750 [========>..... - ETA: 0s - loss: 2.5413 - accuracy:
0.1331
496/750 [=========>.....] - ETA: 0s - loss: 2.5381 - accuracy:
0.1433
583/750 [============>.....] - ETA: 0s - loss: 2.5346 - accuracy:
0.1638
0.1725 - val_loss: 2.4939 - val_accuracy: 0.2507
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 2.4875 - accuracy:
0.2344
82/750 [==>.....] - ETA: 0s - loss: 2.4908 - accuracy:
161/750 [=====>.....] - ETA: 0s - loss: 2.4839 - accuracy:
0.2687
244/750 [======>.....] - ETA: 0s - loss: 2.4790 - accuracy:
323/750 [=======>.....] - ETA: 0s - loss: 2.4737 - accuracy:
0.2693
414/750 [========>.....] - ETA: 0s - loss: 2.4683 - accuracy:
505/750 [========>>.....] - ETA: 0s - loss: 2.4622 - accuracy:
0.2701
592/750 [===========>.....] - ETA: 0s - loss: 2.4562 - accuracy:
```

```
750/750 [=============== ] - 1s 718us/step - loss: 2.4444 - accuracy:
0.2718 - val_loss: 2.3808 - val_accuracy: 0.2832
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 2.3145 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 2.3716 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 2.3646 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 2.3545 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 2.3448 - accuracy:
0.2892
434/750 [=========>.....] - ETA: 0s - loss: 2.3358 - accuracy:
0.2931
525/750 [==========>.....] - ETA: 0s - loss: 2.3252 - accuracy:
0.3017
699/750 [===========>...] - ETA: 0s - loss: 2.3034 - accuracy:
750/750 [============== ] - 1s 705us/step - loss: 2.2971 - accuracy:
0.3052 - val loss: 2.1999 - val accuracy: 0.3267
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 2.1752 - accuracy:
0.3125
92/750 [==>.....] - ETA: 0s - loss: 2.1878 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 2.1742 - accuracy:
0.3319
270/750 [=======>.....] - ETA: 0s - loss: 2.1616 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 2.1532 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 2.1392 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 2.1235 - accuracy:
0.3411
0.3468 - val_loss: 1.9667 - val_accuracy: 0.3816
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 1.9194 - accuracy:
```

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0.4531
91/750 [==>.....] - ETA: 0s - loss: 1.9581 - accuracy:
174/750 [=====>.....] - ETA: 0s - loss: 1.9416 - accuracy:
0.3860
263/750 [======>..... - ETA: 0s - loss: 1.9190 - accuracy:
0.3915
352/750 [=======>.....] - ETA: 0s - loss: 1.9037 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 1.8864 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 1.8722 - accuracy:
0.4185 - val loss: 1.6973 - val accuracy: 0.4604
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 1.6382 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 1.6909 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 1.6547 - accuracy:
0.4856
266/750 [======>..... - ETA: 0s - loss: 1.6426 - accuracy:
356/750 [=========>.....] - ETA: 0s - loss: 1.6325 - accuracy:
0.4926
446/750 [=========>.....] - ETA: 0s - loss: 1.6124 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 1.5987 - accuracy:
0.5066
623/750 [===========>.....] - ETA: 0s - loss: 1.5816 - accuracy:
0.5186
0.5217 - val_loss: 1.4447 - val_accuracy: 0.5760
Epoch 7/220
1/750 [...... 1.4300 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 1.4252 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 1.4183 - accuracy:
263/750 [======>.....] - ETA: 0s - loss: 1.4031 - accuracy:
```

```
0.5942
353/750 [=========>.....] - ETA: 0s - loss: 1.3927 - accuracy:
0.5987
444/750 [=========>.....] - ETA: 0s - loss: 1.3821 - accuracy:
531/750 [===========>.....] - ETA: 0s - loss: 1.3717 - accuracy:
0.6143 - val_loss: 1.2762 - val_accuracy: 0.6403
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 1.2567 - accuracy:
0.6875
88/750 [==>.....] - ETA: 0s - loss: 1.2512 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 1.2508 - accuracy:
0.6473
268/750 [======>..... - ETA: 0s - loss: 1.2471 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 1.2421 - accuracy:
0.6519
445/750 [=========>.....] - ETA: 0s - loss: 1.2361 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 1.2317 - accuracy:
750/750 [=============== ] - 1s 696us/step - loss: 1.2162 - accuracy:
0.6576 - val loss: 1.1719 - val accuracy: 0.6752
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 1.1637 - accuracy:
0.6094
87/750 [==>.....] - ETA: 0s - loss: 1.1565 - accuracy:
0.6776
172/750 [====>.....] - ETA: 0s - loss: 1.1591 - accuracy:
0.6781
261/750 [=======>.....] - ETA: 0s - loss: 1.1550 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 1.1497 - accuracy:
0.6783
437/750 [=========>..... - ETA: 0s - loss: 1.1427 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 1.1377 - accuracy:
```

```
750/750 [=============== ] - 1s 706us/step - loss: 1.1304 - accuracy:
0.6884 - val loss: 1.1000 - val accuracy: 0.6990
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 1.1364 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 1.1028 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 1.0915 - accuracy:
0.6974
268/750 [=======>.....] - ETA: 0s - loss: 1.0875 - accuracy:
0.6981
353/750 [=======>.....] - ETA: 0s - loss: 1.0834 - accuracy:
0.7028
442/750 [=========>...... - ETA: 0s - loss: 1.0799 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 1.0776 - accuracy:
0.7063
0.7079
705/750 [==============>..] - ETA: 0s - loss: 1.0706 - accuracy:
750/750 [============= ] - 1s 708us/step - loss: 1.0699 - accuracy:
0.7099 - val_loss: 1.0500 - val_accuracy: 0.7138
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 1.2147 - accuracy:
0.6875
89/750 [==>.....] - ETA: 0s - loss: 1.0546 - accuracy:
0.7098
172/750 [====>.....] - ETA: 0s - loss: 1.0520 - accuracy:
0.7123
261/750 [=======>.....] - ETA: 0s - loss: 1.0382 - accuracy:
0.7164
349/750 [========>.....] - ETA: 0s - loss: 1.0336 - accuracy:
0.7196
435/750 [=========>.....] - ETA: 0s - loss: 1.0331 - accuracy:
0.7193
525/750 [=========>.....] - ETA: 0s - loss: 1.0343 - accuracy:
0.7194
612/750 [============>.....] - ETA: 0s - loss: 1.0318 - accuracy:
0.7241
750/750 [============= ] - 1s 706us/step - loss: 1.0263 - accuracy:
```

```
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 0.9225 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.9952 - accuracy:
0.7429
174/750 [====>...... - ETA: 0s - loss: 1.0037 - accuracy:
0.7351
257/750 [======>..... - ETA: 0s - loss: 1.0000 - accuracy:
0.7366
341/750 [=======>.....] - ETA: 0s - loss: 1.0009 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.9953 - accuracy:
0.7359
515/750 [==========>.....] - ETA: 0s - loss: 0.9937 - accuracy:
0.7361
606/750 [===========>.....] - ETA: 0s - loss: 0.9951 - accuracy:
0.7355 - val loss: 0.9832 - val accuracy: 0.7352
Epoch 13/220
 1/750 [.....] - ETA: 0s - loss: 0.9320 - accuracy:
0.7969
90/750 [==>.....] - ETA: 0s - loss: 0.9685 - accuracy:
0.7349
179/750 [=====>.....] - ETA: 0s - loss: 0.9724 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.9727 - accuracy:
0.7388
355/750 [========>.....] - ETA: 0s - loss: 0.9689 - accuracy:
0.7417
441/750 [========>..... - ETA: 0s - loss: 0.9713 - accuracy:
0.7496
528/750 [==========>.....] - ETA: 0s - loss: 0.9710 - accuracy:
0.7401
618/750 [============>.....] - ETA: 0s - loss: 0.9707 - accuracy:
0.7416
750/750 [============= ] - 1s 697us/step - loss: 0.9678 - accuracy:
0.7423 - val_loss: 0.9606 - val_accuracy: 0.7400
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 1.0869 - accuracy:
0.7188
87/750 [==>.....] - ETA: 0s - loss: 0.9696 - accuracy:
```

0.7245 - val loss: 1.0115 - val accuracy: 0.7268

```
0.7390
175/750 [=====>.....] - ETA: 0s - loss: 0.9602 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.9570 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.9503 - accuracy:
443/750 [========>.....] - ETA: 0s - loss: 0.9507 - accuracy:
0.7463
532/750 [==========>.....] - ETA: 0s - loss: 0.9480 - accuracy:
621/750 [===========>.....] - ETA: 0s - loss: 0.9490 - accuracy:
0.7485
750/750 [============== ] - 1s 701us/step - loss: 0.9471 - accuracy:
0.7487 - val loss: 0.9414 - val accuracy: 0.7452
Epoch 15/220
1/750 [...... 0.8390 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.9304 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.9292 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.9299 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.9276 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.9278 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.9272 - accuracy:
0.7537 - val_loss: 0.9260 - val_accuracy: 0.7509
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 1.1784 - accuracy:
0.7188
90/750 [==>.....] - ETA: 0s - loss: 0.9247 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.9262 - accuracy:
0.7569
267/750 [======>..... - ETA: 0s - loss: 0.9188 - accuracy:
0.7579
357/750 [=======>.....] - ETA: 0s - loss: 0.9176 - accuracy:
```

```
0.7592
446/750 [=========>.....] - ETA: 0s - loss: 0.9159 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.9120 - accuracy:
0.7628
750/750 [=============== ] - 1s 702us/step - loss: 0.9131 - accuracy:
0.7612 - val_loss: 0.9107 - val_accuracy: 0.7599
Epoch 17/220
1/750 [.....] - ETA: 0s - loss: 0.8670 - accuracy:
0.7656
87/750 [==>.....] - ETA: 0s - loss: 0.9180 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.9096 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.9035 - accuracy:
0.7648
349/750 [=======>.....] - ETA: 0s - loss: 0.9051 - accuracy:
0.7645
431/750 [=========>..... - ETA: 0s - loss: 0.9018 - accuracy:
0.7661
518/750 [===========>.....] - ETA: 0s - loss: 0.9011 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.8991 - accuracy:
0.7671
0.7674 - val loss: 0.8961 - val accuracy: 0.7651
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 0.7876 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.8602 - accuracy:
0.7839
173/750 [=====>.....] - ETA: 0s - loss: 0.8737 - accuracy:
0.7746
260/750 [======>.....] - ETA: 0s - loss: 0.8851 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.8898 - accuracy:
0.7687
436/750 [=========>.....] - ETA: 0s - loss: 0.8903 - accuracy:
0.7698
523/750 [=========>.....] - ETA: 0s - loss: 0.8887 - accuracy:
606/750 [=============>.....] - ETA: 0s - loss: 0.8857 - accuracy:
```

```
0.7719
750/750 [=============== ] - 1s 713us/step - loss: 0.8850 - accuracy:
0.7715 - val loss: 0.8834 - val accuracy: 0.7701
Epoch 19/220
 1/750 [.....] - ETA: 0s - loss: 0.9573 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.8831 - accuracy:
0.7748
174/750 [====>...... - ETA: 0s - loss: 0.8778 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.8779 - accuracy:
0.7763
343/750 [=========>.....] - ETA: 0s - loss: 0.8748 - accuracy:
0.7769
423/750 [========>..... - ETA: 0s - loss: 0.8769 - accuracy:
0.7764
504/750 [===========>.....] - ETA: 0s - loss: 0.8757 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.8747 - accuracy:
750/750 [============= ] - 1s 722us/step - loss: 0.8725 - accuracy:
0.7765 - val loss: 0.8710 - val_accuracy: 0.7750
Epoch 20/220
1/750 [.....] - ETA: 0s - loss: 0.8139 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.8567 - accuracy:
0.7835
179/750 [=====>.....] - ETA: 0s - loss: 0.8599 - accuracy:
0.7824
263/750 [======>..... - ETA: 0s - loss: 0.8598 - accuracy:
0.7829
352/750 [========>.....] - ETA: 0s - loss: 0.8628 - accuracy:
0.7819
437/750 [=========>.....] - ETA: 0s - loss: 0.8616 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.8642 - accuracy:
0.7813
609/750 [===========>.....] - ETA: 0s - loss: 0.8635 - accuracy:
0.7816
695/750 [============>...] - ETA: 0s - loss: 0.8622 - accuracy:
0.7815
0.7817 - val loss: 0.8600 - val accuracy: 0.7793
Epoch 21/220
```

```
1/750 [....... - 6.8657 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.8566 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.8588 - accuracy:
0.7821
257/750 [======>.....] - ETA: 0s - loss: 0.8567 - accuracy:
0.7821
344/750 [=======>.....] - ETA: 0s - loss: 0.8507 - accuracy:
0.7839
431/750 [=========>..... - ETA: 0s - loss: 0.8549 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.8513 - accuracy:
610/750 [============>.....] - ETA: 0s - loss: 0.8497 - accuracy:
0.7857
699/750 [============>...] - ETA: 0s - loss: 0.8504 - accuracy:
0.7859
0.7854 - val_loss: 0.8503 - val_accuracy: 0.7852
Epoch 22/220
1/750 [...... - ETA: 0s - loss: 0.8084 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.8335 - accuracy:
0.7921
178/750 [=====>.....] - ETA: 0s - loss: 0.8384 - accuracy:
0.7894
270/750 [=======>.....] - ETA: 0s - loss: 0.8369 - accuracy:
0.7897
356/750 [=======>.....] - ETA: 0s - loss: 0.8380 - accuracy:
0.7906
445/750 [=========>.....] - ETA: 0s - loss: 0.8368 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.8369 - accuracy:
0.7907
713/750 [===============>..] - ETA: 0s - loss: 0.8408 - accuracy:
0.7891 - val loss: 0.8403 - val accuracy: 0.7886
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.9616 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.8412 - accuracy:
0.7884
179/750 [=====>.....] - ETA: 0s - loss: 0.8371 - accuracy:
```

```
0.7887
269/750 [=======>.....] - ETA: 0s - loss: 0.8327 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.8330 - accuracy:
0.7915
446/750 [========>.....] - ETA: 0s - loss: 0.8335 - accuracy:
537/750 [=========>.....] - ETA: 0s - loss: 0.8306 - accuracy:
713/750 [===============>..] - ETA: 0s - loss: 0.8320 - accuracy:
0.7927
750/750 [============= ] - 1s 694us/step - loss: 0.8313 - accuracy:
0.7930 - val_loss: 0.8313 - val_accuracy: 0.7916
Epoch 24/220
1/750 [...... - ETA: 0s - loss: 0.7434 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.8250 - accuracy:
0.7956
177/750 [=====>.....] - ETA: 0s - loss: 0.8223 - accuracy:
0.7961
264/750 [======>..... - ETA: 0s - loss: 0.8165 - accuracy:
0.7991
348/750 [========>.....] - ETA: 0s - loss: 0.8253 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.8258 - accuracy:
0.7966
518/750 [=========>.....] - ETA: 0s - loss: 0.8212 - accuracy:
0.7967
0.7969 - val loss: 0.8235 - val accuracy: 0.7932
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.9228 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.8226 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.8195 - accuracy:
0.7993
260/750 [=======>.....] - ETA: 0s - loss: 0.8184 - accuracy:
0.7978
350/750 [========>...... - ETA: 0s - loss: 0.8186 - accuracy:
0.7975
439/750 [=========>.....] - ETA: 0s - loss: 0.8207 - accuracy:
```

```
0.7969
522/750 [===========>.....] - ETA: 0s - loss: 0.8191 - accuracy:
0.7974
609/750 [============>.....] - ETA: 0s - loss: 0.8173 - accuracy:
0.7991
750/750 [================ ] - 1s 706us/step - loss: 0.8149 - accuracy:
0.8003 - val loss: 0.8146 - val accuracy: 0.7990
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.8024 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.8153 - accuracy:
0.7983
174/750 [=====>.....] - ETA: 0s - loss: 0.8059 - accuracy:
0.8039
259/750 [======>...... - ETA: 0s - loss: 0.8088 - accuracy:
0.8021
343/750 [========>.....] - ETA: 0s - loss: 0.8096 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.8083 - accuracy:
0.8029
518/750 [===========>.....] - ETA: 0s - loss: 0.8098 - accuracy:
0.8019
750/750 [============= ] - 1s 714us/step - loss: 0.8073 - accuracy:
0.8025 - val loss: 0.8083 - val accuracy: 0.8019
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.8174 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.8139 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.8203 - accuracy:
0.7979
260/750 [=======>.....] - ETA: 0s - loss: 0.8094 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.8057 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.8059 - accuracy:
0.8041
520/750 [=========>.....] - ETA: 0s - loss: 0.8017 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.8019 - accuracy:
696/750 [============>...] - ETA: 0s - loss: 0.8007 - accuracy:
```

```
0.8969
750/750 [=============== ] - 1s 708us/step - loss: 0.8000 - accuracy:
0.8059 - val_loss: 0.8032 - val_accuracy: 0.8018
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.6769 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 0.8088 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.8055 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.8001 - accuracy:
346/750 [=========>.....] - ETA: 0s - loss: 0.7972 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.7974 - accuracy:
0.8078
521/750 [=========>.....] - ETA: 0s - loss: 0.7950 - accuracy:
0.8986
695/750 [============>...] - ETA: 0s - loss: 0.7944 - accuracy:
0.8089
750/750 [================ ] - 1s 716us/step - loss: 0.7935 - accuracy:
0.8087 - val loss: 0.7949 - val accuracy: 0.8077
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.5397 - accuracy:
0.9219
91/750 [==>.....] - ETA: 0s - loss: 0.7759 - accuracy:
0.8168
180/750 [=====>...... - accuracy:
0.8120
270/750 [=======>.....] - ETA: 0s - loss: 0.7866 - accuracy:
0.8083
356/750 [=======>.....] - ETA: 0s - loss: 0.7890 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.7895 - accuracy:
0.8081
535/750 [=========>.....] - ETA: 0s - loss: 0.7886 - accuracy:
0.8091
0.8096
0.8102 - val_loss: 0.7906 - val_accuracy: 0.8107
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.8699 - accuracy:
```

```
0.7344
84/750 [==>.....] - ETA: 0s - loss: 0.7942 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.7949 - accuracy:
0.8081
256/750 [======>.....] - ETA: 0s - loss: 0.7885 - accuracy:
0.8094
347/750 [=======>.....] - ETA: 0s - loss: 0.7861 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.7873 - accuracy:
518/750 [=========>.......] - ETA: 0s - loss: 0.7844 - accuracy:
0.8114
0.8128
0.8131 - val loss: 0.7842 - val accuracy: 0.8117
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.6657 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.7814 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.7747 - accuracy:
0.8121
260/750 [======>..... - ETA: 0s - loss: 0.7787 - accuracy:
0.8127
346/750 [========>.....] - ETA: 0s - loss: 0.7790 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.7810 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.7791 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.7779 - accuracy:
0.8153 - val_loss: 0.7799 - val_accuracy: 0.8159
Epoch 32/220
1/750 [...... 0.7071 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.7649 - accuracy:
0.8189
173/750 [====>.....] - ETA: 0s - loss: 0.7714 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.7698 - accuracy:
```

```
0.8163
348/750 [========>......] - ETA: 0s - loss: 0.7708 - accuracy:
0.8167
435/750 [=========>.....] - ETA: 0s - loss: 0.7720 - accuracy:
0.8164
520/750 [============>.....] - ETA: 0s - loss: 0.7715 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.7723 - accuracy:
0.8167 - val loss: 0.7757 - val accuracy: 0.8150
Epoch 33/220
1/750 [.....] - ETA: 0s - loss: 0.8355 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.7636 - accuracy:
0.8234
175/750 [=====>.....] - ETA: 0s - loss: 0.7630 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.7620 - accuracy:
0.8198
350/750 [=======>.....] - ETA: 0s - loss: 0.7619 - accuracy:
0.8215
437/750 [=========>.....] - ETA: 0s - loss: 0.7618 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.7621 - accuracy:
0.8217
0.8196
750/750 [================ ] - 1s 713us/step - loss: 0.7655 - accuracy:
0.8196 - val loss: 0.7701 - val accuracy: 0.8179
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.7332 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 0.7634 - accuracy:
0.8166
176/750 [=====>.....] - ETA: 0s - loss: 0.7592 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.7615 - accuracy:
349/750 [=========>.....] - ETA: 0s - loss: 0.7622 - accuracy:
0.8177
436/750 [==========>.....] - ETA: 0s - loss: 0.7597 - accuracy:
0.8193
523/750 [=========>.....] - ETA: 0s - loss: 0.7630 - accuracy:
```

```
0.8180
0.8197
750/750 [=============== ] - 1s 717us/step - loss: 0.7608 - accuracy:
0.8202 - val loss: 0.7660 - val accuracy: 0.8201
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.6168 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.7539 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.7597 - accuracy:
0.8189
261/750 [=======>.....] - ETA: 0s - loss: 0.7542 - accuracy:
0.8224
346/750 [========>.....] - ETA: 0s - loss: 0.7581 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.7549 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.7525 - accuracy:
0.8241
0.8236
684/750 [============>...] - ETA: 0s - loss: 0.7546 - accuracy:
750/750 [============= ] - 1s 717us/step - loss: 0.7566 - accuracy:
0.8221 - val_loss: 0.7613 - val_accuracy: 0.8198
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.8686 - accuracy:
0.7031
83/750 [==>.....] - ETA: 0s - loss: 0.7734 - accuracy:
0.8181
174/750 [====>.....] - ETA: 0s - loss: 0.7646 - accuracy:
0.8199
258/750 [=======>.....] - ETA: 0s - loss: 0.7589 - accuracy:
0.8198
342/750 [========>.....] - ETA: 0s - loss: 0.7560 - accuracy:
0.8199
431/750 [=========>.....] - ETA: 0s - loss: 0.7543 - accuracy:
0.8211
517/750 [=========>.....] - ETA: 0s - loss: 0.7522 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.7524 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.7511 - accuracy:
0.8244
750/750 [============= ] - 1s 713us/step - loss: 0.7518 - accuracy:
```

```
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.7092 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.7520 - accuracy:
0.8247
172/750 [====>.....] - ETA: 0s - loss: 0.7538 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.7550 - accuracy:
0.8229
346/750 [=======>.....] - ETA: 0s - loss: 0.7566 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.7524 - accuracy:
520/750 [==========>.....] - ETA: 0s - loss: 0.7544 - accuracy:
0.8226
601/750 [===========>.....] - ETA: 0s - loss: 0.7496 - accuracy:
0.8253 - val loss: 0.7529 - val accuracy: 0.8248
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.5234 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.7481 - accuracy:
0.8265
171/750 [=====>.....] - ETA: 0s - loss: 0.7424 - accuracy:
253/750 [=======>.....] - ETA: 0s - loss: 0.7504 - accuracy:
0.8247
330/750 [========>.....] - ETA: 0s - loss: 0.7493 - accuracy:
0.8253
415/750 [========>..... - ETA: 0s - loss: 0.7458 - accuracy:
0.8266
505/750 [==========>.....] - ETA: 0s - loss: 0.7462 - accuracy:
0.8263
591/750 [===========>.....] - ETA: 0s - loss: 0.7456 - accuracy:
0.8281
0.8283 - val_loss: 0.7520 - val_accuracy: 0.8263
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.8056 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.7475 - accuracy:
```

0.8239 - val loss: 0.7576 - val accuracy: 0.8223

```
0.8235
175/750 [=====>.....] - ETA: 0s - loss: 0.7432 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.7435 - accuracy:
348/750 [=======>.....] - ETA: 0s - loss: 0.7408 - accuracy:
0.8288
430/750 [========>.....] - ETA: 0s - loss: 0.7405 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.7401 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.7410 - accuracy:
0.8287
750/750 [============= ] - 1s 712us/step - loss: 0.7398 - accuracy:
0.8288 - val loss: 0.7480 - val accuracy: 0.8254
Epoch 40/220
1/750 [...... 0.7264 - accuracy:
0.7969
90/750 [==>.....] - ETA: 0s - loss: 0.7457 - accuracy:
169/750 [====>...... - ETA: 0s - loss: 0.7479 - accuracy:
0.8261
261/750 [=======>.....] - ETA: 0s - loss: 0.7463 - accuracy:
0.8247
348/750 [=======>.....] - ETA: 0s - loss: 0.7425 - accuracy:
0.8279
436/750 [=========>.....] - ETA: 0s - loss: 0.7357 - accuracy:
0.8301
526/750 [==========>.....] - ETA: 0s - loss: 0.7356 - accuracy:
0.8299
0.8296
0.8299 - val_loss: 0.7431 - val_accuracy: 0.8288
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.6943 - accuracy:
0.8594
91/750 [==>.....] - ETA: 0s - loss: 0.7372 - accuracy:
0.8286
181/750 [=====>.....] - ETA: 0s - loss: 0.7370 - accuracy:
0.8263
268/750 [======>..... - ETA: 0s - loss: 0.7343 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7333 - accuracy:
```

```
0.8290
443/750 [=========>.....] - ETA: 0s - loss: 0.7352 - accuracy:
0.8290
533/750 [==========>.....] - ETA: 0s - loss: 0.7314 - accuracy:
0.8310 - val_loss: 0.7396 - val_accuracy: 0.8290
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.7880 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.7457 - accuracy:
0.8253
178/750 [=====>...... - ETA: 0s - loss: 0.7390 - accuracy:
265/750 [======>..... - ETA: 0s - loss: 0.7342 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7346 - accuracy:
444/750 [=========>...... - ETA: 0s - loss: 0.7356 - accuracy:
0.8291
529/750 [=========>:....] - ETA: 0s - loss: 0.7333 - accuracy:
0.8304
708/750 [==============>..] - ETA: 0s - loss: 0.7311 - accuracy:
0.8318 - val loss: 0.7372 - val accuracy: 0.8307
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.9928 - accuracy:
0.7188
91/750 [==>.....] - ETA: 0s - loss: 0.7179 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.7237 - accuracy:
0.8347
266/750 [=======>.....] - ETA: 0s - loss: 0.7244 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.7281 - accuracy:
440/750 [========>..... - ETA: 0s - loss: 0.7271 - accuracy:
0.8319
531/750 [==========>.....] - ETA: 0s - loss: 0.7258 - accuracy:
```

```
0.8323
750/750 [=============== ] - 1s 701us/step - loss: 0.7260 - accuracy:
0.8336 - val_loss: 0.7330 - val_accuracy: 0.8325
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.7324 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.7232 - accuracy:
182/750 [=====>...... - ETA: 0s - loss: 0.7262 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.7311 - accuracy:
0.8298
356/750 [=========>.....] - ETA: 0s - loss: 0.7317 - accuracy:
446/750 [=========>..... - ETA: 0s - loss: 0.7279 - accuracy:
0.8316
533/750 [==========>.....] - ETA: 0s - loss: 0.7262 - accuracy:
0.8316
623/750 [============>.....] - ETA: 0s - loss: 0.7244 - accuracy:
0.8329
0.8341
750/750 [============= ] - 1s 702us/step - loss: 0.7225 - accuracy:
0.8340 - val_loss: 0.7304 - val_accuracy: 0.8318
Epoch 45/220
1/750 [...... 0.8220 - accuracy:
0.7969
87/750 [==>.....] - ETA: 0s - loss: 0.7169 - accuracy:
0.8339
173/750 [====>.....] - ETA: 0s - loss: 0.7209 - accuracy:
0.8331
258/750 [=======>..... - ETA: 0s - loss: 0.7187 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.7215 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.7199 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.7156 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.7184 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.7179 - accuracy:
0.8346 - val loss: 0.7273 - val accuracy: 0.8329
Epoch 46/220
```

```
1/750 [....... - 6.644 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.7148 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.7181 - accuracy:
0.8387
266/750 [=======>.....] - ETA: 0s - loss: 0.7208 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7201 - accuracy:
446/750 [=========>..... - ETA: 0s - loss: 0.7148 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.7130 - accuracy:
0.8372
0.8366
0.8367
0.8368 - val_loss: 0.7267 - val_accuracy: 0.8336
Epoch 47/220
1/750 [...... - ETA: 0s - loss: 0.6774 - accuracy:
90/750 [==>...... - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.7235 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.7171 - accuracy:
0.8348
352/750 [=======>.....] - ETA: 0s - loss: 0.7143 - accuracy:
0.8371
442/750 [=========>.....] - ETA: 0s - loss: 0.7165 - accuracy:
0.8366
531/750 [==========>.....] - ETA: 0s - loss: 0.7175 - accuracy:
0.8371
705/750 [==============>..] - ETA: 0s - loss: 0.7142 - accuracy:
0.8374 - val loss: 0.7226 - val accuracy: 0.8363
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.6319 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.7207 - accuracy:
0.8314
181/750 [=====>.....] - ETA: 0s - loss: 0.7058 - accuracy:
```

```
0.8362
273/750 [=======>.....] - ETA: 0s - loss: 0.7105 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.7077 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.7082 - accuracy:
542/750 [=========>.....] - ETA: 0s - loss: 0.7089 - accuracy:
719/750 [==============>..] - ETA: 0s - loss: 0.7116 - accuracy:
0.8377
750/750 [============= ] - 1s 693us/step - loss: 0.7107 - accuracy:
0.8379 - val_loss: 0.7189 - val_accuracy: 0.8350
Epoch 49/220
1/750 [...... - ETA: 0s - loss: 0.9101 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7206 - accuracy:
0.8381
177/750 [=====>.....] - ETA: 0s - loss: 0.7129 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.7066 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.7091 - accuracy:
0.8377
442/750 [=========>.....] - ETA: 0s - loss: 0.7097 - accuracy:
532/750 [=========>.....] - ETA: 0s - loss: 0.7100 - accuracy:
0.8392 - val loss: 0.7179 - val accuracy: 0.8370
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.6915 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6929 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.6975 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.6992 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.7000 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.7006 - accuracy:
```

```
0.8424
530/750 [==========>.....] - ETA: 0s - loss: 0.7026 - accuracy:
0.8401
0.8401
750/750 [=============== ] - 1s 700us/step - loss: 0.7052 - accuracy:
0.8400 - val loss: 0.7143 - val accuracy: 0.8386
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.6856 - accuracy:
87/750 [==>...... - ETA: 0s - loss: 0.7219 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.7127 - accuracy:
265/750 [======>...... - ETA: 0s - loss: 0.7086 - accuracy:
443/750 [========>..... - ETA: 0s - loss: 0.7014 - accuracy:
529/750 [==========>.....] - ETA: 0s - loss: 0.7020 - accuracy:
0.8401
750/750 [============= ] - 1s 698us/step - loss: 0.7026 - accuracy:
0.8408 - val_loss: 0.7120 - val_accuracy: 0.8386
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.5833 - accuracy:
0.9219
84/750 [==>.....] - ETA: 0s - loss: 0.7084 - accuracy:
172/750 [=====>.....] - ETA: 0s - loss: 0.7036 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.7055 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.6982 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.6964 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.6954 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.6961 - accuracy:
693/750 [===========>...] - ETA: 0s - loss: 0.6987 - accuracy:
```

```
750/750 [=============== ] - 1s 709us/step - loss: 0.6999 - accuracy:
0.8409 - val_loss: 0.7120 - val_accuracy: 0.8392
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.6238 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7006 - accuracy:
178/750 [=====>...... - ETA: 0s - loss: 0.7001 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.6995 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.6984 - accuracy:
0.8417
441/750 [=========>.....] - ETA: 0s - loss: 0.6972 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.6980 - accuracy:
0.8416
707/750 [==============>..] - ETA: 0s - loss: 0.6974 - accuracy:
750/750 [================ ] - 1s 698us/step - loss: 0.6973 - accuracy:
0.8414 - val loss: 0.7098 - val accuracy: 0.8388
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.6597 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7006 - accuracy:
0.8429
175/750 [=====>.....] - ETA: 0s - loss: 0.7143 - accuracy:
0.8377
265/750 [=======>.....] - ETA: 0s - loss: 0.7068 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7040 - accuracy:
0.8404
442/750 [=========>.....] - ETA: 0s - loss: 0.7006 - accuracy:
530/750 [=========>.....] - ETA: 0s - loss: 0.6972 - accuracy:
0.8436
0.8435 - val_loss: 0.7055 - val_accuracy: 0.8393
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.8761 - accuracy:
```

```
0.7969
90/750 [==>.....] - ETA: 0s - loss: 0.6888 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.6922 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.6989 - accuracy:
0.8417
349/750 [=======>.....] - ETA: 0s - loss: 0.6982 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.6964 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.6946 - accuracy:
750/750 [============== ] - 1s 710us/step - loss: 0.6924 - accuracy:
0.8442 - val loss: 0.7045 - val accuracy: 0.8406
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.9042 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6982 - accuracy:
0.8397
178/750 [=====>.....] - ETA: 0s - loss: 0.6912 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.6869 - accuracy:
352/750 [=========>.....] - ETA: 0s - loss: 0.6872 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.6884 - accuracy:
0.8457
524/750 [===========>.....] - ETA: 0s - loss: 0.6866 - accuracy:
611/750 [============>.....] - ETA: 0s - loss: 0.6880 - accuracy:
0.8449
750/750 [================ ] - 1s 713us/step - loss: 0.6900 - accuracy:
0.8442 - val_loss: 0.7012 - val_accuracy: 0.8414
Epoch 57/220
86/750 [==>.....] - ETA: 0s - loss: 0.6660 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.6754 - accuracy:
252/750 [======>.....] - ETA: 0s - loss: 0.6781 - accuracy:
```

```
0.8514
331/750 [========>......] - ETA: 0s - loss: 0.6788 - accuracy:
417/750 [========>.....] - ETA: 0s - loss: 0.6828 - accuracy:
0.8476
503/750 [===========>.....] - ETA: 0s - loss: 0.6832 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.6871 - accuracy:
0.8455 - val loss: 0.6994 - val accuracy: 0.8417
Epoch 58/220
1/750 [.....] - ETA: 0s - loss: 0.7255 - accuracy:
0.7656
86/750 [==>.....] - ETA: 0s - loss: 0.6985 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6894 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.6857 - accuracy:
0.8463
348/750 [=======>.....] - ETA: 0s - loss: 0.6865 - accuracy:
0.8448
434/750 [==========>.....] - ETA: 0s - loss: 0.6836 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.6845 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.6835 - accuracy:
750/750 [================ ] - 1s 716us/step - loss: 0.6854 - accuracy:
0.8456 - val loss: 0.6967 - val accuracy: 0.8423
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.7360 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.7000 - accuracy:
0.8466
170/750 [====>.....] - ETA: 0s - loss: 0.6849 - accuracy:
257/750 [=======>.....] - ETA: 0s - loss: 0.6810 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.6827 - accuracy:
428/750 [==========>.....] - ETA: 0s - loss: 0.6839 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.6864 - accuracy:
```

```
0.8464
750/750 [================ ] - 1s 714us/step - loss: 0.6831 - accuracy:
0.8468 - val loss: 0.6962 - val accuracy: 0.8434
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.5261 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6657 - accuracy:
172/750 [=====>.....] - ETA: 0s - loss: 0.6731 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.6785 - accuracy:
0.8477
347/750 [=======>.....] - ETA: 0s - loss: 0.6814 - accuracy:
432/750 [==========>.....] - ETA: 0s - loss: 0.6795 - accuracy:
0.8473
521/750 [=========>.....] - ETA: 0s - loss: 0.6808 - accuracy:
0.8469
688/750 [============>...] - ETA: 0s - loss: 0.6805 - accuracy:
750/750 [============= ] - 1s 718us/step - loss: 0.6806 - accuracy:
0.8470 - val_loss: 0.6944 - val_accuracy: 0.8444
Epoch 61/220
1/750 [.....] - ETA: 0s - loss: 0.7074 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6685 - accuracy:
0.8481
171/750 [====>.....] - ETA: 0s - loss: 0.6736 - accuracy:
0.8474
257/750 [=======>.....] - ETA: 0s - loss: 0.6751 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.6781 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.6778 - accuracy:
0.8461
513/750 [=========>.....] - ETA: 0s - loss: 0.6758 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.6765 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.6768 - accuracy:
750/750 [============= ] - 1s 716us/step - loss: 0.6785 - accuracy:
```

```
0.8472 - val loss: 0.6927 - val accuracy: 0.8420
Epoch 62/220
1/750 [.....] - ETA: 0s - loss: 0.5461 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6693 - accuracy:
0.8464
174/750 [====>.....] - ETA: 0s - loss: 0.6732 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.6732 - accuracy:
0.8481
345/750 [========>.....] - ETA: 0s - loss: 0.6725 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.6727 - accuracy:
0.8501
520/750 [===========>.....] - ETA: 0s - loss: 0.6726 - accuracy:
0.8497
606/750 [===========>.....] - ETA: 0s - loss: 0.6742 - accuracy:
0.8491
0.8486 - val loss: 0.6906 - val accuracy: 0.8426
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.7597 - accuracy:
0.7344
90/750 [==>.....] - ETA: 0s - loss: 0.6819 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6800 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.6799 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.6750 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.6726 - accuracy:
0.8506
519/750 [===========>.....] - ETA: 0s - loss: 0.6740 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.6762 - accuracy:
0.8488 - val loss: 0.6884 - val accuracy: 0.8455
Epoch 64/220
```

```
0.8467
173/750 [=====>.....] - ETA: 0s - loss: 0.6679 - accuracy:
255/750 [=======>.....] - ETA: 0s - loss: 0.6748 - accuracy:
345/750 [=======>.....] - ETA: 0s - loss: 0.6733 - accuracy:
431/750 [========>.....] - ETA: 0s - loss: 0.6742 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.6754 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.6744 - accuracy:
0.8489
0.8493
750/750 [============== ] - 1s 716us/step - loss: 0.6721 - accuracy:
0.8500 - val_loss: 0.6875 - val_accuracy: 0.8446
Epoch 65/220
0.8125
87/750 [==>.....] - ETA: 0s - loss: 0.6685 - accuracy:
0.8497
172/750 [====>...... - ETA: 0s - loss: 0.6669 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.6683 - accuracy:
0.8496
350/750 [=======>.....] - ETA: 0s - loss: 0.6681 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.6682 - accuracy:
521/750 [==========>.....] - ETA: 0s - loss: 0.6694 - accuracy:
0.8507
0.8503 - val_loss: 0.6865 - val_accuracy: 0.8454
Epoch 66/220
1/750 [.....] - ETA: 0s - loss: 0.4919 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.6700 - accuracy:
169/750 [=====>.....] - ETA: 0s - loss: 0.6670 - accuracy:
253/750 [=======>..... - ETA: 0s - loss: 0.6644 - accuracy:
0.8531
341/750 [========>.....] - ETA: 0s - loss: 0.6681 - accuracy:
```

```
0.8511
427/750 [=========>.....] - ETA: 0s - loss: 0.6723 - accuracy:
0.8496
511/750 [===========>.....] - ETA: 0s - loss: 0.6708 - accuracy:
0.8497
598/750 [=============>.....] - ETA: 0s - loss: 0.6703 - accuracy:
0.8502 - val_loss: 0.6824 - val_accuracy: 0.8471
Epoch 67/220
1/750 [.....] - ETA: 0s - loss: 0.6902 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.6589 - accuracy:
0.8534
177/750 [=====>...... - ETA: 0s - loss: 0.6658 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.6665 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.6670 - accuracy:
0.8514
435/750 [=========>...... - ETA: 0s - loss: 0.6637 - accuracy:
0.8531
520/750 [===========>.....] - ETA: 0s - loss: 0.6656 - accuracy:
0.8521
688/750 [============>...] - ETA: 0s - loss: 0.6655 - accuracy:
0.8516
0.8514 - val_loss: 0.6839 - val_accuracy: 0.8441
Epoch 68/220
1/750 [.....] - ETA: 0s - loss: 0.8316 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6547 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.6633 - accuracy:
0.8538
266/750 [=======>.....] - ETA: 0s - loss: 0.6659 - accuracy:
356/750 [=========>.....] - ETA: 0s - loss: 0.6618 - accuracy:
447/750 [========>..... - ETA: 0s - loss: 0.6619 - accuracy:
0.8536
535/750 [=========>.....] - ETA: 0s - loss: 0.6613 - accuracy:
```

```
750/750 [=============== ] - 1s 706us/step - loss: 0.6646 - accuracy:
0.8523 - val loss: 0.6800 - val accuracy: 0.8468
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.8577 - accuracy:
0.7969
85/750 [==>.....] - ETA: 0s - loss: 0.6521 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.6553 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.6584 - accuracy:
0.8518
348/750 [=========>.....] - ETA: 0s - loss: 0.6611 - accuracy:
0.8523
432/750 [=========>...... - ETA: 0s - loss: 0.6614 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.6622 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.6646 - accuracy:
0.8523
750/750 [============= ] - 1s 714us/step - loss: 0.6628 - accuracy:
0.8526 - val_loss: 0.6781 - val_accuracy: 0.8471
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.7443 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6706 - accuracy:
0.8534
174/750 [====>.....] - ETA: 0s - loss: 0.6657 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.6686 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.6643 - accuracy:
430/750 [=========>..... - ETA: 0s - loss: 0.6636 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.6612 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.6616 - accuracy:
750/750 [============== ] - 1s 708us/step - loss: 0.6610 - accuracy:
0.8533 - val loss: 0.6773 - val accuracy: 0.8482
Epoch 71/220
```

```
1/750 [...... - 6.5569 - accuracy:
0.8906
92/750 [==>.....] - ETA: 0s - loss: 0.6561 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.6545 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.6599 - accuracy:
0.8517
358/750 [=======>.....] - ETA: 0s - loss: 0.6571 - accuracy:
441/750 [=========>..... - ETA: 0s - loss: 0.6591 - accuracy:
529/750 [=========>:....] - ETA: 0s - loss: 0.6571 - accuracy:
0.8526
617/750 [============>.....] - ETA: 0s - loss: 0.6586 - accuracy:
0.8531 - val_loss: 0.6743 - val_accuracy: 0.8488
Epoch 72/220
1/750 [...... - ETA: 0s - loss: 0.6721 - accuracy:
90/750 [==>....... - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6482 - accuracy:
0.8604
260/750 [=======>.....] - ETA: 0s - loss: 0.6556 - accuracy:
346/750 [=======>>......] - ETA: 0s - loss: 0.6559 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.6565 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.6555 - accuracy:
0.8549
0.8541
688/750 [============>...] - ETA: 0s - loss: 0.6578 - accuracy:
0.8539 - val loss: 0.6732 - val accuracy: 0.8484
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.6599 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.6678 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.6542 - accuracy:
```

```
0.8575
261/750 [=======>.....] - ETA: 0s - loss: 0.6520 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6523 - accuracy:
0.8590
436/750 [========>.....] - ETA: 0s - loss: 0.6529 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.6532 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.6535 - accuracy:
750/750 [============ ] - 1s 713us/step - loss: 0.6556 - accuracy:
0.8547 - val_loss: 0.6758 - val_accuracy: 0.8459
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.7626 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6505 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.6523 - accuracy:
0.8557
257/750 [======>.....] - ETA: 0s - loss: 0.6495 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.6506 - accuracy:
432/750 [=========>..... - ETA: 0s - loss: 0.6491 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.6501 - accuracy:
0.8546 - val loss: 0.6710 - val accuracy: 0.8497
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.6989 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6473 - accuracy:
0.8597
161/750 [=====>......] - ETA: 0s - loss: 0.6481 - accuracy:
247/750 [======>.....] - ETA: 0s - loss: 0.6513 - accuracy:
0.8579
335/750 [=======>...... - ETA: 0s - loss: 0.6535 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.6540 - accuracy:
```

```
0.8559
509/750 [===========>.....] - ETA: 0s - loss: 0.6541 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.6533 - accuracy:
750/750 [=============== ] - 1s 716us/step - loss: 0.6519 - accuracy:
0.8556 - val loss: 0.6688 - val accuracy: 0.8510
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.7547 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.6490 - accuracy:
0.8596
172/750 [=====>.....] - ETA: 0s - loss: 0.6470 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.6500 - accuracy:
0.8574
348/750 [========>.....] - ETA: 0s - loss: 0.6505 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.6465 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.6472 - accuracy:
750/750 [============= ] - 1s 700us/step - loss: 0.6503 - accuracy:
0.8555 - val loss: 0.6696 - val accuracy: 0.8506
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.8318 - accuracy:
0.7812
88/750 [==>.....] - ETA: 0s - loss: 0.6484 - accuracy:
0.8576
177/750 [=====>.....] - ETA: 0s - loss: 0.6427 - accuracy:
0.8593
266/750 [=======>.....] - ETA: 0s - loss: 0.6410 - accuracy:
352/750 [========>.....] - ETA: 0s - loss: 0.6458 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.6452 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.6457 - accuracy:
617/750 [===========>.....] - ETA: 0s - loss: 0.6459 - accuracy:
706/750 [==============>..] - ETA: 0s - loss: 0.6481 - accuracy:
```

```
0.8571
0.8569 - val_loss: 0.6666 - val_accuracy: 0.8512
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.7181 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6431 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.6514 - accuracy:
0.8571
263/750 [======>..... - ETA: 0s - loss: 0.6456 - accuracy:
0.8584
354/750 [========>.....] - ETA: 0s - loss: 0.6490 - accuracy:
0.8573
444/750 [=========>.....] - ETA: 0s - loss: 0.6503 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.6474 - accuracy:
0.8574
0.8576
709/750 [==============>..] - ETA: 0s - loss: 0.6467 - accuracy:
750/750 [============= ] - 1s 701us/step - loss: 0.6470 - accuracy:
0.8572 - val loss: 0.6647 - val accuracy: 0.8517
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.4667 - accuracy:
0.9219
91/750 [==>.....] - ETA: 0s - loss: 0.6362 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.6412 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.6380 - accuracy:
0.8614
353/750 [=======>.....] - ETA: 0s - loss: 0.6392 - accuracy:
0.8617
441/750 [=========>.....] - ETA: 0s - loss: 0.6416 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.6408 - accuracy:
0.8604
0.8579 - val_loss: 0.6629 - val_accuracy: 0.8526
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.6060 - accuracy:
```

```
0.8594
89/750 [==>.....] - ETA: 0s - loss: 0.6374 - accuracy:
0.8648
181/750 [=====>.....] - ETA: 0s - loss: 0.6416 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.6417 - accuracy:
0.8611
355/750 [=======>.....] - ETA: 0s - loss: 0.6448 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.6406 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 0.6403 - accuracy:
0.8587
0.8587 - val loss: 0.6615 - val accuracy: 0.8521
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.6123 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.6250 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6351 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.6328 - accuracy:
347/750 [=========>.....] - ETA: 0s - loss: 0.6359 - accuracy:
0.8593
438/750 [=========>.....] - ETA: 0s - loss: 0.6385 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.6404 - accuracy:
615/750 [============>.....] - ETA: 0s - loss: 0.6420 - accuracy:
0.8589
0.8586
0.8584 - val_loss: 0.6601 - val_accuracy: 0.8522
Epoch 82/220
1/750 [...... 0.6042 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 0.6323 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6425 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.6449 - accuracy:
```

```
0.8571
351/750 [=========>.....] - ETA: 0s - loss: 0.6401 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.6380 - accuracy:
0.8599
528/750 [===========>.....] - ETA: 0s - loss: 0.6357 - accuracy:
616/750 [============>.....] - ETA: 0s - loss: 0.6377 - accuracy:
750/750 [============== ] - 1s 700us/step - loss: 0.6406 - accuracy:
0.8594 - val loss: 0.6591 - val accuracy: 0.8528
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.6700 - accuracy:
0.8281
90/750 [==>.....] - ETA: 0s - loss: 0.6408 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.6406 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.6415 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.6424 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.6403 - accuracy:
0.8572
528/750 [==========>.....] - ETA: 0s - loss: 0.6397 - accuracy:
0.8577
615/750 [============>.....] - ETA: 0s - loss: 0.6391 - accuracy:
750/750 [=============== ] - 1s 706us/step - loss: 0.6391 - accuracy:
0.8589 - val loss: 0.6584 - val accuracy: 0.8520
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.6043 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6585 - accuracy:
0.8527
172/750 [====>.....] - ETA: 0s - loss: 0.6532 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.6450 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.6434 - accuracy:
0.8581
432/750 [=========>..... - ETA: 0s - loss: 0.6432 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.6436 - accuracy:
```

```
0.8591
0.8596 - val loss: 0.6569 - val accuracy: 0.8543
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.5885 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.6512 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6401 - accuracy:
0.8589
261/750 [=======>.....] - ETA: 0s - loss: 0.6381 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6346 - accuracy:
438/750 [==========>.....] - ETA: 0s - loss: 0.6379 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.6365 - accuracy:
0.8607
615/750 [===========>.....] - ETA: 0s - loss: 0.6349 - accuracy:
0.8616
703/750 [==============>..] - ETA: 0s - loss: 0.6356 - accuracy:
750/750 [============= ] - 1s 702us/step - loss: 0.6359 - accuracy:
0.8609 - val_loss: 0.6599 - val_accuracy: 0.8528
Epoch 86/220
1/750 [.....] - ETA: 0s - loss: 0.4538 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.6139 - accuracy:
0.8675
178/750 [=====>.....] - ETA: 0s - loss: 0.6169 - accuracy:
0.8669
265/750 [=======>.....] - ETA: 0s - loss: 0.6184 - accuracy:
0.8646
354/750 [========>.....] - ETA: 0s - loss: 0.6234 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6290 - accuracy:
0.8698
530/750 [=========>.....] - ETA: 0s - loss: 0.6303 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.6320 - accuracy:
750/750 [============= ] - 1s 697us/step - loss: 0.6346 - accuracy:
```

```
Epoch 87/220
1/750 [.....] - ETA: 0s - loss: 0.4963 - accuracy:
0.9219
84/750 [==>.....] - ETA: 0s - loss: 0.6200 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.6233 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.6316 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.6369 - accuracy:
0.8591
435/750 [=========>.....] - ETA: 0s - loss: 0.6366 - accuracy:
524/750 [==========>.....] - ETA: 0s - loss: 0.6338 - accuracy:
0.8611
614/750 [============>.....] - ETA: 0s - loss: 0.6337 - accuracy:
0.8611
0.8605 - val loss: 0.6524 - val accuracy: 0.8561
Epoch 88/220
1/750 [.....] - ETA: 0s - loss: 0.6531 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.6345 - accuracy:
0.8574
174/750 [=====>......] - ETA: 0s - loss: 0.6301 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.6287 - accuracy:
0.8614
351/750 [========>.....] - ETA: 0s - loss: 0.6324 - accuracy:
0.8696
437/750 [=========>..... - ETA: 0s - loss: 0.6302 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.6309 - accuracy:
616/750 [============>.....] - ETA: 0s - loss: 0.6314 - accuracy:
0.8617
0.8621
0.8614 - val_loss: 0.6524 - val_accuracy: 0.8553
Epoch 89/220
1/750 [.....] - ETA: 0s - loss: 0.7620 - accuracy:
0.7969
90/750 [==>.....] - ETA: 0s - loss: 0.6345 - accuracy:
```

0.8608 - val loss: 0.6549 - val_accuracy: 0.8538

```
0.8589
177/750 [=====>.....] - ETA: 0s - loss: 0.6345 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.6327 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.6292 - accuracy:
0.8619
443/750 [=========>.....] - ETA: 0s - loss: 0.6281 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.6289 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.6280 - accuracy:
0.8629
750/750 [============= ] - 1s 701us/step - loss: 0.6298 - accuracy:
0.8616 - val_loss: 0.6515 - val_accuracy: 0.8543
Epoch 90/220
1/750 [...... 0.6459 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6292 - accuracy:
178/750 [=====>...... - ETA: 0s - loss: 0.6363 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.6373 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.6336 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.6354 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.6310 - accuracy:
0.8613
0.8620 - val_loss: 0.6512 - val_accuracy: 0.8551
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.5806 - accuracy:
0.8594
89/750 [==>.....] - ETA: 0s - loss: 0.6286 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.6297 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.6300 - accuracy:
0.8625
357/750 [========>.....] - ETA: 0s - loss: 0.6311 - accuracy:
```

```
0.8616
444/750 [=========>.....] - ETA: 0s - loss: 0.6307 - accuracy:
0.8619
533/750 [==========>.....] - ETA: 0s - loss: 0.6323 - accuracy:
750/750 [=============== ] - 1s 698us/step - loss: 0.6270 - accuracy:
0.8634 - val_loss: 0.6477 - val_accuracy: 0.8557
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.6116 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6130 - accuracy:
0.8684
182/750 [=====>...... - ETA: 0s - loss: 0.6206 - accuracy:
0.8651
268/750 [======>..... - ETA: 0s - loss: 0.6272 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6247 - accuracy:
0.8634
446/750 [=========>..... - ETA: 0s - loss: 0.6261 - accuracy:
0.8629
535/750 [==========>.....] - ETA: 0s - loss: 0.6246 - accuracy:
0.8643 - val_loss: 0.6482 - val_accuracy: 0.8558
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.6580 - accuracy:
0.8594
91/750 [==>.....] - ETA: 0s - loss: 0.6113 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.6186 - accuracy:
0.8661
271/750 [=======>.....] - ETA: 0s - loss: 0.6184 - accuracy:
360/750 [=========>.....] - ETA: 0s - loss: 0.6216 - accuracy:
0.8661
450/750 [=========>.....] - ETA: 0s - loss: 0.6255 - accuracy:
0.8649
539/750 [=========>.....] - ETA: 0s - loss: 0.6251 - accuracy:
```

```
0.8649
750/750 [=============== ] - 1s 694us/step - loss: 0.6241 - accuracy:
0.8641 - val loss: 0.6475 - val accuracy: 0.8574
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.5019 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6180 - accuracy:
175/750 [=====>...... - ETA: 0s - loss: 0.6181 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.6219 - accuracy:
0.8645
313/750 [========>.....] - ETA: 0s - loss: 0.6216 - accuracy:
0.8654
403/750 [========>..... - ETA: 0s - loss: 0.6221 - accuracy:
494/750 [==========>.....] - ETA: 0s - loss: 0.6224 - accuracy:
0.8641
581/750 [===========>.....] - ETA: 0s - loss: 0.6231 - accuracy:
0.8634
0.8633
750/750 [============= ] - 1s 737us/step - loss: 0.6228 - accuracy:
0.8632 - val_loss: 0.6487 - val_accuracy: 0.8568
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.6760 - accuracy:
0.8594
78/750 [==>.....] - ETA: 0s - loss: 0.6194 - accuracy:
0.8618
161/750 [====>.....] - ETA: 0s - loss: 0.6294 - accuracy:
0.8593
241/750 [======>.....] - ETA: 0s - loss: 0.6210 - accuracy:
0.8623
324/750 [=======>.....] - ETA: 0s - loss: 0.6229 - accuracy:
412/750 [========>.....] - ETA: 0s - loss: 0.6198 - accuracy:
0.8653
500/750 [=========>.....] - ETA: 0s - loss: 0.6178 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.6182 - accuracy:
671/750 [============>....] - ETA: 0s - loss: 0.6210 - accuracy:
750/750 [============= ] - 1s 728us/step - loss: 0.6215 - accuracy:
```

```
0.8645 - val loss: 0.6445 - val accuracy: 0.8568
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.5690 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 0.6163 - accuracy:
0.8648
160/750 [====>.....] - ETA: 0s - loss: 0.6220 - accuracy:
244/750 [======>..... - ETA: 0s - loss: 0.6196 - accuracy:
333/750 [========>.....] - ETA: 0s - loss: 0.6227 - accuracy:
420/750 [========>.....] - ETA: 0s - loss: 0.6244 - accuracy:
0.8627
508/750 [==========>.....] - ETA: 0s - loss: 0.6211 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.6184 - accuracy:
0.8645 - val loss: 0.6454 - val accuracy: 0.8572
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.5667 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6238 - accuracy:
175/750 [=====>......] - ETA: 0s - loss: 0.6247 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.6262 - accuracy:
0.8626
345/750 [=========>.....] - ETA: 0s - loss: 0.6236 - accuracy:
0.8638
423/750 [========>..... - ETA: 0s - loss: 0.6230 - accuracy:
0.8634
508/750 [==========>.....] - ETA: 0s - loss: 0.6223 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.6190 - accuracy:
671/750 [============>....] - ETA: 0s - loss: 0.6193 - accuracy:
0.8654 - val_loss: 0.6416 - val_accuracy: 0.8577
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.6106 - accuracy:
```

93/750 [==>.....] - ETA: 0s - loss: 0.6444 - accuracy:

```
182/750 [=====>.....] - ETA: 0s - loss: 0.6257 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.6189 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.6183 - accuracy:
0.8648
441/750 [========>.....] - ETA: 0s - loss: 0.6156 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.6134 - accuracy:
618/750 [===========>.....] - ETA: 0s - loss: 0.6131 - accuracy:
0.8663
750/750 [============= ] - 1s 702us/step - loss: 0.6171 - accuracy:
0.8658 - val loss: 0.6422 - val accuracy: 0.8560
Epoch 99/220
1/750 [...... os. - loss: 0.4937 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6038 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.6064 - accuracy:
0.8679
267/750 [=======>.....] - ETA: 0s - loss: 0.6112 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.6133 - accuracy:
0.8659
443/750 [=========>..... - ETA: 0s - loss: 0.6177 - accuracy:
0.8645
533/750 [==========>.....] - ETA: 0s - loss: 0.6156 - accuracy:
0.8663 - val_loss: 0.6406 - val_accuracy: 0.8576
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.5730 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5957 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.6040 - accuracy:
0.8674
266/750 [======>..... - ETA: 0s - loss: 0.6044 - accuracy:
355/750 [========>.....] - ETA: 0s - loss: 0.6068 - accuracy:
```

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0.8687
436/750 [=========>.....] - ETA: 0s - loss: 0.6092 - accuracy:
0.8676
530/750 [==========>.....] - ETA: 0s - loss: 0.6119 - accuracy:
0.8667
750/750 [=============== ] - 1s 700us/step - loss: 0.6143 - accuracy:
0.8670 - val_loss: 0.6398 - val_accuracy: 0.8577
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.5331 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.6009 - accuracy:
0.8721
180/750 [=====>...... - ETA: 0s - loss: 0.6106 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.6131 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.6109 - accuracy:
0.8688
448/750 [=========>..... - ETA: 0s - loss: 0.6136 - accuracy:
0.8674
537/750 [==========>.....] - ETA: 0s - loss: 0.6145 - accuracy:
0.8667
0.8673
0.8669 - val_loss: 0.6375 - val_accuracy: 0.8597
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.4747 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.6124 - accuracy:
0.8663
173/750 [=====>.....] - ETA: 0s - loss: 0.6203 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.6080 - accuracy:
345/750 [=========>.....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8671
431/750 [=========>.....] - ETA: 0s - loss: 0.6125 - accuracy:
0.8669
518/750 [=========>.......] - ETA: 0s - loss: 0.6118 - accuracy:
0.8663
```

```
0.8662
750/750 [=============== ] - 1s 718us/step - loss: 0.6117 - accuracy:
0.8667 - val loss: 0.6382 - val accuracy: 0.8586
Epoch 103/220
 1/750 [.....] - ETA: 0s - loss: 0.5684 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6041 - accuracy:
175/750 [=====>...... - ETA: 0s - loss: 0.6111 - accuracy:
0.8699
260/750 [=======>.....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8683
346/750 [=========>.....] - ETA: 0s - loss: 0.6081 - accuracy:
0.8688
434/750 [=========>..... - ETA: 0s - loss: 0.6137 - accuracy:
0.8669
520/750 [===========>.....] - ETA: 0s - loss: 0.6126 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.6124 - accuracy:
0.8676
750/750 [============= ] - 1s 713us/step - loss: 0.6105 - accuracy:
0.8681 - val_loss: 0.6376 - val_accuracy: 0.8583
Epoch 104/220
 1/750 [...... 0.7153 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.6106 - accuracy:
0.8677
168/750 [====>.....] - ETA: 0s - loss: 0.6065 - accuracy:
0.8681
257/750 [======>.....] - ETA: 0s - loss: 0.6098 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6052 - accuracy:
0.8690
439/750 [=========>.....] - ETA: 0s - loss: 0.6089 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.6094 - accuracy:
0.8683
613/750 [============>.....] - ETA: 0s - loss: 0.6087 - accuracy:
702/750 [=============>..] - ETA: 0s - loss: 0.6110 - accuracy:
0.8671
0.8677 - val loss: 0.6342 - val accuracy: 0.8597
Epoch 105/220
```

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1/750 [.....] - ETA: 0s - loss: 0.7152 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6100 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.6024 - accuracy:
0.8673
269/750 [======>.....] - ETA: 0s - loss: 0.6058 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6047 - accuracy:
446/750 [=========>..... - ETA: 0s - loss: 0.6051 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.6056 - accuracy:
0.8686
0.8680
715/750 [===============>..] - ETA: 0s - loss: 0.6082 - accuracy:
0.8676 - val_loss: 0.6388 - val_accuracy: 0.8569
Epoch 106/220
1/750 [...... - ETA: 0s - loss: 0.5658 - accuracy:
0.8750
82/750 [==>....... - accuracy:
0.8697
172/750 [====>.....] - ETA: 0s - loss: 0.6043 - accuracy:
0.8719
261/750 [=======>.....] - ETA: 0s - loss: 0.6035 - accuracy:
348/750 [========>......] - ETA: 0s - loss: 0.6025 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.6064 - accuracy:
529/750 [=========>.....] - ETA: 0s - loss: 0.6091 - accuracy:
0.8684
705/750 [==============>..] - ETA: 0s - loss: 0.6068 - accuracy:
0.8689 - val loss: 0.6350 - val accuracy: 0.8589
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.6638 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6031 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.6128 - accuracy:
```

```
0.8646
268/750 [=======>.....] - ETA: 0s - loss: 0.6056 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.6085 - accuracy:
0.8674
446/750 [========>..... - ETA: 0s - loss: 0.6051 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.6059 - accuracy:
716/750 [==============>..] - ETA: 0s - loss: 0.6063 - accuracy:
0.8683
750/750 [============= ] - 1s 702us/step - loss: 0.6052 - accuracy:
0.8686 - val_loss: 0.6336 - val_accuracy: 0.8587
Epoch 108/220
1/750 [...... - ETA: 0s - loss: 0.5698 - accuracy:
94/750 [==>.....] - ETA: 0s - loss: 0.5988 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.6035 - accuracy:
0.8679
272/750 [======>.....] - ETA: 0s - loss: 0.6029 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.6062 - accuracy:
0.8687
450/750 [=========>.....] - ETA: 0s - loss: 0.6054 - accuracy:
0.8688
540/750 [=========>.....] - ETA: 0s - loss: 0.6039 - accuracy:
750/750 [=============== ] - 1s 696us/step - loss: 0.6043 - accuracy:
0.8688 - val loss: 0.6307 - val accuracy: 0.8604
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.5220 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5955 - accuracy:
268/750 [=======>.....] - ETA: 0s - loss: 0.5985 - accuracy:
356/750 [========>...... - ETA: 0s - loss: 0.6013 - accuracy:
0.8709
445/750 [=========>.....] - ETA: 0s - loss: 0.6020 - accuracy:
```

```
0.8695
533/750 [==========>.....] - ETA: 0s - loss: 0.6017 - accuracy:
0.8699
0.8697
0.8696 - val loss: 0.6290 - val accuracy: 0.8622
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.7270 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8784
179/750 [=====>.....] - ETA: 0s - loss: 0.5930 - accuracy:
0.8711
268/750 [=======>...... - ETA: 0s - loss: 0.6009 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.5973 - accuracy:
0.8709
533/750 [==========>.....] - ETA: 0s - loss: 0.5966 - accuracy:
0.8701
750/750 [============= ] - 1s 692us/step - loss: 0.6014 - accuracy:
0.8699 - val loss: 0.6297 - val accuracy: 0.8595
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.5768 - accuracy:
0.8594
91/750 [==>.....] - ETA: 0s - loss: 0.6093 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.6065 - accuracy:
0.8681
270/750 [=======>.....] - ETA: 0s - loss: 0.5990 - accuracy:
359/750 [========>.....] - ETA: 0s - loss: 0.6003 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.5996 - accuracy:
0.8716
537/750 [=========>.....] - ETA: 0s - loss: 0.5998 - accuracy:
0.8711
624/750 [===========>.....] - ETA: 0s - loss: 0.6004 - accuracy:
713/750 [===============>..] - ETA: 0s - loss: 0.6004 - accuracy:
```

```
0.8708
0.8708 - val_loss: 0.6324 - val_accuracy: 0.8577
Epoch 112/220
1/750 [.....] - ETA: 0s - loss: 0.6439 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5783 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5852 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.5892 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.5966 - accuracy:
0.8715
435/750 [=========>.....] - ETA: 0s - loss: 0.5951 - accuracy:
0.8726
523/750 [=========>>.....] - ETA: 0s - loss: 0.5964 - accuracy:
0.8723
0.8708
697/750 [============>...] - ETA: 0s - loss: 0.5987 - accuracy:
750/750 [================ ] - 1s 710us/step - loss: 0.5991 - accuracy:
0.8712 - val loss: 0.6279 - val accuracy: 0.8600
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.5140 - accuracy:
0.8594
90/750 [==>.....] - ETA: 0s - loss: 0.5885 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.5939 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.6014 - accuracy:
0.8696
349/750 [=======>.....] - ETA: 0s - loss: 0.5985 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.5988 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.5984 - accuracy:
607/750 [=============>.....] - ETA: 0s - loss: 0.5984 - accuracy:
0.8711
0.8712 - val_loss: 0.6254 - val_accuracy: 0.8625
Epoch 114/220
1/750 [.....] - ETA: 0s - loss: 0.4781 - accuracy:
```

```
0.9375
84/750 [==>.....] - ETA: 0s - loss: 0.5943 - accuracy:
162/750 [=====>.....] - ETA: 0s - loss: 0.5960 - accuracy:
0.8736
247/750 [======>.....] - ETA: 0s - loss: 0.5911 - accuracy:
0.8751
336/750 [=======>.....] - ETA: 0s - loss: 0.5973 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 0.5953 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.5933 - accuracy:
597/750 [============>.....] - ETA: 0s - loss: 0.5959 - accuracy:
0.8706
750/750 [============== ] - 1s 721us/step - loss: 0.5968 - accuracy:
0.8706 - val loss: 0.6257 - val accuracy: 0.8627
Epoch 115/220
1/750 [.....] - ETA: 0s - loss: 0.6635 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6038 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.6022 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.6031 - accuracy:
353/750 [=========>.....] - ETA: 0s - loss: 0.5999 - accuracy:
0.8697
437/750 [=========>.....] - ETA: 0s - loss: 0.5989 - accuracy:
0.8701
516/750 [===========>.....] - ETA: 0s - loss: 0.6008 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.5969 - accuracy:
0.8711
0.8712 - val_loss: 0.6275 - val_accuracy: 0.8585
Epoch 116/220
1/750 [...... 0.5024 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5852 - accuracy:
0.8769
181/750 [=====>.....] - ETA: 0s - loss: 0.5957 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.5978 - accuracy:
```

```
0.8717
357/750 [=========>.....] - ETA: 0s - loss: 0.5944 - accuracy:
0.8721
446/750 [=========>.....] - ETA: 0s - loss: 0.5960 - accuracy:
0.8716
535/750 [==========>.....] - ETA: 0s - loss: 0.5947 - accuracy:
623/750 [============>.....] - ETA: 0s - loss: 0.5953 - accuracy:
750/750 [============= ] - 1s 694us/step - loss: 0.5942 - accuracy:
0.8716 - val loss: 0.6255 - val accuracy: 0.8593
Epoch 117/220
1/750 [.....] - ETA: 0s - loss: 0.6748 - accuracy:
0.8594
87/750 [==>.....] - ETA: 0s - loss: 0.5934 - accuracy:
0.8709
178/750 [=====>.....] - ETA: 0s - loss: 0.5976 - accuracy:
0.8694
269/750 [======>.....] - ETA: 0s - loss: 0.5928 - accuracy:
0.8714
357/750 [=======>.....] - ETA: 0s - loss: 0.5913 - accuracy:
0.8715
442/750 [=========>.....] - ETA: 0s - loss: 0.5910 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.5919 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.5943 - accuracy:
0.8718
750/750 [=============== ] - 1s 701us/step - loss: 0.5931 - accuracy:
0.8727 - val loss: 0.6261 - val accuracy: 0.8580
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.5102 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.6037 - accuracy:
0.8665
180/750 [=====>.....] - ETA: 0s - loss: 0.5956 - accuracy:
272/750 [=======>.....] - ETA: 0s - loss: 0.5934 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5904 - accuracy:
439/750 [=========>..... - ETA: 0s - loss: 0.5921 - accuracy:
528/750 [==========>.....] - ETA: 0s - loss: 0.5918 - accuracy:
```

```
0.8721
0.8724
750/750 [=============== ] - 1s 710us/step - loss: 0.5918 - accuracy:
0.8727 - val loss: 0.6208 - val accuracy: 0.8629
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.5515 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5934 - accuracy:
0.8785
175/750 [=====>.....] - ETA: 0s - loss: 0.5890 - accuracy:
0.8743
261/750 [=======>.....] - ETA: 0s - loss: 0.5895 - accuracy:
0.8739
345/750 [=======>.....] - ETA: 0s - loss: 0.5911 - accuracy:
0.8726
432/750 [==========>.....] - ETA: 0s - loss: 0.5926 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.5942 - accuracy:
696/750 [===========>...] - ETA: 0s - loss: 0.5909 - accuracy:
0.8731
750/750 [============= ] - 1s 714us/step - loss: 0.5908 - accuracy:
0.8732 - val_loss: 0.6200 - val_accuracy: 0.8632
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.7347 - accuracy:
0.7812
88/750 [==>.....] - ETA: 0s - loss: 0.6083 - accuracy:
0.8711
172/750 [====>.....] - ETA: 0s - loss: 0.6026 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.5975 - accuracy:
0.8734
346/750 [========>.....] - ETA: 0s - loss: 0.5895 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5903 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.5899 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.5898 - accuracy:
0.8734
694/750 [============>...] - ETA: 0s - loss: 0.5895 - accuracy:
0.8736
750/750 [============= ] - 1s 725us/step - loss: 0.5898 - accuracy:
```

```
0.8730 - val loss: 0.6190 - val accuracy: 0.8623
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.6236 - accuracy:
0.8281
90/750 [==>.....] - ETA: 0s - loss: 0.5897 - accuracy:
0.8703
177/750 [=====>.....] - ETA: 0s - loss: 0.5862 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.5861 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.5854 - accuracy:
0.8746
434/750 [==========>.....] - ETA: 0s - loss: 0.5871 - accuracy:
0.8735
520/750 [==========>.....] - ETA: 0s - loss: 0.5880 - accuracy:
0.8731
602/750 [===========>.....] - ETA: 0s - loss: 0.5876 - accuracy:
0.8736
0.8732 - val loss: 0.6207 - val accuracy: 0.8630
Epoch 122/220
1/750 [.....] - ETA: 0s - loss: 0.5775 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5945 - accuracy:
177/750 [=====>......] - ETA: 0s - loss: 0.5910 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.5908 - accuracy:
355/750 [========>.....] - ETA: 0s - loss: 0.5886 - accuracy:
442/750 [=========>..... - ETA: 0s - loss: 0.5883 - accuracy:
0.8726
531/750 [==========>.....] - ETA: 0s - loss: 0.5886 - accuracy:
0.8726
620/750 [===========>.....] - ETA: 0s - loss: 0.5907 - accuracy:
0.8735 - val_loss: 0.6193 - val_accuracy: 0.8608
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.5089 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5987 - accuracy:
```

```
173/750 [=====>.....] - ETA: 0s - loss: 0.5981 - accuracy:
254/750 [=======>.....] - ETA: 0s - loss: 0.5921 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.5850 - accuracy:
0.8747
428/750 [========>.....] - ETA: 0s - loss: 0.5860 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.5852 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.5866 - accuracy:
0.8736
0.8738
750/750 [============= ] - 1s 722us/step - loss: 0.5865 - accuracy:
0.8737 - val_loss: 0.6177 - val_accuracy: 0.8618
Epoch 124/220
1/750 [...... 0.5656 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5914 - accuracy:
178/750 [=====>...... - ETA: 0s - loss: 0.5910 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.5893 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.5880 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.5862 - accuracy:
0.8726
520/750 [==========>.....] - ETA: 0s - loss: 0.5860 - accuracy:
0.8731
0.8744
0.8746 - val_loss: 0.6163 - val_accuracy: 0.8643
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.5473 - accuracy:
0.8281
78/750 [==>.....] - ETA: 0s - loss: 0.5976 - accuracy:
160/750 [=====>.....] - ETA: 0s - loss: 0.5875 - accuracy:
242/750 [======>...... - ETA: 0s - loss: 0.5852 - accuracy:
319/750 [=======>.....] - ETA: 0s - loss: 0.5859 - accuracy:
```

```
0.8746
409/750 [========>.....] - ETA: 0s - loss: 0.5890 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 0.5867 - accuracy:
584/750 [=============>.....] - ETA: 0s - loss: 0.5865 - accuracy:
0.8748
750/750 [================ ] - 1s 724us/step - loss: 0.5843 - accuracy:
0.8748 - val_loss: 0.6150 - val_accuracy: 0.8622
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.5896 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5859 - accuracy:
0.8739
181/750 [=====>...... - ETA: 0s - loss: 0.5834 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.5830 - accuracy:
0.8746
354/750 [=======>.....] - ETA: 0s - loss: 0.5841 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.5848 - accuracy:
0.8739
531/750 [==========>.....] - ETA: 0s - loss: 0.5864 - accuracy:
0.8731
706/750 [==============>..] - ETA: 0s - loss: 0.5846 - accuracy:
0.8740 - val_loss: 0.6152 - val_accuracy: 0.8639
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.6552 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5729 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.5723 - accuracy:
0.8779
263/750 [=======>.....] - ETA: 0s - loss: 0.5777 - accuracy:
348/750 [=========>.....] - ETA: 0s - loss: 0.5801 - accuracy:
439/750 [========>.....] - ETA: 0s - loss: 0.5788 - accuracy:
0.8767
524/750 [=========>.....] - ETA: 0s - loss: 0.5797 - accuracy:
```

```
750/750 [=============== ] - 1s 705us/step - loss: 0.5819 - accuracy:
0.8752 - val loss: 0.6131 - val accuracy: 0.8633
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.5965 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5829 - accuracy:
179/750 [=====>...... - ETA: 0s - loss: 0.5749 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.5733 - accuracy:
358/750 [=========>.....] - ETA: 0s - loss: 0.5750 - accuracy:
0.8759
444/750 [=========>..... - ETA: 0s - loss: 0.5739 - accuracy:
535/750 [===========>.....] - ETA: 0s - loss: 0.5779 - accuracy:
623/750 [============>.....] - ETA: 0s - loss: 0.5786 - accuracy:
0.8756
750/750 [============= ] - 1s 701us/step - loss: 0.5809 - accuracy:
0.8751 - val_loss: 0.6147 - val_accuracy: 0.8642
Epoch 129/220
1/750 [...... os. - loss: 0.4103 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5908 - accuracy:
0.8716
176/750 [=====>.....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8749
262/750 [======>..... - ETA: 0s - loss: 0.5824 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.5830 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.5813 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.5811 - accuracy:
609/750 [===========>.....] - ETA: 0s - loss: 0.5798 - accuracy:
696/750 [============>...] - ETA: 0s - loss: 0.5805 - accuracy:
0.8759
0.8760 - val loss: 0.6113 - val accuracy: 0.8630
Epoch 130/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5491 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8764
173/750 [====>.....] - ETA: 0s - loss: 0.5796 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.5766 - accuracy:
0.8761
347/750 [=======>.....] - ETA: 0s - loss: 0.5742 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.5718 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.5765 - accuracy:
0.8753
606/750 [============>.....] - ETA: 0s - loss: 0.5776 - accuracy:
0.8760
686/750 [============>...] - ETA: 0s - loss: 0.5780 - accuracy:
0.8755 - val_loss: 0.6108 - val_accuracy: 0.8643
Epoch 131/220
1/750 [...... - ETA: 0s - loss: 0.4906 - accuracy:
89/750 [==>...... - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8729
264/750 [=======>.....] - ETA: 0s - loss: 0.5808 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.5777 - accuracy:
0.8749
441/750 [=========>.....] - ETA: 0s - loss: 0.5773 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8746
705/750 [==============>..] - ETA: 0s - loss: 0.5776 - accuracy:
0.8762
0.8761 - val loss: 0.6152 - val accuracy: 0.8644
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.6443 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.5674 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5729 - accuracy:
```

```
0.8799
267/750 [=======>.....] - ETA: 0s - loss: 0.5701 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5713 - accuracy:
0.8786
444/750 [========>.....] - ETA: 0s - loss: 0.5734 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.5775 - accuracy:
704/750 [==============>..] - ETA: 0s - loss: 0.5763 - accuracy:
0.8769
750/750 [============= ] - 1s 708us/step - loss: 0.5763 - accuracy:
0.8772 - val_loss: 0.6099 - val_accuracy: 0.8625
Epoch 133/220
1/750 [...... - ETA: 0s - loss: 0.5800 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5591 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.5687 - accuracy:
0.8781
259/750 [======>..... - ETA: 0s - loss: 0.5695 - accuracy:
0.8786
345/750 [========>.....] - ETA: 0s - loss: 0.5721 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.5752 - accuracy:
0.8773
522/750 [=========>.....] - ETA: 0s - loss: 0.5770 - accuracy:
0.8770
0.8770 - val loss: 0.6100 - val accuracy: 0.8645
Epoch 134/220
1/750 [...... - ETA: 0s - loss: 0.5872 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5656 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5724 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.5740 - accuracy:
0.8785
357/750 [=======>.....] - ETA: 0s - loss: 0.5694 - accuracy:
0.8797
448/750 [=========>.....] - ETA: 0s - loss: 0.5730 - accuracy:
```

```
0.8787
533/750 [==========>.....] - ETA: 0s - loss: 0.5740 - accuracy:
0.8774
623/750 [============>.....] - ETA: 0s - loss: 0.5736 - accuracy:
0.8771
0.8763
0.8765 - val loss: 0.6084 - val accuracy: 0.8662
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.5967 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5731 - accuracy:
0.8776
177/750 [=====>.....] - ETA: 0s - loss: 0.5702 - accuracy:
0.8799
266/750 [======>..... - ETA: 0s - loss: 0.5698 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.5667 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.5674 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.5705 - accuracy:
0.8788
0.8783
750/750 [============= ] - 1s 700us/step - loss: 0.5733 - accuracy:
0.8775 - val loss: 0.6066 - val accuracy: 0.8652
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.5157 - accuracy:
92/750 [==>.....] - ETA: 0s - loss: 0.5654 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.5703 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.5675 - accuracy:
0.8796
358/750 [========>.....] - ETA: 0s - loss: 0.5684 - accuracy:
0.8799
442/750 [========>.....] - ETA: 0s - loss: 0.5705 - accuracy:
0.8796
532/750 [=========>.....] - ETA: 0s - loss: 0.5702 - accuracy:
0.8794
619/750 [===========>.....] - ETA: 0s - loss: 0.5722 - accuracy:
0.8785
708/750 [==============>..] - ETA: 0s - loss: 0.5726 - accuracy:
```

```
0.8775
750/750 [================ ] - 1s 701us/step - loss: 0.5723 - accuracy:
0.8779 - val_loss: 0.6069 - val_accuracy: 0.8648
Epoch 137/220
1/750 [.....] - ETA: 0s - loss: 0.5492 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5590 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5673 - accuracy:
0.8799
263/750 [======>..... - ETA: 0s - loss: 0.5707 - accuracy:
0.8774
352/750 [========>.....] - ETA: 0s - loss: 0.5729 - accuracy:
0.8776
438/750 [=========>.....] - ETA: 0s - loss: 0.5725 - accuracy:
0.8775
525/750 [==========>.....] - ETA: 0s - loss: 0.5703 - accuracy:
0.8780
0.8771
703/750 [==============>..] - ETA: 0s - loss: 0.5708 - accuracy:
750/750 [============== ] - 1s 700us/step - loss: 0.5715 - accuracy:
0.8772 - val loss: 0.6078 - val accuracy: 0.8651
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.4862 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5704 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.5722 - accuracy:
0.8781
266/750 [=======>.....] - ETA: 0s - loss: 0.5733 - accuracy:
0.8771
353/750 [=======>.....] - ETA: 0s - loss: 0.5733 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.5731 - accuracy:
0.8777
528/750 [=========>.....] - ETA: 0s - loss: 0.5725 - accuracy:
0.8774
0.8779 - val_loss: 0.6061 - val_accuracy: 0.8648
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.3889 - accuracy:
```

```
0.9688
88/750 [==>.....] - ETA: 0s - loss: 0.5621 - accuracy:
0.8801
177/750 [=====>.....] - ETA: 0s - loss: 0.5634 - accuracy:
0.8796
262/750 [======>.....] - ETA: 0s - loss: 0.5668 - accuracy:
0.8792
349/750 [=======>.....] - ETA: 0s - loss: 0.5721 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.5715 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.5703 - accuracy:
0.8778
0.8778 - val loss: 0.6058 - val accuracy: 0.8657
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.5240 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.5696 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5718 - accuracy:
264/750 [======>..... - ETA: 0s - loss: 0.5714 - accuracy:
353/750 [=========>.....] - ETA: 0s - loss: 0.5694 - accuracy:
0.8781
440/750 [=========>.....] - ETA: 0s - loss: 0.5698 - accuracy:
0.8781
525/750 [==========>.....] - ETA: 0s - loss: 0.5687 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.5692 - accuracy:
0.8788
0.8785
0.8785 - val_loss: 0.6041 - val_accuracy: 0.8658
Epoch 141/220
1/750 [...... 0.5088 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5771 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5669 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.5724 - accuracy:
```

```
0.8749
357/750 [=========>.....] - ETA: 0s - loss: 0.5644 - accuracy:
0.8778
447/750 [=========>.....] - ETA: 0s - loss: 0.5629 - accuracy:
0.8791
534/750 [==========>.....] - ETA: 0s - loss: 0.5635 - accuracy:
621/750 [===========>.....] - ETA: 0s - loss: 0.5655 - accuracy:
0.8791
750/750 [============= ] - 1s 697us/step - loss: 0.5676 - accuracy:
0.8785 - val loss: 0.6031 - val accuracy: 0.8652
Epoch 142/220
1/750 [.....] - ETA: 0s - loss: 0.5733 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.5564 - accuracy:
0.8829
178/750 [=====>.....] - ETA: 0s - loss: 0.5698 - accuracy:
0.8764
269/750 [======>.....] - ETA: 0s - loss: 0.5745 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.5758 - accuracy:
0.8758
443/750 [=========>.....] - ETA: 0s - loss: 0.5722 - accuracy:
0.8773
534/750 [==========>.....] - ETA: 0s - loss: 0.5711 - accuracy:
0.8778
620/750 [===========>.....] - ETA: 0s - loss: 0.5702 - accuracy:
0.8781
0.8796 - val loss: 0.6029 - val accuracy: 0.8651
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.6429 - accuracy:
0.8594
92/750 [==>.....] - ETA: 0s - loss: 0.5788 - accuracy:
0.8736
179/750 [=====>.....] - ETA: 0s - loss: 0.5745 - accuracy:
0.8769
268/750 [=======>.....] - ETA: 0s - loss: 0.5679 - accuracy:
0.8779
359/750 [=======>.....] - ETA: 0s - loss: 0.5693 - accuracy:
430/750 [=========>..... - ETA: 0s - loss: 0.5689 - accuracy:
0.8782
519/750 [===========>.....] - ETA: 0s - loss: 0.5684 - accuracy:
```

```
0.8776
0.8790
0.8791 - val loss: 0.6015 - val accuracy: 0.8663
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.5719 - accuracy:
91/750 [==>....... - ETA: 0s - loss: 0.5586 - accuracy:
0.8789
176/750 [=====>.....] - ETA: 0s - loss: 0.5693 - accuracy:
0.8763
267/750 [=======>.....] - ETA: 0s - loss: 0.5704 - accuracy:
0.8757
356/750 [=======>.....] - ETA: 0s - loss: 0.5670 - accuracy:
0.8769
443/750 [==========>.....] - ETA: 0s - loss: 0.5694 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.5670 - accuracy:
0.8779
0.8778
707/750 [==============>..] - ETA: 0s - loss: 0.5652 - accuracy:
0.8789
750/750 [============= ] - 1s 701us/step - loss: 0.5647 - accuracy:
0.8788 - val_loss: 0.6001 - val_accuracy: 0.8661
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.5677 - accuracy:
0.8594
91/750 [==>.....] - ETA: 0s - loss: 0.5664 - accuracy:
0.8834
176/750 [=====>.....] - ETA: 0s - loss: 0.5632 - accuracy:
0.8829
261/750 [=======>.....] - ETA: 0s - loss: 0.5655 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.5640 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5615 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.5620 - accuracy:
0.8817
610/750 [============>.....] - ETA: 0s - loss: 0.5628 - accuracy:
0.8898
691/750 [============>...] - ETA: 0s - loss: 0.5640 - accuracy:
0.8795
750/750 [============= ] - 1s 718us/step - loss: 0.5634 - accuracy:
```

```
0.8798 - val_loss: 0.6020 - val_accuracy: 0.8662 Epoch 146/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7416 - accuracy:
0.7969
86/750 [==>.....] - ETA: 0s - loss: 0.5575 - accuracy:
0.8814
168/750 [====>.....] - ETA: 0s - loss: 0.5589 - accuracy:
252/750 [======>.....] - ETA: 0s - loss: 0.5593 - accuracy:
339/750 [=======>.....] - ETA: 0s - loss: 0.5624 - accuracy:
0.8798
419/750 [=======>..... - ETA: 0s - loss: 0.5642 - accuracy:
0.8793
504/750 [===========>.....] - ETA: 0s - loss: 0.5645 - accuracy:
0.8797
580/750 [=============>.....] - ETA: 0s - loss: 0.5636 - accuracy:
0.8795
737/750 [==============>.] - ETA: 0s - loss: 0.5625 - accuracy:
0.8796
0.8795 - val loss: 0.5982 - val accuracy: 0.8660
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.4571 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5546 - accuracy:
0.8819
164/750 [====>.....] - ETA: 0s - loss: 0.5549 - accuracy:
249/750 [======>.....] - ETA: 0s - loss: 0.5560 - accuracy:
0.8818
332/750 [=======>.....] - ETA: 0s - loss: 0.5580 - accuracy:
0.8811
414/750 [=========>.....] - ETA: 0s - loss: 0.5581 - accuracy:
0.8807
493/750 [=========>.....] - ETA: 0s - loss: 0.5580 - accuracy:
582/750 [===========>.....] - ETA: 0s - loss: 0.5574 - accuracy:
0.8816
668/750 [===============>....] - ETA: 0s - loss: 0.5601 - accuracy:
0.8804 - val_loss: 0.5989 - val_accuracy: 0.8667
Epoch 148/220
1/750 [.....] - ETA: 0s - loss: 0.6736 - accuracy:
```

```
0.8281
89/750 [==>.....] - ETA: 0s - loss: 0.5629 - accuracy:
0.8796
172/750 [=====>.....] - ETA: 0s - loss: 0.5561 - accuracy:
0.8837
256/750 [======>.....] - ETA: 0s - loss: 0.5582 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.5606 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5600 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.5594 - accuracy:
0.8816
0.8813
0.8811
750/750 [============== ] - 1s 722us/step - loss: 0.5607 - accuracy:
0.8810 - val loss: 0.6024 - val accuracy: 0.8642
Epoch 149/220
1/750 [.....] - ETA: 0s - loss: 0.6312 - accuracy:
0.8281
85/750 [==>.....] - ETA: 0s - loss: 0.5585 - accuracy:
168/750 [=====>.....] - ETA: 0s - loss: 0.5551 - accuracy:
254/750 [======>.....] - ETA: 0s - loss: 0.5546 - accuracy:
334/750 [=========>.....] - ETA: 0s - loss: 0.5590 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.5579 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.5608 - accuracy:
0.8794
598/750 [===========>.....] - ETA: 0s - loss: 0.5623 - accuracy:
0.8786
0.8799 - val_loss: 0.5976 - val_accuracy: 0.8658
Epoch 150/220
88/750 [==>.....] - ETA: 0s - loss: 0.5619 - accuracy:
0.8768
176/750 [=====>.....] - ETA: 0s - loss: 0.5647 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.5597 - accuracy:
```

```
0.8796
345/750 [=========>.....] - ETA: 0s - loss: 0.5588 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.5576 - accuracy:
517/750 [========>:....] - ETA: 0s - loss: 0.5574 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8801
750/750 [============= ] - 1s 724us/step - loss: 0.5590 - accuracy:
0.8807 - val loss: 0.5949 - val accuracy: 0.8685
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.4990 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.5523 - accuracy:
0.8833
174/750 [====>.....] - ETA: 0s - loss: 0.5535 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.5563 - accuracy:
333/750 [=======>.....] - ETA: 0s - loss: 0.5564 - accuracy:
0.8810
419/750 [========>.....] - ETA: 0s - loss: 0.5559 - accuracy:
0.8825
504/750 [=========>.....] - ETA: 0s - loss: 0.5551 - accuracy:
0.8836
591/750 [===========>.....] - ETA: 0s - loss: 0.5563 - accuracy:
672/750 [=============>....] - ETA: 0s - loss: 0.5574 - accuracy:
0.8821
0.8814 - val loss: 0.5977 - val accuracy: 0.8676
Epoch 152/220
1/750 [...... - ETA: 0s - loss: 0.5645 - accuracy:
0.8438
89/750 [==>.....] - ETA: 0s - loss: 0.5501 - accuracy:
0.8894
260/750 [=======>.....] - ETA: 0s - loss: 0.5606 - accuracy:
0.8827
343/750 [========>.....] - ETA: 0s - loss: 0.5585 - accuracy:
0.8815
421/750 [========>.....] - ETA: 0s - loss: 0.5593 - accuracy:
```

```
502/750 [===========>.....] - ETA: 0s - loss: 0.5576 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.5577 - accuracy:
750/750 [=============== ] - 1s 757us/step - loss: 0.5571 - accuracy:
0.8808 - val_loss: 0.5959 - val_accuracy: 0.8674
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.4310 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.5706 - accuracy:
0.8784
161/750 [====>...... - ETA: 0s - loss: 0.5645 - accuracy:
245/750 [======>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8795
333/750 [=======>.....] - ETA: 0s - loss: 0.5610 - accuracy:
418/750 [========>..... - ETA: 0s - loss: 0.5609 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.5592 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.5605 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.5582 - accuracy:
0.8816 - val_loss: 0.5935 - val_accuracy: 0.8687
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.6983 - accuracy:
0.7969
88/750 [==>.....] - ETA: 0s - loss: 0.5464 - accuracy:
0.8869
179/750 [=====>.....] - ETA: 0s - loss: 0.5495 - accuracy:
0.8857
263/750 [=======>.....] - ETA: 0s - loss: 0.5575 - accuracy:
342/750 [=========>.....] - ETA: 0s - loss: 0.5529 - accuracy:
425/750 [========>.....] - ETA: 0s - loss: 0.5568 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.5539 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.5537 - accuracy:
```

```
0.8825
750/750 [=============== ] - 1s 716us/step - loss: 0.5554 - accuracy:
0.8817 - val loss: 0.5928 - val accuracy: 0.8683
Epoch 155/220
 1/750 [.....] - ETA: 0s - loss: 0.4504 - accuracy:
0.9531
82/750 [==>.....] - ETA: 0s - loss: 0.5529 - accuracy:
170/750 [====>..... - ETA: 0s - loss: 0.5510 - accuracy:
0.8823
250/750 [=======>.....] - ETA: 0s - loss: 0.5509 - accuracy:
0.8831
336/750 [=========>.....] - ETA: 0s - loss: 0.5479 - accuracy:
427/750 [=========>...... - ETA: 0s - loss: 0.5489 - accuracy:
514/750 [============>.....] - ETA: 0s - loss: 0.5505 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.5532 - accuracy:
0.8816
750/750 [============= ] - 1s 710us/step - loss: 0.5542 - accuracy:
0.8819 - val_loss: 0.5946 - val_accuracy: 0.8670
Epoch 156/220
 1/750 [...... 0.6559 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 0.5734 - accuracy:
0.8718
178/750 [=====>.....] - ETA: 0s - loss: 0.5657 - accuracy:
0.8766
267/750 [======>.....] - ETA: 0s - loss: 0.5579 - accuracy:
0.8793
356/750 [========>.....] - ETA: 0s - loss: 0.5556 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.5544 - accuracy:
535/750 [==========>.....] - ETA: 0s - loss: 0.5547 - accuracy:
0.8811
622/750 [===========>.....] - ETA: 0s - loss: 0.5550 - accuracy:
713/750 [==============>..] - ETA: 0s - loss: 0.5547 - accuracy:
0.8816
0.8824 - val loss: 0.5954 - val accuracy: 0.8658
Epoch 157/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5355 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5622 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5560 - accuracy:
0.8809
264/750 [======>.....] - ETA: 0s - loss: 0.5510 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.5507 - accuracy:
0.8827
440/750 [=========>..... - ETA: 0s - loss: 0.5501 - accuracy:
0.8826
532/750 [==========>.....] - ETA: 0s - loss: 0.5529 - accuracy:
0.8819
619/750 [============>.....] - ETA: 0s - loss: 0.5534 - accuracy:
0.8818
708/750 [===============>..] - ETA: 0s - loss: 0.5522 - accuracy:
0.8823
0.8819 - val_loss: 0.5916 - val_accuracy: 0.8677
Epoch 158/220
1/750 [...... - ETA: 0s - loss: 0.3821 - accuracy:
0.9531
91/750 [==>.....] - ETA: 0s - loss: 0.5591 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5629 - accuracy:
0.8798
269/750 [=======>.....] - ETA: 0s - loss: 0.5558 - accuracy:
0.8807
360/750 [=======>.....] - ETA: 0s - loss: 0.5554 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.5576 - accuracy:
0.8796
536/750 [=========>.....] - ETA: 0s - loss: 0.5554 - accuracy:
0.8801
0.8811
0.8821 - val loss: 0.5902 - val accuracy: 0.8701
Epoch 159/220
1/750 [.....] - ETA: 0s - loss: 0.6142 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5626 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5541 - accuracy:
```

```
0.8795
266/750 [=======>.....] - ETA: 0s - loss: 0.5578 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.5551 - accuracy:
0.8898
444/750 [========>.....] - ETA: 0s - loss: 0.5495 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.5505 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.5502 - accuracy:
750/750 [============= ] - 1s 698us/step - loss: 0.5509 - accuracy:
0.8821 - val_loss: 0.5900 - val_accuracy: 0.8670
Epoch 160/220
1/750 [...... - ETA: 0s - loss: 0.5187 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5577 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5627 - accuracy:
267/750 [======>..... - ETA: 0s - loss: 0.5548 - accuracy:
0.8796
356/750 [=======>.....] - ETA: 0s - loss: 0.5523 - accuracy:
444/750 [========>..... - ETA: 0s - loss: 0.5514 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.5468 - accuracy:
0.8827
750/750 [================ ] - 1s 697us/step - loss: 0.5501 - accuracy:
0.8824 - val loss: 0.5905 - val accuracy: 0.8664
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.5934 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5455 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5478 - accuracy:
0.8846
266/750 [======>.....] - ETA: 0s - loss: 0.5506 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.5506 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.5457 - accuracy:
```

```
0.8842
529/750 [==========>.....] - ETA: 0s - loss: 0.5478 - accuracy:
0.8825 - val loss: 0.5891 - val accuracy: 0.8693
Epoch 162/220
1/750 [.....] - ETA: 0s - loss: 0.5578 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5457 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5438 - accuracy:
0.8879
264/750 [======>..... - ETA: 0s - loss: 0.5408 - accuracy:
0.8875
439/750 [========>.....] - ETA: 0s - loss: 0.5437 - accuracy:
0.8861
530/750 [==========>.....] - ETA: 0s - loss: 0.5468 - accuracy:
0.8843
750/750 [============= ] - 1s 700us/step - loss: 0.5480 - accuracy:
0.8835 - val loss: 0.5879 - val accuracy: 0.8690
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.5779 - accuracy:
0.9219
88/750 [==>.....] - ETA: 0s - loss: 0.5477 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.5439 - accuracy:
0.8844
262/750 [=======>.....] - ETA: 0s - loss: 0.5459 - accuracy:
0.8846
350/750 [========>.....] - ETA: 0s - loss: 0.5444 - accuracy:
0.8853
437/750 [========>.....] - ETA: 0s - loss: 0.5476 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.5480 - accuracy:
0.8839
616/750 [===========>.....] - ETA: 0s - loss: 0.5470 - accuracy:
703/750 [==============>..] - ETA: 0s - loss: 0.5472 - accuracy:
```

```
0.8837
0.8837 - val_loss: 0.5873 - val_accuracy: 0.8706
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.6221 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5559 - accuracy:
0.8776
182/750 [=====>.....] - ETA: 0s - loss: 0.5509 - accuracy:
0.8807
270/750 [======>..... - ETA: 0s - loss: 0.5530 - accuracy:
0.8799
359/750 [=======>.....] - ETA: 0s - loss: 0.5473 - accuracy:
0.8834
447/750 [=========>.....] - ETA: 0s - loss: 0.5484 - accuracy:
0.8823
536/750 [==========>.....] - ETA: 0s - loss: 0.5474 - accuracy:
0.8839
714/750 [===============>..] - ETA: 0s - loss: 0.5463 - accuracy:
0.8838
0.8838 - val loss: 0.5872 - val accuracy: 0.8692
Epoch 165/220
1/750 [.....] - ETA: 0s - loss: 0.4135 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.5566 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.5515 - accuracy:
0.8815
256/750 [=======>.....] - ETA: 0s - loss: 0.5450 - accuracy:
341/750 [=======>.....] - ETA: 0s - loss: 0.5436 - accuracy:
0.8859
429/750 [=========>.....] - ETA: 0s - loss: 0.5447 - accuracy:
0.8846
512/750 [=========>.....] - ETA: 0s - loss: 0.5473 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.5461 - accuracy:
0.8839 - val_loss: 0.5860 - val_accuracy: 0.8692
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.4753 - accuracy:
```

```
86/750 [==>.....] - ETA: 0s - loss: 0.5474 - accuracy:
0.8814
172/750 [=====>.....] - ETA: 0s - loss: 0.5481 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.5430 - accuracy:
0.8862
344/750 [=======>.....] - ETA: 0s - loss: 0.5465 - accuracy:
0.8844
433/750 [=========>.....] - ETA: 0s - loss: 0.5488 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.5478 - accuracy:
0.8837 - val loss: 0.5866 - val accuracy: 0.8688
Epoch 167/220
1/750 [.....] - ETA: 0s - loss: 0.5095 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5497 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.5395 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.5433 - accuracy:
0.8865
344/750 [=========>.....] - ETA: 0s - loss: 0.5397 - accuracy:
0.8867
433/750 [=========>.....] - ETA: 0s - loss: 0.5420 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.5443 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.5434 - accuracy:
0.8841
0.8843
0.8844 - val_loss: 0.5895 - val_accuracy: 0.8684
Epoch 168/220
0.7969
86/750 [==>.....] - ETA: 0s - loss: 0.5379 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.5419 - accuracy:
264/750 [======>.....] - ETA: 0s - loss: 0.5399 - accuracy:
```

```
0.8858
349/750 [========>......] - ETA: 0s - loss: 0.5419 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.5429 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.5455 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.5439 - accuracy:
0.8846
750/750 [============== ] - 1s 717us/step - loss: 0.5428 - accuracy:
0.8851 - val loss: 0.5893 - val accuracy: 0.8681
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.5615 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.5582 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.5463 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.5493 - accuracy:
0.8827
345/750 [=======>.....] - ETA: 0s - loss: 0.5507 - accuracy:
0.8814
432/750 [=========>.....] - ETA: 0s - loss: 0.5476 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.5441 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.5435 - accuracy:
750/750 [================ ] - 1s 716us/step - loss: 0.5422 - accuracy:
0.8843 - val loss: 0.5837 - val accuracy: 0.8702
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.3860 - accuracy:
0.9531
86/750 [==>.....] - ETA: 0s - loss: 0.5483 - accuracy:
0.8866
170/750 [====>.....] - ETA: 0s - loss: 0.5418 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.5402 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.5397 - accuracy:
429/750 [=========>..... - ETA: 0s - loss: 0.5394 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.5405 - accuracy:
```

```
0.8850
0.8843
750/750 [================ ] - 1s 722us/step - loss: 0.5414 - accuracy:
0.8845 - val loss: 0.5856 - val accuracy: 0.8684
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.5561 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.5191 - accuracy:
0.8938
175/750 [=====>.....] - ETA: 0s - loss: 0.5353 - accuracy:
0.8871
263/750 [=======>.....] - ETA: 0s - loss: 0.5369 - accuracy:
0.8870
351/750 [=======>.....] - ETA: 0s - loss: 0.5331 - accuracy:
441/750 [==========>.....] - ETA: 0s - loss: 0.5391 - accuracy:
0.8861
530/750 [=========>.....] - ETA: 0s - loss: 0.5386 - accuracy:
0.8861
703/750 [==============>..] - ETA: 0s - loss: 0.5401 - accuracy:
750/750 [============= ] - 1s 701us/step - loss: 0.5402 - accuracy:
0.8849 - val_loss: 0.5856 - val_accuracy: 0.8697
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.4876 - accuracy:
0.9219
93/750 [==>.....] - ETA: 0s - loss: 0.5427 - accuracy:
0.8886
179/750 [=====>.....] - ETA: 0s - loss: 0.5406 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.5429 - accuracy:
0.8851
356/750 [========>.....] - ETA: 0s - loss: 0.5444 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.5421 - accuracy:
531/750 [=========>.....] - ETA: 0s - loss: 0.5434 - accuracy:
618/750 [============>.....] - ETA: 0s - loss: 0.5407 - accuracy:
750/750 [============= ] - 1s 702us/step - loss: 0.5398 - accuracy:
```

```
0.8852 - val loss: 0.5816 - val accuracy: 0.8717
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.6355 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5352 - accuracy:
0.8863
180/750 [=====>.....] - ETA: 0s - loss: 0.5353 - accuracy:
0.8867
268/750 [======>..... - ETA: 0s - loss: 0.5379 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5364 - accuracy:
0.8862
446/750 [=========>.....] - ETA: 0s - loss: 0.5362 - accuracy:
0.8871
534/750 [==========>.....] - ETA: 0s - loss: 0.5406 - accuracy:
0.8857
626/750 [============>....] - ETA: 0s - loss: 0.5404 - accuracy:
0.8861
0.8860 - val loss: 0.5875 - val accuracy: 0.8700
Epoch 174/220
 1/750 [.....] - ETA: 0s - loss: 0.4806 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5311 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5315 - accuracy:
263/750 [=======>.....] - ETA: 0s - loss: 0.5352 - accuracy:
0.8875
349/750 [========>.....] - ETA: 0s - loss: 0.5354 - accuracy:
0.8872
437/750 [=========>..... - ETA: 0s - loss: 0.5383 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.5377 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.5382 - accuracy:
0.8854
0.8854 - val_loss: 0.5821 - val_accuracy: 0.8707
Epoch 175/220
```

```
0.8815
178/750 [=====>.....] - ETA: 0s - loss: 0.5482 - accuracy:
269/750 [=======>.....] - ETA: 0s - loss: 0.5436 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5439 - accuracy:
0.8834
449/750 [========>....] - ETA: 0s - loss: 0.5406 - accuracy:
0.8846
539/750 [==========>.....] - ETA: 0s - loss: 0.5396 - accuracy:
628/750 [============>....] - ETA: 0s - loss: 0.5376 - accuracy:
0.8863
750/750 [============== ] - 1s 696us/step - loss: 0.5369 - accuracy:
0.8861 - val_loss: 0.5802 - val_accuracy: 0.8695
Epoch 176/220
1/750 [...... 0.5739 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5270 - accuracy:
0.8870
173/750 [====>...... - ETA: 0s - loss: 0.5354 - accuracy:
0.8863
262/750 [=======>.....] - ETA: 0s - loss: 0.5380 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.5338 - accuracy:
0.8877
439/750 [=========>.....] - ETA: 0s - loss: 0.5365 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.5377 - accuracy:
0.8861
0.8856 - val_loss: 0.5800 - val_accuracy: 0.8701
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.5864 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5294 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5360 - accuracy:
0.8837
267/750 [======>..... - ETA: 0s - loss: 0.5379 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.5343 - accuracy:
```

```
0.8858
444/750 [=========>.....] - ETA: 0s - loss: 0.5342 - accuracy:
0.8859
532/750 [==========>.....] - ETA: 0s - loss: 0.5349 - accuracy:
0.8859
0.8861 - val_loss: 0.5806 - val_accuracy: 0.8702
Epoch 178/220
   1/750 [.....] - ETA: 0s - loss: 0.4203 - accuracy:
0.9531
 86/750 [==>.....] - ETA: 0s - loss: 0.5082 - accuracy:
0.8953
175/750 [=====>...... - ETA: 0s - loss: 0.5224 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.5289 - accuracy:
0.8894
350/750 [=======>.....] - ETA: 0s - loss: 0.5307 - accuracy:
0.8884
437/750 [=========>...... - ETA: 0s - loss: 0.5309 - accuracy:
0.8884
525/750 [==========>.....] - ETA: 0s - loss: 0.5330 - accuracy:
0.8874
\textbf{0.8871} \\ \textbf{0.000} \\ \textbf{0.000}
701/750 [==============>..] - ETA: 0s - loss: 0.5339 - accuracy:
0.8873
750/750 [================ ] - 1s 702us/step - loss: 0.5350 - accuracy:
0.8869 - val_loss: 0.5780 - val_accuracy: 0.8721
Epoch 179/220
   1/750 [.....] - ETA: 0s - loss: 0.4689 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5139 - accuracy:
174/750 [=====>.....] - ETA: 0s - loss: 0.5214 - accuracy:
0.8911
263/750 [=======>.....] - ETA: 0s - loss: 0.5239 - accuracy:
352/750 [========>.....] - ETA: 0s - loss: 0.5319 - accuracy:
0.8870
443/750 [========>.....] - ETA: 0s - loss: 0.5298 - accuracy:
0.8873
530/750 [==========>.....] - ETA: 0s - loss: 0.5320 - accuracy:
```

```
0.8855
0.8859 - val loss: 0.5785 - val accuracy: 0.8698
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.4847 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5260 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.5337 - accuracy:
0.8857
262/750 [=======>.....] - ETA: 0s - loss: 0.5331 - accuracy:
348/750 [=========>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8849
437/750 [=========>...... - ETA: 0s - loss: 0.5352 - accuracy:
0.8856
528/750 [==========>.....] - ETA: 0s - loss: 0.5360 - accuracy:
614/750 [============>.....] - ETA: 0s - loss: 0.5348 - accuracy:
0.8857
0.8869
750/750 [============= ] - 1s 702us/step - loss: 0.5332 - accuracy:
0.8869 - val_loss: 0.5783 - val_accuracy: 0.8711
Epoch 181/220
1/750 [...... 0.6078 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5589 - accuracy:
0.8813
178/750 [=====>.....] - ETA: 0s - loss: 0.5455 - accuracy:
267/750 [======>.....] - ETA: 0s - loss: 0.5406 - accuracy:
0.8834
354/750 [========>.....] - ETA: 0s - loss: 0.5360 - accuracy:
0.8857
442/750 [=========>.....] - ETA: 0s - loss: 0.5368 - accuracy:
530/750 [==========>.....] - ETA: 0s - loss: 0.5346 - accuracy:
0.8856
618/750 [===========>.....] - ETA: 0s - loss: 0.5345 - accuracy:
708/750 [=============>..] - ETA: 0s - loss: 0.5326 - accuracy:
0.8864
0.8861 - val_loss: 0.5789 - val_accuracy: 0.8697
Epoch 182/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4937 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5225 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5278 - accuracy:
0.8892
264/750 [======>.....] - ETA: 0s - loss: 0.5300 - accuracy:
0.8877
354/750 [=======>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8867
442/750 [=========>..... - ETA: 0s - loss: 0.5315 - accuracy:
0.8874
529/750 [=========>.....] - ETA: 0s - loss: 0.5302 - accuracy:
0.8873
0.8868
0.8873
0.8874 - val_loss: 0.5779 - val_accuracy: 0.8709
Epoch 183/220
1/750 [...... - ETA: 0s - loss: 0.6609 - accuracy:
0.8750
88/750 [==>.....] - ETA: 0s - loss: 0.5306 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5318 - accuracy:
0.8862
265/750 [=======>.....] - ETA: 0s - loss: 0.5291 - accuracy:
0.8865
356/750 [=======>.....] - ETA: 0s - loss: 0.5278 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.5270 - accuracy:
0.8885
530/750 [=========>.....] - ETA: 0s - loss: 0.5296 - accuracy:
0.8866
707/750 [==============>..] - ETA: 0s - loss: 0.5301 - accuracy:
0.8874 - val loss: 0.5747 - val accuracy: 0.8716
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.5467 - accuracy:
0.8750
90/750 [==>.....] - ETA: 0s - loss: 0.5388 - accuracy:
0.8866
179/750 [=====>.....] - ETA: 0s - loss: 0.5334 - accuracy:
```

```
0.8881
269/750 [=======>.....] - ETA: 0s - loss: 0.5345 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5336 - accuracy:
0.8869
447/750 [========>.....] - ETA: 0s - loss: 0.5326 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.5322 - accuracy:
0.8867
713/750 [==============>..] - ETA: 0s - loss: 0.5304 - accuracy:
0.8876
750/750 [============= ] - 1s 694us/step - loss: 0.5297 - accuracy:
0.8876 - val_loss: 0.5750 - val_accuracy: 0.8717
Epoch 185/220
1/750 [...... - ETA: 0s - loss: 0.4115 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5211 - accuracy:
0.8936
178/750 [=====>.....] - ETA: 0s - loss: 0.5254 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.5272 - accuracy:
0.8903
353/750 [========>.....] - ETA: 0s - loss: 0.5263 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.5271 - accuracy:
0.8899
531/750 [=========>.....] - ETA: 0s - loss: 0.5283 - accuracy:
0.8877
0.8876 - val loss: 0.5750 - val accuracy: 0.8727
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.5136 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5250 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.5249 - accuracy:
0.8876
263/750 [=======>.....] - ETA: 0s - loss: 0.5280 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.5284 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.5322 - accuracy:
```

```
0.8861
524/750 [===========>.....] - ETA: 0s - loss: 0.5287 - accuracy:
0.8875
0.8873
0.8877
0.8878 - val loss: 0.5741 - val accuracy: 0.8712
Epoch 187/220
1/750 [.....] - ETA: 0s - loss: 0.4690 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.5217 - accuracy:
0.8917
167/750 [=====>.....] - ETA: 0s - loss: 0.5269 - accuracy:
0.8888
252/750 [======>...... - ETA: 0s - loss: 0.5248 - accuracy:
0.8911
330/750 [========>...... - ETA: 0s - loss: 0.5315 - accuracy:
416/750 [========>..... - ETA: 0s - loss: 0.5267 - accuracy:
0.8896
500/750 [===========>.....] - ETA: 0s - loss: 0.5263 - accuracy:
0.8899
585/750 [============>.....] - ETA: 0s - loss: 0.5274 - accuracy:
0.8883
750/750 [============= ] - 1s 741us/step - loss: 0.5278 - accuracy:
0.8881 - val_loss: 0.5755 - val_accuracy: 0.8709
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.5465 - accuracy:
0.8438
90/750 [==>.....] - ETA: 0s - loss: 0.5223 - accuracy:
0.8911
176/750 [=====>.....] - ETA: 0s - loss: 0.5268 - accuracy:
0.8883
266/750 [=======>.....] - ETA: 0s - loss: 0.5279 - accuracy:
0.8879
352/750 [========>.....] - ETA: 0s - loss: 0.5308 - accuracy:
0.8873
436/750 [=========>.....] - ETA: 0s - loss: 0.5327 - accuracy:
527/750 [=========>.....] - ETA: 0s - loss: 0.5307 - accuracy:
612/750 [===========>.....] - ETA: 0s - loss: 0.5290 - accuracy:
701/750 [===============>..] - ETA: 0s - loss: 0.5276 - accuracy:
```

```
0.8879
0.8880 - val_loss: 0.5738 - val_accuracy: 0.8731
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.5321 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5161 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.5217 - accuracy:
268/750 [======>..... - ETA: 0s - loss: 0.5268 - accuracy:
0.8887
357/750 [=======>.....] - ETA: 0s - loss: 0.5271 - accuracy:
0.8886
444/750 [=========>.....] - ETA: 0s - loss: 0.5291 - accuracy:
0.8883
531/750 [==========>.....] - ETA: 0s - loss: 0.5312 - accuracy:
0.8871
0.8874
703/750 [==============>..] - ETA: 0s - loss: 0.5270 - accuracy:
0.8876
750/750 [============== ] - 1s 710us/step - loss: 0.5262 - accuracy:
0.8878 - val loss: 0.5759 - val accuracy: 0.8715
Epoch 190/220
1/750 [.....] - ETA: 0s - loss: 0.4128 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5230 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8912
265/750 [=======>.....] - ETA: 0s - loss: 0.5324 - accuracy:
0.8881
355/750 [=======>.....] - ETA: 0s - loss: 0.5319 - accuracy:
0.8874
445/750 [=========>.....] - ETA: 0s - loss: 0.5293 - accuracy:
0.8881
534/750 [=========>.....] - ETA: 0s - loss: 0.5276 - accuracy:
0.8890
0.8886
0.8888 - val_loss: 0.5739 - val_accuracy: 0.8727
Epoch 191/220
1/750 [.....] - ETA: 0s - loss: 0.5508 - accuracy:
```

```
0.8594
91/750 [==>.....] - ETA: 0s - loss: 0.5125 - accuracy:
0.8929
179/750 [=====>.....] - ETA: 0s - loss: 0.5156 - accuracy:
0.8914
266/750 [======>..... - ETA: 0s - loss: 0.5176 - accuracy:
0.8896
356/750 [=======>.....] - ETA: 0s - loss: 0.5185 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.5219 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.5228 - accuracy:
0.8882
0.8886
0.8886
750/750 [============== ] - 1s 701us/step - loss: 0.5245 - accuracy:
0.8880 - val loss: 0.5723 - val accuracy: 0.8727
Epoch 192/220
1/750 [.....] - ETA: 0s - loss: 0.4387 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5303 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5255 - accuracy:
269/750 [======>.....] - ETA: 0s - loss: 0.5226 - accuracy:
0.8864
342/750 [=========>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8864
432/750 [=========>.....] - ETA: 0s - loss: 0.5242 - accuracy:
0.8869
524/750 [===========>.....] - ETA: 0s - loss: 0.5266 - accuracy:
616/750 [============>.....] - ETA: 0s - loss: 0.5280 - accuracy:
0.8869
0.8883
0.8887 - val_loss: 0.5712 - val_accuracy: 0.8734
Epoch 193/220
1/750 [...... 0.4805 - accuracy:
91/750 [==>...... - ETA: 0s - loss: 0.5158 - accuracy:
0.8898
182/750 [=====>.....] - ETA: 0s - loss: 0.5212 - accuracy:
272/750 [======>.....] - ETA: 0s - loss: 0.5190 - accuracy:
```

```
0.8887
358/750 [=========>.....] - ETA: 0s - loss: 0.5216 - accuracy:
0.8870
448/750 [=========>.....] - ETA: 0s - loss: 0.5207 - accuracy:
0.8884
537/750 [==========>.....] - ETA: 0s - loss: 0.5234 - accuracy:
626/750 [============>....] - ETA: 0s - loss: 0.5229 - accuracy:
750/750 [============== ] - 1s 696us/step - loss: 0.5232 - accuracy:
0.8876 - val_loss: 0.5722 - val_accuracy: 0.8723
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.3481 - accuracy:
0.9688
90/750 [==>.....] - ETA: 0s - loss: 0.5120 - accuracy:
0.8943
178/750 [=====>.....] - ETA: 0s - loss: 0.5207 - accuracy:
0.8914
268/750 [======>..... - ETA: 0s - loss: 0.5236 - accuracy:
0.8913
356/750 [=======>.....] - ETA: 0s - loss: 0.5240 - accuracy:
0.8917
445/750 [=========>.....] - ETA: 0s - loss: 0.5240 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.5245 - accuracy:
0.8896
620/750 [===========>.....] - ETA: 0s - loss: 0.5232 - accuracy:
0.8896 - val loss: 0.5794 - val accuracy: 0.8699
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.5442 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5189 - accuracy:
0.8894
176/750 [=====>.....] - ETA: 0s - loss: 0.5168 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.5173 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.5172 - accuracy:
0.8924
437/750 [=========>..... - ETA: 0s - loss: 0.5183 - accuracy:
529/750 [=========>:....] - ETA: 0s - loss: 0.5211 - accuracy:
```

```
0.8901
0.8899
750/750 [================ ] - 1s 704us/step - loss: 0.5216 - accuracy:
0.8891 - val loss: 0.5684 - val accuracy: 0.8724
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.6418 - accuracy:
0.8281
92/750 [==>.....] - ETA: 0s - loss: 0.5260 - accuracy:
0.8869
179/750 [=====>.....] - ETA: 0s - loss: 0.5238 - accuracy:
0.8870
270/750 [=======>.....] - ETA: 0s - loss: 0.5222 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.5210 - accuracy:
0.8883
447/750 [=========>.....] - ETA: 0s - loss: 0.5199 - accuracy:
0.8896
538/750 [=========>.....] - ETA: 0s - loss: 0.5185 - accuracy:
0.8904
715/750 [==============>..] - ETA: 0s - loss: 0.5204 - accuracy:
750/750 [============= ] - 1s 692us/step - loss: 0.5209 - accuracy:
0.8901 - val_loss: 0.5698 - val_accuracy: 0.8725
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.4696 - accuracy:
0.8906
91/750 [==>.....] - ETA: 0s - loss: 0.5190 - accuracy:
0.8917
180/750 [=====>.....] - ETA: 0s - loss: 0.5187 - accuracy:
267/750 [=======>.....] - ETA: 0s - loss: 0.5252 - accuracy:
0.8874
353/750 [========>.....] - ETA: 0s - loss: 0.5259 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.5216 - accuracy:
0.8884
524/750 [=========>.....] - ETA: 0s - loss: 0.5208 - accuracy:
612/750 [============>.....] - ETA: 0s - loss: 0.5199 - accuracy:
698/750 [============>...] - ETA: 0s - loss: 0.5195 - accuracy:
0.8895
750/750 [============= ] - 1s 708us/step - loss: 0.5201 - accuracy:
```

```
0.8894 - val loss: 0.5699 - val accuracy: 0.8731
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.5154 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5256 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.5224 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.5212 - accuracy:
0.8887
353/750 [========>...... - ETA: 0s - loss: 0.5192 - accuracy:
0.8893
439/750 [=========>.....] - ETA: 0s - loss: 0.5205 - accuracy:
0.8895
530/750 [==========>.....] - ETA: 0s - loss: 0.5200 - accuracy:
0.8895
618/750 [============>.....] - ETA: 0s - loss: 0.5209 - accuracy:
0.8894
0.8895
0.8894 - val loss: 0.5683 - val accuracy: 0.8740
Epoch 199/220
 1/750 [.....] - ETA: 0s - loss: 0.5388 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5227 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.5267 - accuracy:
265/750 [=======>.....] - ETA: 0s - loss: 0.5243 - accuracy:
0.8884
355/750 [========>.....] - ETA: 0s - loss: 0.5217 - accuracy:
0.8895
446/750 [=========>..... - ETA: 0s - loss: 0.5234 - accuracy:
0.8887
535/750 [==========>.....] - ETA: 0s - loss: 0.5199 - accuracy:
624/750 [============>.....] - ETA: 0s - loss: 0.5194 - accuracy:
0.8901
0.8897
750/750 [============= ] - 1s 694us/step - loss: 0.5188 - accuracy:
0.8900 - val_loss: 0.5668 - val_accuracy: 0.8754
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.4811 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5151 - accuracy:
```

```
0.8913
178/750 [=====>.....] - ETA: 0s - loss: 0.5180 - accuracy:
0.8915
267/750 [=======>.....] - ETA: 0s - loss: 0.5196 - accuracy:
 0.8903 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.
355/750 [=======>.....] - ETA: 0s - loss: 0.5202 - accuracy:
442/750 [========>.....] - ETA: 0s - loss: 0.5198 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.5200 - accuracy:
619/750 [===========>.....] - ETA: 0s - loss: 0.5170 - accuracy:
0.8912
750/750 [============== ] - 1s 700us/step - loss: 0.5178 - accuracy:
0.8905 - val loss: 0.5713 - val accuracy: 0.8706
Epoch 201/220
  1/750 [...... 0.5066 - accuracy:
0.8906
 90/750 [==>.....] - ETA: 0s - loss: 0.5214 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.5235 - accuracy:
0.8927
265/750 [=======>.....] - ETA: 0s - loss: 0.5179 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.5175 - accuracy:
0.8924
440/750 [=========>..... - ETA: 0s - loss: 0.5155 - accuracy:
532/750 [==========>.....] - ETA: 0s - loss: 0.5169 - accuracy:
0.8911
0.8911
0.8911
0.8910 - val_loss: 0.5669 - val_accuracy: 0.8729
Epoch 202/220
  1/750 [.....] - ETA: 0s - loss: 0.5159 - accuracy:
93/750 [==>.....] - ETA: 0s - loss: 0.5167 - accuracy:
181/750 [=====>.....] - ETA: 0s - loss: 0.5143 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.5156 - accuracy:
0.8889
358/750 [========>.....] - ETA: 0s - loss: 0.5176 - accuracy:
```

```
0.8887
445/750 [=========>.....] - ETA: 0s - loss: 0.5168 - accuracy:
534/750 [==========>.....] - ETA: 0s - loss: 0.5176 - accuracy:
0.8897
0.8903 - val_loss: 0.5661 - val_accuracy: 0.8733
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.4302 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5182 - accuracy:
0.8861
174/750 [====>...... - ETA: 0s - loss: 0.5164 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.5136 - accuracy:
0.8909
347/750 [=======>.....] - ETA: 0s - loss: 0.5134 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.5120 - accuracy:
0.8915
522/750 [===========>.....] - ETA: 0s - loss: 0.5149 - accuracy:
701/750 [==============>..] - ETA: 0s - loss: 0.5152 - accuracy:
0.8906
0.8903 - val loss: 0.5674 - val accuracy: 0.8727
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.4766 - accuracy:
0.8906
84/750 [==>.....] - ETA: 0s - loss: 0.5008 - accuracy:
0.8968
172/750 [=====>.....] - ETA: 0s - loss: 0.5161 - accuracy:
0.8934
257/750 [=======>.....] - ETA: 0s - loss: 0.5140 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.5152 - accuracy:
432/750 [=========>..... - ETA: 0s - loss: 0.5139 - accuracy:
0.8923
517/750 [=========>.....] - ETA: 0s - loss: 0.5124 - accuracy:
```

```
0.8924
750/750 [=============== ] - 1s 716us/step - loss: 0.5149 - accuracy:
0.8915 - val loss: 0.5676 - val accuracy: 0.8719
Epoch 205/220
 1/750 [.....] - ETA: 0s - loss: 0.7785 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5074 - accuracy:
178/750 [=====>...... - ETA: 0s - loss: 0.5081 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.5066 - accuracy:
0.8927
346/750 [=========>.....] - ETA: 0s - loss: 0.5051 - accuracy:
0.8937
433/750 [=========>..... - ETA: 0s - loss: 0.5090 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.5126 - accuracy:
0.8923
608/750 [===========>.....] - ETA: 0s - loss: 0.5141 - accuracy:
0.8917
0.8913
750/750 [============= ] - 1s 718us/step - loss: 0.5142 - accuracy:
0.8914 - val_loss: 0.5643 - val_accuracy: 0.8737
Epoch 206/220
 1/750 [...... 0.4496 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.5043 - accuracy:
182/750 [=====>.....] - ETA: 0s - loss: 0.5112 - accuracy:
0.8911
270/750 [======>..... - ETA: 0s - loss: 0.5117 - accuracy:
0.8914
360/750 [========>.....] - ETA: 0s - loss: 0.5131 - accuracy:
0.8904
451/750 [=========>.....] - ETA: 0s - loss: 0.5128 - accuracy:
540/750 [==========>.....] - ETA: 0s - loss: 0.5117 - accuracy:
0.8916
629/750 [===========>....] - ETA: 0s - loss: 0.5117 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.5132 - accuracy:
0.8905
750/750 [============== ] - 1s 693us/step - loss: 0.5138 - accuracy:
0.8902 - val loss: 0.5645 - val accuracy: 0.8751
Epoch 207/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3821 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.5241 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.5141 - accuracy:
0.8914
266/750 [======>.....] - ETA: 0s - loss: 0.5127 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.5132 - accuracy:
0.8926
444/750 [=========>..... - ETA: 0s - loss: 0.5127 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.5117 - accuracy:
0.8917
0.8916
709/750 [===============>..] - ETA: 0s - loss: 0.5128 - accuracy:
0.8912 - val_loss: 0.5660 - val_accuracy: 0.8731
Epoch 208/220
1/750 [...... - ETA: 0s - loss: 0.5148 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5101 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.5043 - accuracy:
0.8948
264/750 [=======>.....] - ETA: 0s - loss: 0.5120 - accuracy:
0.8936
350/750 [=======>.....] - ETA: 0s - loss: 0.5133 - accuracy:
0.8931
440/750 [=========>.....] - ETA: 0s - loss: 0.5139 - accuracy:
531/750 [==========>.....] - ETA: 0s - loss: 0.5129 - accuracy:
0.8924
0.8921
706/750 [==============>..] - ETA: 0s - loss: 0.5132 - accuracy:
0.8917 - val loss: 0.5630 - val accuracy: 0.8756
Epoch 209/220
1/750 [.....] - ETA: 0s - loss: 0.4632 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5201 - accuracy:
0.8887
176/750 [=====>.....] - ETA: 0s - loss: 0.5120 - accuracy:
```

```
265/750 [=======>.....] - ETA: 0s - loss: 0.5208 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.5127 - accuracy:
0.8924
442/750 [========>..... - ETA: 0s - loss: 0.5112 - accuracy:
533/750 [=========>.....] - ETA: 0s - loss: 0.5102 - accuracy:
707/750 [==============>..] - ETA: 0s - loss: 0.5112 - accuracy:
0.8916
750/750 [============= ] - 1s 701us/step - loss: 0.5117 - accuracy:
0.8912 - val_loss: 0.5684 - val_accuracy: 0.8731
Epoch 210/220
1/750 [...... - ETA: 0s - loss: 0.4868 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5013 - accuracy:
159/750 [====>.....] - ETA: 0s - loss: 0.4933 - accuracy:
0.8963
249/750 [======>.....] - ETA: 0s - loss: 0.4958 - accuracy:
0.8970
341/750 [========>.....] - ETA: 0s - loss: 0.5026 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.5039 - accuracy:
515/750 [==========>.....] - ETA: 0s - loss: 0.5085 - accuracy:
0.8914
0.8911
750/750 [=============== ] - 1s 720us/step - loss: 0.5112 - accuracy:
0.8913 - val loss: 0.5626 - val accuracy: 0.8733
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.6091 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5123 - accuracy:
0.8937
176/750 [=====>.....] - ETA: 0s - loss: 0.5165 - accuracy:
0.8896
266/750 [=======>.....] - ETA: 0s - loss: 0.5179 - accuracy:
0.8887
353/750 [========>...... - ETA: 0s - loss: 0.5130 - accuracy:
0.8904
436/750 [=========>.....] - ETA: 0s - loss: 0.5107 - accuracy:
```

```
0.8911
520/750 [===========>.....] - ETA: 0s - loss: 0.5117 - accuracy:
0.8904
750/750 [=============== ] - 1s 704us/step - loss: 0.5103 - accuracy:
0.8914 - val loss: 0.5611 - val accuracy: 0.8750
Epoch 212/220
1/750 [.....] - ETA: 0s - loss: 0.4529 - accuracy:
0.9531
89/750 [==>.....] - ETA: 0s - loss: 0.5205 - accuracy:
0.8894
181/750 [=====>.....] - ETA: 0s - loss: 0.5143 - accuracy:
0.8881
268/750 [=======>..... - ETA: 0s - loss: 0.5111 - accuracy:
448/750 [========>..... - ETA: 0s - loss: 0.5111 - accuracy:
0.8904
535/750 [==========>.....] - ETA: 0s - loss: 0.5098 - accuracy:
0.8917
0.8916
0.8921
750/750 [============= ] - 1s 693us/step - loss: 0.5092 - accuracy:
0.8921 - val loss: 0.5678 - val accuracy: 0.8717
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.5203 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5091 - accuracy:
0.8881
177/750 [=====>.....] - ETA: 0s - loss: 0.5056 - accuracy:
0.8916
266/750 [=======>.....] - ETA: 0s - loss: 0.5035 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.5072 - accuracy:
440/750 [========>.....] - ETA: 0s - loss: 0.5081 - accuracy:
528/750 [=========>.....] - ETA: 0s - loss: 0.5064 - accuracy:
0.8938
618/750 [===========>.....] - ETA: 0s - loss: 0.5075 - accuracy:
```

```
0.8919
750/750 [=============== ] - 1s 698us/step - loss: 0.5091 - accuracy:
0.8920 - val_loss: 0.5612 - val_accuracy: 0.8748
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.4275 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5129 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.5142 - accuracy:
266/750 [======>..... - ETA: 0s - loss: 0.5099 - accuracy:
0.8923
353/750 [========>.....] - ETA: 0s - loss: 0.5087 - accuracy:
439/750 [=========>.....] - ETA: 0s - loss: 0.5058 - accuracy:
0.8926
530/750 [==========>.....] - ETA: 0s - loss: 0.5069 - accuracy:
701/750 [==============>..] - ETA: 0s - loss: 0.5083 - accuracy:
0.8919
0.8917 - val loss: 0.5633 - val accuracy: 0.8742
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.5771 - accuracy:
91/750 [==>.....] - ETA: 0s - loss: 0.5182 - accuracy:
0.8911
177/750 [=====>.....] - ETA: 0s - loss: 0.5047 - accuracy:
0.8948
267/750 [=======>.....] - ETA: 0s - loss: 0.5053 - accuracy:
0.8943
355/750 [=======>.....] - ETA: 0s - loss: 0.5051 - accuracy:
0.8943
442/750 [=========>.....] - ETA: 0s - loss: 0.5023 - accuracy:
0.8945
532/750 [=========>.....] - ETA: 0s - loss: 0.5032 - accuracy:
0.8939
0.8924
0.8928 - val_loss: 0.5602 - val_accuracy: 0.8755
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.5177 - accuracy:
```

```
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.5065 - accuracy:
179/750 [=====>.....] - ETA: 0s - loss: 0.4986 - accuracy:
268/750 [======>.....] - ETA: 0s - loss: 0.5008 - accuracy:
0.8962
355/750 [=======>.....] - ETA: 0s - loss: 0.5033 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.5074 - accuracy:
533/750 [==========>.....] - ETA: 0s - loss: 0.5073 - accuracy:
0.8927
750/750 [============== ] - 1s 700us/step - loss: 0.5068 - accuracy:
0.8932 - val loss: 0.5587 - val accuracy: 0.8762
Epoch 217/220
1/750 [.....] - ETA: 0s - loss: 0.4317 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.4984 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.4966 - accuracy:
0.8964
264/750 [======>..... - ETA: 0s - loss: 0.4971 - accuracy:
354/750 [=========>.....] - ETA: 0s - loss: 0.5000 - accuracy:
0.8947
439/750 [=========>.....] - ETA: 0s - loss: 0.4990 - accuracy:
0.8951
528/750 [==========>.....] - ETA: 0s - loss: 0.5034 - accuracy:
0.8933
615/750 [============>.....] - ETA: 0s - loss: 0.5051 - accuracy:
0.8929
0.8926 - val_loss: 0.5578 - val_accuracy: 0.8762
Epoch 218/220
1/750 [...... 0.5713 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5096 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.5003 - accuracy:
0.8954
252/750 [======>.....] - ETA: 0s - loss: 0.5021 - accuracy:
```

```
0.8953
335/750 [========>>.....] - ETA: 0s - loss: 0.5045 - accuracy:
0.8946
421/750 [========>.....] - ETA: 0s - loss: 0.5063 - accuracy:
0.8933
510/750 [============>.....] - ETA: 0s - loss: 0.5051 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.5052 - accuracy:
0.8937 - val loss: 0.5593 - val accuracy: 0.8760
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.5457 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5024 - accuracy:
180/750 [=====>.....] - ETA: 0s - loss: 0.5049 - accuracy:
0.8943
269/750 [======>.....] - ETA: 0s - loss: 0.5060 - accuracy:
0.8936
354/750 [=======>.....] - ETA: 0s - loss: 0.5083 - accuracy:
0.8923
440/750 [=========>.....] - ETA: 0s - loss: 0.5074 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.5053 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.5054 - accuracy:
0.8931
0.8929
750/750 [=============== ] - 1s 720us/step - loss: 0.5048 - accuracy:
0.8927 - val loss: 0.5605 - val accuracy: 0.8731
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.5633 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5033 - accuracy:
0.8980
175/750 [=====>.....] - ETA: 0s - loss: 0.5049 - accuracy:
266/750 [=======>.....] - ETA: 0s - loss: 0.5025 - accuracy:
0.8951
348/750 [========>.....] - ETA: 0s - loss: 0.4995 - accuracy:
0.8951
437/750 [=========>..... - ETA: 0s - loss: 0.5016 - accuracy:
527/750 [==========>.....] - ETA: 0s - loss: 0.5001 - accuracy:
```

```
0.8945
0.8937 - val_loss: 0.5596 - val_accuracy: 0.8751
1/313 [.....] - ETA: 3s - loss: 0.5660 - accuracy:
109/313 [=======>.....] - ETA: 0s - loss: 0.5936 - accuracy:
0.8661
220/313 [==========>.....] - ETA: 0s - loss: 0.5968 - accuracy:
0.8656
Testing loss: 0.584429144859314
Testing accuracy: 86.55999898910522%
```

restring accuracy. 60.55555

Running for Model 10/12

Model: "sequential_10"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 50)	39250
hidden1 (Dense)	(None, 50)	2550
hidden2 (Dense)	(None, 50)	2550
hidden3 (Dense)	(None, 50)	2550
hidden4 (Dense)	(None, 50)	2550
output_layer (Dense)	(None, 10)	510

Total params: 49,960 Trainable params: 49,960 Non-trainable params: 0

```
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.001 and L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 50, 'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size': 50, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 50, 'activation_function': 'relu'}, {'name': 'hidden4', 'size': 50, 'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
```

```
'activation_function': 'softmax'}]
Epoch 1/220
```

```
1/750 [.....] - ETA: 2:10 - loss: 2.6118 - accuracy:
0.1094
66/750 [=>.....] - ETA: 0s - loss: 2.6111 - accuracy: 0.1155
134/750 [====>...... - ETA: 0s - loss: 2.6099 - accuracy:
204/750 [=====>.....] - ETA: 0s - loss: 2.6081 - accuracy:
272/750 [======>..... - ETA: 0s - loss: 2.6059 - accuracy:
0.1275
344/750 [========>.....] - ETA: 0s - loss: 2.6040 - accuracy:
0.1325
413/750 [========>.....] - ETA: 0s - loss: 2.6024 - accuracy:
0.1365
485/750 [=========>.....] - ETA: 0s - loss: 2.6007 - accuracy:
555/750 [=============>.....] - ETA: 0s - loss: 2.5989 - accuracy:
0.1446
0.1487
0.1528
750/750 [============= ] - 1s 988us/step - loss: 2.5938 - accuracy:
0.1564 - val_loss: 2.5743 - val_accuracy: 0.2068
Epoch 2/220
 1/750 [....... - loss: 2.5912 - accuracy:
0.1875
67/750 [=>.....] - ETA: 0s - loss: 2.5714 - accuracy:
0.2171
135/750 [====>.....] - ETA: 0s - loss: 2.5692 - accuracy:
0.2229
203/750 [=====>.....] - ETA: 0s - loss: 2.5681 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 2.5656 - accuracy:
0.2316
349/750 [========>.....] - ETA: 0s - loss: 2.5639 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 2.5620 - accuracy:
493/750 [=========>.....] - ETA: 0s - loss: 2.5593 - accuracy:
0.2501
566/750 [===========>.....] - ETA: 0s - loss: 2.5557 - accuracy:
639/750 [============>....] - ETA: 0s - loss: 2.5521 - accuracy:
712/750 [==============>..] - ETA: 0s - loss: 2.5488 - accuracy:
```

```
0.2687
0.2709 - val_loss: 2.5085 - val_accuracy: 0.3237
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 2.4960 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 2.5070 - accuracy:
0.3163
150/750 [====>.....] - ETA: 0s - loss: 2.5008 - accuracy:
0.3201
221/750 [======>...... - ETA: 0s - loss: 2.4956 - accuracy:
0.3264
295/750 [=======>.....] - ETA: 0s - loss: 2.4883 - accuracy:
0.3328
367/750 [========>.....] - ETA: 0s - loss: 2.4818 - accuracy:
0.3393
441/750 [========>..... - ETA: 0s - loss: 2.4757 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 2.4689 - accuracy:
0.3451
587/750 [===========>.....] - ETA: 0s - loss: 2.4615 - accuracy:
0.3493
735/750 [==============>.] - ETA: 0s - loss: 2.4463 - accuracy:
750/750 [============= ] - 1s 844us/step - loss: 2.4447 - accuracy:
0.3560 - val_loss: 2.3589 - val_accuracy: 0.3915
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 2.3654 - accuracy:
0.3281
70/750 [=>.....] - ETA: 0s - loss: 2.3584 - accuracy:
0.3728
142/750 [====>.....] - ETA: 0s - loss: 2.3425 - accuracy:
0.3841
215/750 [======>.....] - ETA: 0s - loss: 2.3290 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 2.3150 - accuracy:
0.3931
361/750 [=======>.....] - ETA: 0s - loss: 2.3014 - accuracy:
0.3963
432/750 [=========>.....] - ETA: 0s - loss: 2.2878 - accuracy:
0.3971
506/750 [=========>.....] - ETA: 0s - loss: 2.2715 - accuracy:
0.4004
579/750 [===========>.....] - ETA: 0s - loss: 2.2568 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 2.2410 - accuracy:
```

```
0.4016
0.4065 - val loss: 2.0311 - val accuracy: 0.4378
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 1.9412 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 2.0087 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 1.9869 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 1.9652 - accuracy:
0.4707
298/750 [=======>.....] - ETA: 0s - loss: 1.9415 - accuracy:
0.4791
370/750 [=======>.....] - ETA: 0s - loss: 1.9186 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 1.8953 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 1.8739 - accuracy:
0.5043
592/750 [=============>.....] - ETA: 0s - loss: 1.8521 - accuracy:
0.5121
665/750 [============>....] - ETA: 0s - loss: 1.8329 - accuracy:
0.5284 - val loss: 1.6077 - val accuracy: 0.5982
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 1.5787 - accuracy:
0.5938
72/750 [=>.....] - ETA: 0s - loss: 1.5900 - accuracy:
0.6074
146/750 [====>.....] - ETA: 0s - loss: 1.5714 - accuracy:
0.6086
219/750 [======>.....] - ETA: 0s - loss: 1.5562 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 1.5416 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 1.5269 - accuracy:
437/750 [========>..... - ETA: 0s - loss: 1.5139 - accuracy:
0.6211
509/750 [=========>.....] - ETA: 0s - loss: 1.5020 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 1.4907 - accuracy:
```

```
0.6263
655/750 [==============>....] - ETA: 0s - loss: 1.4784 - accuracy:
750/750 [=============== ] - 1s 840us/step - loss: 1.4609 - accuracy:
0.6375 - val loss: 1.3424 - val accuracy: 0.6703
Epoch 7/220
1/750 [.....] - ETA: 0s - loss: 1.2939 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 1.3476 - accuracy:
0.6604
148/750 [====>.....] - ETA: 0s - loss: 1.3275 - accuracy:
0.6701
223/750 [======>.....] - ETA: 0s - loss: 1.3196 - accuracy:
295/750 [=======>..... - ETA: 0s - loss: 1.3087 - accuracy:
0.6751
368/750 [=======>.....] - ETA: 0s - loss: 1.3003 - accuracy:
442/750 [========>..... - ETA: 0s - loss: 1.2916 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 1.2836 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 1.2753 - accuracy:
0.6917
750/750 [================ ] - 1s 836us/step - loss: 1.2586 - accuracy:
0.6918 - val loss: 1.1896 - val accuracy: 0.7091
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 1.1660 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 1.1782 - accuracy:
0.7108
149/750 [====>.....] - ETA: 0s - loss: 1.1765 - accuracy:
0.7088
221/750 [=====>.....] - ETA: 0s - loss: 1.1720 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 1.1706 - accuracy:
365/750 [========>.....] - ETA: 0s - loss: 1.1642 - accuracy:
0.7123
439/750 [=========>..... - ETA: 0s - loss: 1.1577 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 1.1496 - accuracy:
```

```
0.7177
588/750 [=============>.....] - ETA: 0s - loss: 1.1475 - accuracy:
662/750 [=============>....] - ETA: 0s - loss: 1.1453 - accuracy:
0.7169
0.7178
750/750 [=============== ] - 1s 838us/step - loss: 1.1415 - accuracy:
0.7176 - val loss: 1.1045 - val accuracy: 0.7207
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 1.0624 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 1.1036 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 1.1035 - accuracy:
0.7215
217/750 [======>...... - ETA: 0s - loss: 1.0976 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 1.0953 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 1.0904 - accuracy:
442/750 [==========>.....] - ETA: 0s - loss: 1.0881 - accuracy:
0.7278
514/750 [===========>.....] - ETA: 0s - loss: 1.0834 - accuracy:
0.7290
587/750 [============>.....] - ETA: 0s - loss: 1.0806 - accuracy:
661/750 [==============>....] - ETA: 0s - loss: 1.0773 - accuracy:
0.7306
750/750 [=============== ] - 1s 832us/step - loss: 1.0745 - accuracy:
0.7316 - val loss: 1.0518 - val accuracy: 0.7351
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 0.9834 - accuracy:
75/750 [==>....... - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 1.0434 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 1.0465 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 1.0428 - accuracy:
372/750 [========>.....] - ETA: 0s - loss: 1.0392 - accuracy:
0.7395
445/750 [=========>.....] - ETA: 0s - loss: 1.0394 - accuracy:
```

```
0.7399
520/750 [===========>.....] - ETA: 0s - loss: 1.0364 - accuracy:
0.7403
594/750 [============>.....] - ETA: 0s - loss: 1.0348 - accuracy:
0.7414
750/750 [=============== ] - 1s 826us/step - loss: 1.0313 - accuracy:
0.7421 - val_loss: 1.0162 - val_accuracy: 0.7381
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 0.9198 - accuracy:
75/750 [==>...... - ETA: 0s - loss: 1.0087 - accuracy:
0.7448
151/750 [=====>.....] - ETA: 0s - loss: 1.0140 - accuracy:
226/750 [======>..... - ETA: 0s - loss: 1.0100 - accuracy:
0.7481
299/750 [======>..... - ETA: 0s - loss: 1.0100 - accuracy:
0.7471
372/750 [=======>.....] - ETA: 0s - loss: 1.0067 - accuracy:
0.7481
446/750 [=========>.....] - ETA: 0s - loss: 1.0072 - accuracy:
0.7493
521/750 [===========>.....] - ETA: 0s - loss: 1.0048 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 1.0054 - accuracy:
0.7491
669/750 [==============>....] - ETA: 0s - loss: 1.0018 - accuracy:
0.7508 - val loss: 0.9908 - val accuracy: 0.7510
Epoch 12/220
1/750 [...... - ETA: 0s - loss: 1.2823 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.9985 - accuracy:
0.7401
150/750 [====>.....] - ETA: 0s - loss: 0.9984 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.9953 - accuracy:
0.7474
297/750 [=======>..... - ETA: 0s - loss: 0.9912 - accuracy:
0.7485
372/750 [========>.....] - ETA: 0s - loss: 0.9895 - accuracy:
```

```
0.7492
448/750 [=========>.....] - ETA: 0s - loss: 0.9854 - accuracy:
0.7521
522/750 [==========>.....] - ETA: 0s - loss: 0.9829 - accuracy:
597/750 [============>.....] - ETA: 0s - loss: 0.9803 - accuracy:
750/750 [============= ] - 1s 825us/step - loss: 0.9786 - accuracy:
0.7563 - val loss: 0.9708 - val accuracy: 0.7552
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 1.0289 - accuracy:
0.7812
74/750 [=>.....] - ETA: 0s - loss: 0.9673 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.9666 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.9634 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.9642 - accuracy:
0.7611
372/750 [========>.....] - ETA: 0s - loss: 0.9658 - accuracy:
0.7611
447/750 [========>.....] - ETA: 0s - loss: 0.9635 - accuracy:
0.7627
521/750 [==========>.....] - ETA: 0s - loss: 0.9632 - accuracy:
0.7629
594/750 [============>.....] - ETA: 0s - loss: 0.9619 - accuracy:
0.7631
0.7634
0.7635 - val_loss: 0.9525 - val_accuracy: 0.7610
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 0.9919 - accuracy:
0.7969
75/750 [==>.....] - ETA: 0s - loss: 0.9667 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.9563 - accuracy:
222/750 [======>...... - ETA: 0s - loss: 0.9525 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.9521 - accuracy:
```

```
0.7686
371/750 [=========>.....] - ETA: 0s - loss: 0.9533 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.9479 - accuracy:
0.7683
517/750 [=========>.....] - ETA: 0s - loss: 0.9476 - accuracy:
592/750 [==========>.....] - ETA: 0s - loss: 0.9460 - accuracy:
0.7688
0.7689
750/750 [============= ] - 1s 838us/step - loss: 0.9451 - accuracy:
0.7686 - val_loss: 0.9382 - val_accuracy: 0.7685
Epoch 15/220
1/750 [...... - ETA: 0s - loss: 1.1693 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.9571 - accuracy:
0.7644
148/750 [====>.....] - ETA: 0s - loss: 0.9487 - accuracy:
0.7706
222/750 [======>.....] - ETA: 0s - loss: 0.9359 - accuracy:
0.7738
297/750 [=======>.....] - ETA: 0s - loss: 0.9335 - accuracy:
0.7747
370/750 [=======>.....] - ETA: 0s - loss: 0.9362 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.9320 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.9282 - accuracy:
0.7766
587/750 [============>.....] - ETA: 0s - loss: 0.9290 - accuracy:
661/750 [=============>....] - ETA: 0s - loss: 0.9304 - accuracy:
0.7739
0.7738 - val_loss: 0.9265 - val_accuracy: 0.7753
Epoch 16/220
1/750 [...... 0.9269 - accuracy:
0.7969
73/750 [=>.....] - ETA: 0s - loss: 0.9291 - accuracy:
0.7729
144/750 [====>.....] - ETA: 0s - loss: 0.9210 - accuracy:
0.7798
218/750 [======>.....] - ETA: 0s - loss: 0.9274 - accuracy:
```

```
0.7800
290/750 [=======>.....] - ETA: 0s - loss: 0.9264 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.9236 - accuracy:
0.7785
438/750 [========>.....] - ETA: 0s - loss: 0.9222 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.9199 - accuracy:
0.7791
586/750 [============>.....] - ETA: 0s - loss: 0.9186 - accuracy:
662/750 [============>....] - ETA: 0s - loss: 0.9196 - accuracy:
0.7794
0.7790
750/750 [============== ] - 1s 830us/step - loss: 0.9196 - accuracy:
0.7791 - val loss: 0.9148 - val accuracy: 0.7757
Epoch 17/220
1/750 [...... 0.7958 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8897 - accuracy:
0.7917
149/750 [====>...... - ETA: 0s - loss: 0.9032 - accuracy:
0.7859
220/750 [======>.....] - ETA: 0s - loss: 0.9050 - accuracy:
0.7860
295/750 [======>.....] - ETA: 0s - loss: 0.9060 - accuracy:
0.7859
370/750 [=========>.....] - ETA: 0s - loss: 0.9059 - accuracy:
0.7861
445/750 [=========>.....] - ETA: 0s - loss: 0.9103 - accuracy:
0.7840
519/750 [===========>.....] - ETA: 0s - loss: 0.9063 - accuracy:
0.7856
594/750 [===========>.....] - ETA: 0s - loss: 0.9086 - accuracy:
0.7844
668/750 [==============>....] - ETA: 0s - loss: 0.9087 - accuracy:
0.7847
0.7848 - val loss: 0.9032 - val accuracy: 0.7836
Epoch 18/220
1/750 [.....] - ETA: 0s - loss: 1.0493 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.8865 - accuracy:
0.7936
148/750 [====>.....] - ETA: 0s - loss: 0.8936 - accuracy:
```

```
223/750 [======>.....] - ETA: 0s - loss: 0.8927 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.8932 - accuracy:
0.7894
372/750 [=======>....] - ETA: 0s - loss: 0.8989 - accuracy:
0.7881
447/750 [========>....] - ETA: 0s - loss: 0.9005 - accuracy:
0.7876
521/750 [===========>.....] - ETA: 0s - loss: 0.9005 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.9021 - accuracy:
671/750 [===============>....] - ETA: 0s - loss: 0.9006 - accuracy:
0.7873
0.7879
0.7880 - val loss: 0.8947 - val accuracy: 0.7869
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 0.9724 - accuracy:
0.7969
74/750 [=>.....] - ETA: 0s - loss: 0.9101 - accuracy:
0.7825
151/750 [====>.....] - ETA: 0s - loss: 0.9012 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.8982 - accuracy:
0.7889
298/750 [=======>.....] - ETA: 0s - loss: 0.8984 - accuracy:
0.7895
371/750 [=======>.....] - ETA: 0s - loss: 0.8965 - accuracy:
0.7895
443/750 [=========>.....] - ETA: 0s - loss: 0.8952 - accuracy:
0.7903
517/750 [=========>.....] - ETA: 0s - loss: 0.8924 - accuracy:
0.7916
589/750 [============>.....] - ETA: 0s - loss: 0.8930 - accuracy:
0.7919
663/750 [==============>....] - ETA: 0s - loss: 0.8902 - accuracy:
0.7926
0.7928
0.7931 - val_loss: 0.8853 - val_accuracy: 0.7914
Epoch 20/220
1/750 [.....] - ETA: 0s - loss: 0.8908 - accuracy:
0.7969
76/750 [==>.....] - ETA: 0s - loss: 0.9074 - accuracy:
```

```
0.7897
151/750 [=====>.....] - ETA: 0s - loss: 0.8956 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.8905 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.8894 - accuracy:
0.7937
371/750 [=======>.....] - ETA: 0s - loss: 0.8891 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.8862 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.8857 - accuracy:
0.7934
592/750 [============>.....] - ETA: 0s - loss: 0.8826 - accuracy:
668/750 [============>....] - ETA: 0s - loss: 0.8833 - accuracy:
0.7945
0.7958 - val_loss: 0.8759 - val_accuracy: 0.7968
Epoch 21/220
1/750 [...... - ETA: 0s - loss: 0.8923 - accuracy:
0.7969
74/750 [=>.....] - ETA: 0s - loss: 0.8929 - accuracy:
0.7861
148/750 [====>...... - ETA: 0s - loss: 0.8749 - accuracy:
0.7965
222/750 [======>.....] - ETA: 0s - loss: 0.8754 - accuracy:
0.7976
297/750 [=======>.....] - ETA: 0s - loss: 0.8738 - accuracy:
0.7983
372/750 [========>.....] - ETA: 0s - loss: 0.8744 - accuracy:
0.7975
445/750 [=========>..... - ETA: 0s - loss: 0.8727 - accuracy:
0.7987
519/750 [===========>.....] - ETA: 0s - loss: 0.8744 - accuracy:
0.7989
593/750 [===========>.....] - ETA: 0s - loss: 0.8732 - accuracy:
0.7997
0.7998 - val_loss: 0.8671 - val_accuracy: 0.8007
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.8132 - accuracy:
```

```
0.7969
73/750 [=>.....] - ETA: 0s - loss: 0.8743 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.8715 - accuracy:
0.7985
216/750 [=====>.....] - ETA: 0s - loss: 0.8684 - accuracy:
0.8014
290/750 [=======>.....] - ETA: 0s - loss: 0.8659 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.8713 - accuracy:
0.7993
440/750 [=========>..... - ETA: 0s - loss: 0.8700 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.8682 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.8652 - accuracy:
0.8018
0.8032 - val loss: 0.8594 - val accuracy: 0.8052
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 1.0646 - accuracy:
0.7031
75/750 [==>.....] - ETA: 0s - loss: 0.8486 - accuracy:
0.8094
151/750 [=====>......] - ETA: 0s - loss: 0.8480 - accuracy:
0.8131
224/750 [======>.....] - ETA: 0s - loss: 0.8529 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.8508 - accuracy:
0.8087
374/750 [=======>.....] - ETA: 0s - loss: 0.8568 - accuracy:
0.8969
447/750 [=========>.....] - ETA: 0s - loss: 0.8553 - accuracy:
0.8063
518/750 [=========>.....] - ETA: 0s - loss: 0.8558 - accuracy:
0.8054
590/750 [============>.....] - ETA: 0s - loss: 0.8571 - accuracy:
663/750 [===============>....] - ETA: 0s - loss: 0.8581 - accuracy:
738/750 [==============>.] - ETA: 0s - loss: 0.8570 - accuracy:
0.8063
750/750 [============= ] - 1s 832us/step - loss: 0.8571 - accuracy:
0.8064 - val loss: 0.8568 - val accuracy: 0.8065
Epoch 24/220
```

```
1/750 [....... - 6.8068 - accuracy:
0.7969
76/750 [==>.....] - ETA: 0s - loss: 0.8602 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.8550 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.8523 - accuracy:
0.8091
298/750 [=======>..... - ETA: 0s - loss: 0.8506 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.8528 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.8510 - accuracy:
0.8101
521/750 [===========>.....] - ETA: 0s - loss: 0.8517 - accuracy:
0.8091
596/750 [=============>.....] - ETA: 0s - loss: 0.8509 - accuracy:
743/750 [==============>.] - ETA: 0s - loss: 0.8506 - accuracy:
750/750 [================ ] - 1s 824us/step - loss: 0.8504 - accuracy:
0.8094 - val loss: 0.8482 - val accuracy: 0.8104
Epoch 25/220
1/750 [...... 0.6286 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.8243 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.8403 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.8428 - accuracy:
0.8126
297/750 [=======>..... - ETA: 0s - loss: 0.8457 - accuracy:
0.8114
368/750 [========>.....] - ETA: 0s - loss: 0.8444 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.8462 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.8461 - accuracy:
593/750 [============>.....] - ETA: 0s - loss: 0.8459 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.8439 - accuracy:
0.8116
0.8116
750/750 [============= ] - 1s 828us/step - loss: 0.8437 - accuracy:
```

```
0.8118 - val_loss: 0.8398 - val_accuracy: 0.8144 
Epoch 26/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7696 - accuracy:
0.7969
74/750 [=>.....] - ETA: 0s - loss: 0.8491 - accuracy:
0.8127
148/750 [====>...... - ETA: 0s - loss: 0.8460 - accuracy:
223/750 [=====>.....] - ETA: 0s - loss: 0.8412 - accuracy:
298/750 [=======>..... - ETA: 0s - loss: 0.8432 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.8429 - accuracy:
0.8126
445/750 [========>.....] - ETA: 0s - loss: 0.8393 - accuracy:
0.8154
520/750 [=========>.....] - ETA: 0s - loss: 0.8379 - accuracy:
0.8147
596/750 [=============>.....] - ETA: 0s - loss: 0.8405 - accuracy:
670/750 [=============>....] - ETA: 0s - loss: 0.8382 - accuracy:
750/750 [============= ] - 1s 832us/step - loss: 0.8373 - accuracy:
0.8152 - val_loss: 0.8368 - val_accuracy: 0.8140
Epoch 27/220
 1/750 [...... 0.8704 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.8365 - accuracy:
0.8171
148/750 [====>.....] - ETA: 0s - loss: 0.8312 - accuracy:
0.8178
222/750 [=====>.....] - ETA: 0s - loss: 0.8364 - accuracy:
0.8159
298/750 [=======>.....] - ETA: 0s - loss: 0.8299 - accuracy:
372/750 [========>.....] - ETA: 0s - loss: 0.8339 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.8369 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.8344 - accuracy:
0.8151
596/750 [============>.....] - ETA: 0s - loss: 0.8348 - accuracy:
670/750 [============>....] - ETA: 0s - loss: 0.8327 - accuracy:
0.8161
746/750 [==============>.] - ETA: 0s - loss: 0.8306 - accuracy:
```

```
0.8170
0.8171 - val_loss: 0.8300 - val_accuracy: 0.8155
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.7028 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.8364 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.8269 - accuracy:
224/750 [=====>...... - ETA: 0s - loss: 0.8231 - accuracy:
0.8199
297/750 [=======>.....] - ETA: 0s - loss: 0.8187 - accuracy:
372/750 [=========>.....] - ETA: 0s - loss: 0.8213 - accuracy:
444/750 [=========>...... - ETA: 0s - loss: 0.8204 - accuracy:
0.8198
516/750 [===========>.....] - ETA: 0s - loss: 0.8219 - accuracy:
590/750 [===========>.....] - ETA: 0s - loss: 0.8222 - accuracy:
0.8195
0.8185
0.8186
750/750 [============= ] - 1s 830us/step - loss: 0.8254 - accuracy:
0.8188 - val_loss: 0.8219 - val_accuracy: 0.8188
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 1.0846 - accuracy:
0.6875
76/750 [==>.....] - ETA: 0s - loss: 0.8248 - accuracy:
0.8158
150/750 [====>.....] - ETA: 0s - loss: 0.8219 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.8245 - accuracy:
0.8199
299/750 [=======>.....] - ETA: 0s - loss: 0.8243 - accuracy:
0.8196
372/750 [=======>.....] - ETA: 0s - loss: 0.8229 - accuracy:
447/750 [========>..... - ETA: 0s - loss: 0.8188 - accuracy:
0.8221
522/750 [=========>.....] - ETA: 0s - loss: 0.8174 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.8171 - accuracy:
672/750 [=============>....] - ETA: 0s - loss: 0.8182 - accuracy:
```

```
0.8217
0.8209 - val loss: 0.8185 - val accuracy: 0.8230
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.7096 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8110 - accuracy:
0.8221
150/750 [====>...... - ETA: 0s - loss: 0.8127 - accuracy:
0.8227
221/750 [======>.....] - ETA: 0s - loss: 0.8152 - accuracy:
0.8217
296/750 [=======>.....] - ETA: 0s - loss: 0.8149 - accuracy:
0.8234
372/750 [=======>.....] - ETA: 0s - loss: 0.8149 - accuracy:
445/750 [==========>.....] - ETA: 0s - loss: 0.8111 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.8112 - accuracy:
594/750 [=============>.....] - ETA: 0s - loss: 0.8123 - accuracy:
0.8237
0.8230 - val_loss: 0.8128 - val_accuracy: 0.8243
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.7968 - accuracy:
0.7969
75/750 [==>.....] - ETA: 0s - loss: 0.8131 - accuracy:
0.8277
150/750 [====>.....] - ETA: 0s - loss: 0.8074 - accuracy:
0.8284
225/750 [======>.....] - ETA: 0s - loss: 0.8175 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.8158 - accuracy:
374/750 [=========>.....] - ETA: 0s - loss: 0.8124 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.8093 - accuracy:
525/750 [=========>.....] - ETA: 0s - loss: 0.8106 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.8113 - accuracy:
```

```
0.8248
750/750 [================ ] - 1s 825us/step - loss: 0.8093 - accuracy:
0.8251 - val loss: 0.8093 - val accuracy: 0.8246
Epoch 32/220
1/750 [.....] - ETA: 0s - loss: 1.0059 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8243 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.8090 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.8104 - accuracy:
0.8264
296/750 [=======>..... - ETA: 0s - loss: 0.8129 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.8108 - accuracy:
442/750 [========>.....] - ETA: 0s - loss: 0.8049 - accuracy:
518/750 [============>.....] - ETA: 0s - loss: 0.8041 - accuracy:
593/750 [============>.....] - ETA: 0s - loss: 0.8018 - accuracy:
0.8293
743/750 [==============>.] - ETA: 0s - loss: 0.8041 - accuracy:
750/750 [================ ] - 1s 825us/step - loss: 0.8042 - accuracy:
0.8271 - val loss: 0.8046 - val accuracy: 0.8272
Epoch 33/220
1/750 [.....] - ETA: 0s - loss: 0.6464 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7977 - accuracy:
0.8288
149/750 [====>.....] - ETA: 0s - loss: 0.8047 - accuracy:
0.8276
223/750 [======>.....] - ETA: 0s - loss: 0.8045 - accuracy:
0.8274
297/750 [=======>.....] - ETA: 0s - loss: 0.8045 - accuracy:
0.8271
368/750 [========>.....] - ETA: 0s - loss: 0.8042 - accuracy:
0.8269
439/750 [=========>..... - ETA: 0s - loss: 0.8012 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.7989 - accuracy:
```

```
0.8282
586/750 [=============>.....] - ETA: 0s - loss: 0.8004 - accuracy:
661/750 [===============>....] - ETA: 0s - loss: 0.8011 - accuracy:
0.8277
0.8280
0.8285 - val loss: 0.7974 - val accuracy: 0.8288
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.8495 - accuracy:
0.7812
73/750 [=>.....] - ETA: 0s - loss: 0.8234 - accuracy:
0.8161
148/750 [====>.....] - ETA: 0s - loss: 0.8089 - accuracy:
0.8223
222/750 [======>...... - ETA: 0s - loss: 0.8081 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.8032 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.8019 - accuracy:
0.8279
443/750 [=========>.....] - ETA: 0s - loss: 0.7997 - accuracy:
0.8283
511/750 [===========>.....] - ETA: 0s - loss: 0.7980 - accuracy:
558/750 [============>.....] - ETA: 0s - loss: 0.7983 - accuracy:
0.8287
627/750 [============>....] - ETA: 0s - loss: 0.7962 - accuracy:
0.8296
0.8297 - val loss: 0.7944 - val accuracy: 0.8280
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.6956 - accuracy:
0.8906
75/750 [==>....... - accuracy:
0.8263
149/750 [====>.....] - ETA: 0s - loss: 0.7983 - accuracy:
0.8284
222/750 [======>.....] - ETA: 0s - loss: 0.7940 - accuracy:
0.8277
297/750 [=======>.....] - ETA: 0s - loss: 0.7941 - accuracy:
0.8277
371/750 [=======>.....] - ETA: 0s - loss: 0.7921 - accuracy:
0.8291
447/750 [=========>.....] - ETA: 0s - loss: 0.7924 - accuracy:
```

```
0.8283
519/750 [===========>.....] - ETA: 0s - loss: 0.7893 - accuracy:
0.8297
592/750 [============>.....] - ETA: 0s - loss: 0.7908 - accuracy:
0.8291
0.8297
750/750 [================ ] - 1s 828us/step - loss: 0.7909 - accuracy:
0.8295 - val_loss: 0.7919 - val_accuracy: 0.8314
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 1.0356 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.8046 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.7922 - accuracy:
222/750 [=====>...... - ETA: 0s - loss: 0.7914 - accuracy:
296/750 [======>..... - ETA: 0s - loss: 0.7869 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.7867 - accuracy:
0.8327
445/750 [=========>.....] - ETA: 0s - loss: 0.7835 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.7852 - accuracy:
0.8334
593/750 [===========>.....] - ETA: 0s - loss: 0.7863 - accuracy:
662/750 [==============>....] - ETA: 0s - loss: 0.7879 - accuracy:
0.8327
0.8325 - val loss: 0.7903 - val accuracy: 0.8300
Epoch 37/220
1/750 [...... - ETA: 0s - loss: 0.8306 - accuracy:
0.8438
75/750 [==>.....] - ETA: 0s - loss: 0.7909 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.7819 - accuracy:
298/750 [=======>..... - ETA: 0s - loss: 0.7818 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.7809 - accuracy:
```

```
0.8325
447/750 [=========>.....] - ETA: 0s - loss: 0.7814 - accuracy:
0.8324
522/750 [==========>.....] - ETA: 0s - loss: 0.7862 - accuracy:
0.8314
596/750 [============>.....] - ETA: 0s - loss: 0.7858 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.7846 - accuracy:
750/750 [============= ] - 1s 826us/step - loss: 0.7827 - accuracy:
0.8333 - val_loss: 0.7837 - val_accuracy: 0.8328
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.7832 - accuracy:
0.8438
77/750 [==>.....] - ETA: 0s - loss: 0.7794 - accuracy:
0.8379
149/750 [====>...... - ETA: 0s - loss: 0.7766 - accuracy:
0.8396
220/750 [=====>.....] - ETA: 0s - loss: 0.7793 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.7799 - accuracy:
0.8363
362/750 [========>.....] - ETA: 0s - loss: 0.7808 - accuracy:
434/750 [=========>...... - ETA: 0s - loss: 0.7786 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.7787 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.7789 - accuracy:
657/750 [==============>....] - ETA: 0s - loss: 0.7810 - accuracy:
0.8349 - val_loss: 0.7797 - val_accuracy: 0.8346
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.6756 - accuracy:
75/750 [==>...... - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.7780 - accuracy:
222/750 [======>...... - ETA: 0s - loss: 0.7761 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.7701 - accuracy:
```

```
0.8387
371/750 [=========>.....] - ETA: 0s - loss: 0.7699 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.7732 - accuracy:
0.8368
516/750 [=========>.....] - ETA: 0s - loss: 0.7736 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.7767 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.7766 - accuracy:
750/750 [============= ] - 1s 829us/step - loss: 0.7748 - accuracy:
0.8366 - val_loss: 0.7742 - val_accuracy: 0.8380
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.9779 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.7424 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.7651 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.7681 - accuracy:
0.8376
298/750 [=======>.....] - ETA: 0s - loss: 0.7762 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.7772 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.7757 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.7725 - accuracy:
0.8367
0.8370
0.8377
0.8376
0.8376 - val_loss: 0.7720 - val_accuracy: 0.8379
Epoch 41/220
1/750 [...... 0.7800 - accuracy:
75/750 [==>....... - accuracy:
0.8279
151/750 [====>.....] - ETA: 0s - loss: 0.7783 - accuracy:
0.8326
226/750 [======>..... - ETA: 0s - loss: 0.7731 - accuracy:
```

```
0.8337
299/750 [=======>.....] - ETA: 0s - loss: 0.7713 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.7721 - accuracy:
0.8351
448/750 [========>...... - ETA: 0s - loss: 0.7721 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.7708 - accuracy:
596/750 [=============>.....] - ETA: 0s - loss: 0.7700 - accuracy:
670/750 [============>....] - ETA: 0s - loss: 0.7682 - accuracy:
0.8380
750/750 [============= ] - 1s 826us/step - loss: 0.7677 - accuracy:
0.8379 - val_loss: 0.7687 - val_accuracy: 0.8387
Epoch 42/220
1/750 [...... 0.5961 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7559 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.7493 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.7529 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.7537 - accuracy:
373/750 [=========>.....] - ETA: 0s - loss: 0.7554 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.7560 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.7598 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.7627 - accuracy:
0.8496
672/750 [=============>....] - ETA: 0s - loss: 0.7633 - accuracy:
0.8399
746/750 [==============>.] - ETA: 0s - loss: 0.7638 - accuracy:
0.8392 - val loss: 0.7662 - val accuracy: 0.8394
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.7373 - accuracy:
0.8281
74/750 [=>.....] - ETA: 0s - loss: 0.7633 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.7546 - accuracy:
```

```
0.8436
221/750 [======>.....] - ETA: 0s - loss: 0.7670 - accuracy:
0.8387
295/750 [=======>.....] - ETA: 0s - loss: 0.7628 - accuracy:
0.8404
369/750 [=======>....] - ETA: 0s - loss: 0.7647 - accuracy:
0.8394
440/750 [========>.....] - ETA: 0s - loss: 0.7649 - accuracy:
0.8391
514/750 [===========>.....] - ETA: 0s - loss: 0.7634 - accuracy:
590/750 [===========>.....] - ETA: 0s - loss: 0.7615 - accuracy:
0.8399
664/750 [==============>....] - ETA: 0s - loss: 0.7612 - accuracy:
0.8401
750/750 [============= ] - 1s 829us/step - loss: 0.7608 - accuracy:
0.8402 - val loss: 0.7623 - val accuracy: 0.8426
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.5926 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.7430 - accuracy:
0.8476
150/750 [====>.....] - ETA: 0s - loss: 0.7546 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.7629 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.7616 - accuracy:
0.8411
372/750 [========>.....] - ETA: 0s - loss: 0.7603 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.7593 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.7589 - accuracy:
592/750 [============>.....] - ETA: 0s - loss: 0.7586 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.7573 - accuracy:
0.8417 - val_loss: 0.7615 - val_accuracy: 0.8408
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.7028 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.7612 - accuracy:
```

```
0.8414
150/750 [=====>.....] - ETA: 0s - loss: 0.7561 - accuracy:
0.8409
222/750 [======>.....] - ETA: 0s - loss: 0.7543 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.7475 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.7520 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.7532 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.7522 - accuracy:
592/750 [============>.....] - ETA: 0s - loss: 0.7553 - accuracy:
666/750 [=============>....] - ETA: 0s - loss: 0.7547 - accuracy:
0.8420 - val_loss: 0.7580 - val_accuracy: 0.8420
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.7609 - accuracy:
76/750 [==>....... - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.7388 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.7435 - accuracy:
0.8444
298/750 [=======>.....] - ETA: 0s - loss: 0.7455 - accuracy:
0.8439
374/750 [========>.....] - ETA: 0s - loss: 0.7483 - accuracy:
446/750 [=========>..... - ETA: 0s - loss: 0.7489 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.7494 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.7510 - accuracy:
0.8431
0.8430 - val_loss: 0.7545 - val_accuracy: 0.8446
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.6868 - accuracy:
```

```
0.8594
75/750 [==>.....] - ETA: 0s - loss: 0.7486 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.7432 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.7417 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.7464 - accuracy:
0.8457
374/750 [=======>.....] - ETA: 0s - loss: 0.7465 - accuracy:
448/750 [=========>..... - ETA: 0s - loss: 0.7462 - accuracy:
523/750 [==========>.....] - ETA: 0s - loss: 0.7474 - accuracy:
0.8451
599/750 [===========>.....] - ETA: 0s - loss: 0.7491 - accuracy:
0.8451
0.8446
0.8446 - val loss: 0.7538 - val accuracy: 0.8424
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.7469 - accuracy:
0.8438
74/750 [=>.....] - ETA: 0s - loss: 0.7379 - accuracy:
0.8429
147/750 [====>.....] - ETA: 0s - loss: 0.7429 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.7391 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.7389 - accuracy:
0.8463
368/750 [=======>.....] - ETA: 0s - loss: 0.7421 - accuracy:
0.8463
443/750 [=========>.....] - ETA: 0s - loss: 0.7399 - accuracy:
0.8467
516/750 [=========>.....] - ETA: 0s - loss: 0.7413 - accuracy:
591/750 [============>.....] - ETA: 0s - loss: 0.7430 - accuracy:
666/750 [===============>....] - ETA: 0s - loss: 0.7436 - accuracy:
750/750 [============== ] - 1s 826us/step - loss: 0.7450 - accuracy:
0.8452 - val loss: 0.7493 - val accuracy: 0.8457
Epoch 49/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7366 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7361 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.7362 - accuracy:
0.8471
225/750 [======>.....] - ETA: 0s - loss: 0.7361 - accuracy:
0.8487
300/750 [=======>.....] - ETA: 0s - loss: 0.7376 - accuracy:
0.8486
375/750 [=======>..... - ETA: 0s - loss: 0.7395 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.7401 - accuracy:
522/750 [==========>.....] - ETA: 0s - loss: 0.7416 - accuracy:
0.8467
596/750 [=============>.....] - ETA: 0s - loss: 0.7432 - accuracy:
0.8461
750/750 [================ ] - 1s 826us/step - loss: 0.7418 - accuracy:
0.8465 - val loss: 0.7473 - val accuracy: 0.8451
Epoch 50/220
1/750 [...... 0.9437 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.7585 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.7471 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.7402 - accuracy:
0.8464
297/750 [=======>..... - ETA: 0s - loss: 0.7381 - accuracy:
371/750 [========>.....] - ETA: 0s - loss: 0.7394 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.7391 - accuracy:
0.8469
519/750 [===========>.....] - ETA: 0s - loss: 0.7376 - accuracy:
0.8471
593/750 [============>.....] - ETA: 0s - loss: 0.7397 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.7394 - accuracy:
750/750 [============= ] - 1s 828us/step - loss: 0.7392 - accuracy:
```

```
0.8469 - val_loss: 0.7433 - val_accuracy: 0.8478 Epoch 51/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7384 - accuracy:
0.8594
74/750 [=>.....] - ETA: 0s - loss: 0.7449 - accuracy:
0.8414
150/750 [====>..... - ETA: 0s - loss: 0.7477 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.7360 - accuracy:
0.8476
296/750 [=======>..... - ETA: 0s - loss: 0.7335 - accuracy:
0.8476
372/750 [========>.....] - ETA: 0s - loss: 0.7339 - accuracy:
0.8477
448/750 [========>.....] - ETA: 0s - loss: 0.7338 - accuracy:
0.8481
520/750 [=========>.....] - ETA: 0s - loss: 0.7368 - accuracy:
0.8466
593/750 [=============>.....] - ETA: 0s - loss: 0.7361 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.7350 - accuracy:
750/750 [============= ] - 1s 825us/step - loss: 0.7361 - accuracy:
0.8476 - val_loss: 0.7398 - val_accuracy: 0.8467
Epoch 52/220
 1/750 [...... 0.6613 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.7299 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.7328 - accuracy:
0.8534
225/750 [======>.....] - ETA: 0s - loss: 0.7334 - accuracy:
300/750 [========>.....] - ETA: 0s - loss: 0.7316 - accuracy:
375/750 [========>.....] - ETA: 0s - loss: 0.7307 - accuracy:
0.8501
449/750 [=========>.....] - ETA: 0s - loss: 0.7312 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.7316 - accuracy:
0.8496
596/750 [============>.....] - ETA: 0s - loss: 0.7324 - accuracy:
0.8489
671/750 [=============>....] - ETA: 0s - loss: 0.7331 - accuracy:
```

```
0.8483 - val_loss: 0.7401 - val_accuracy: 0.8485
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.7570 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.7375 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.7384 - accuracy:
0.8496
221/750 [======>...... - ETA: 0s - loss: 0.7394 - accuracy:
0.8476
297/750 [=======>.....] - ETA: 0s - loss: 0.7383 - accuracy:
0.8468
373/750 [=========>.....] - ETA: 0s - loss: 0.7352 - accuracy:
446/750 [=========>...... - ETA: 0s - loss: 0.7354 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.7336 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.7303 - accuracy:
0.8496
750/750 [============= ] - 1s 826us/step - loss: 0.7308 - accuracy:
0.8491 - val_loss: 0.7350 - val_accuracy: 0.8484
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.7673 - accuracy:
0.8594
77/750 [==>.....] - ETA: 0s - loss: 0.7274 - accuracy:
0.8543
150/750 [====>.....] - ETA: 0s - loss: 0.7380 - accuracy:
0.8514
226/750 [======>.....] - ETA: 0s - loss: 0.7350 - accuracy:
300/750 [========>.....] - ETA: 0s - loss: 0.7338 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.7298 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.7325 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.7291 - accuracy:
0.8494
589/750 [===========>.....] - ETA: 0s - loss: 0.7270 - accuracy:
664/750 [=============>....] - ETA: 0s - loss: 0.7273 - accuracy:
```

```
0.8506
750/750 [=============== ] - 1s 837us/step - loss: 0.7283 - accuracy:
0.8503 - val loss: 0.7325 - val accuracy: 0.8491
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.7439 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.7264 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.7249 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.7219 - accuracy:
0.8544
296/750 [=======>.....] - ETA: 0s - loss: 0.7217 - accuracy:
0.8539
371/750 [=======>.....] - ETA: 0s - loss: 0.7261 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.7255 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.7247 - accuracy:
0.8514
593/750 [=============>.....] - ETA: 0s - loss: 0.7261 - accuracy:
0.8517
0.8513 - val loss: 0.7296 - val accuracy: 0.8508
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.8315 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.7089 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.7244 - accuracy:
0.8511
221/750 [======>.....] - ETA: 0s - loss: 0.7231 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.7249 - accuracy:
366/750 [=========>.....] - ETA: 0s - loss: 0.7257 - accuracy:
439/750 [========>..... - ETA: 0s - loss: 0.7218 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.7241 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.7250 - accuracy:
```

```
750/750 [=============== ] - 1s 833us/step - loss: 0.7231 - accuracy:
0.8521 - val loss: 0.7276 - val accuracy: 0.8514
Epoch 57/220
  1/750 [.....] - ETA: 0s - loss: 0.7237 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.7122 - accuracy:
0.8594
146/750 [====>.....] - ETA: 0s - loss: 0.7164 - accuracy:
0.8573
218/750 [======>.....] - ETA: 0s - loss: 0.7177 - accuracy:
0.8567
294/750 [=======>..... - ETA: 0s - loss: 0.7154 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.7139 - accuracy:
440/750 [========>..... - ETA: 0s - loss: 0.7188 - accuracy:
0.8536
513/750 [===========>.....] - ETA: 0s - loss: 0.7174 - accuracy:
0.8541
587/750 [============>.....] - ETA: 0s - loss: 0.7197 - accuracy:
 0.8540 \\ 0.00 \\ \bar{0} \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00
0.8529
0.8527 - val_loss: 0.7275 - val_accuracy: 0.8528
Epoch 58/220
  1/750 [.....] - ETA: 0s - loss: 0.6979 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.7344 - accuracy:
0.8483
151/750 [=====>.....] - ETA: 0s - loss: 0.7286 - accuracy:
0.8521
224/750 [=====>.....] - ETA: 0s - loss: 0.7216 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.7218 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.7203 - accuracy:
0.8549
447/750 [========>...... - ETA: 0s - loss: 0.7199 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.7203 - accuracy:
```

```
0.8533
595/750 [=============>.....] - ETA: 0s - loss: 0.7194 - accuracy:
668/750 [============>....] - ETA: 0s - loss: 0.7182 - accuracy:
0.8544
750/750 [=============== ] - 1s 824us/step - loss: 0.7179 - accuracy:
0.8544 - val loss: 0.7266 - val accuracy: 0.8503
Epoch 59/220
1/750 [...... - ETA: 0s - loss: 0.6213 - accuracy:
75/750 [==>....... - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.7115 - accuracy:
0.8563
224/750 [======>...... - ETA: 0s - loss: 0.7158 - accuracy:
296/750 [=======>...... - ETA: 0s - loss: 0.7129 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.7131 - accuracy:
0.8564
444/750 [==========>.....] - ETA: 0s - loss: 0.7112 - accuracy:
0.8564
517/750 [===========>.....] - ETA: 0s - loss: 0.7146 - accuracy:
590/750 [==============>.....] - ETA: 0s - loss: 0.7143 - accuracy:
659/750 [=============>....] - ETA: 0s - loss: 0.7139 - accuracy:
750/750 [=============== ] - 1s 840us/step - loss: 0.7157 - accuracy:
0.8542 - val loss: 0.7233 - val accuracy: 0.8521
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.7737 - accuracy:
0.8594
71/750 [=>.....] - ETA: 0s - loss: 0.7256 - accuracy:
0.8477
142/750 [====>.....] - ETA: 0s - loss: 0.7212 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.7132 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.7095 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7068 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.7077 - accuracy:
```

```
0.8576
501/750 [===========>.....] - ETA: 0s - loss: 0.7124 - accuracy:
572/750 [===========>.....] - ETA: 0s - loss: 0.7135 - accuracy:
\textbf{0.8544} \\ \textbf{0.000} \\ \textbf{0.000}
750/750 [=============== ] - 1s 853us/step - loss: 0.7134 - accuracy:
0.8550 - val_loss: 0.7249 - val_accuracy: 0.8512
Epoch 61/220
   1/750 [.....] - ETA: 0s - loss: 0.7780 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7208 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.7014 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7036 - accuracy:
0.8597
291/750 [=======>..... - ETA: 0s - loss: 0.7042 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.7045 - accuracy:
0.8583
438/750 [=========>.....] - ETA: 0s - loss: 0.7075 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.7107 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.7121 - accuracy:
659/750 [=============>....] - ETA: 0s - loss: 0.7122 - accuracy:
0.8566
0.8566 - val loss: 0.7185 - val accuracy: 0.8536
Epoch 62/220
   1/750 [...... - ETA: 0s - loss: 0.5808 - accuracy:
0.8906
 74/750 [=>.....] - ETA: 0s - loss: 0.7198 - accuracy:
148/750 [====>....... - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.7128 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.7172 - accuracy:
369/750 [========>.....] - ETA: 0s - loss: 0.7161 - accuracy:
```

```
442/750 [=========>.....] - ETA: 0s - loss: 0.7145 - accuracy:
0.8546
517/750 [==========>.....] - ETA: 0s - loss: 0.7152 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.7117 - accuracy:
658/750 [============>....] - ETA: 0s - loss: 0.7100 - accuracy:
750/750 [============= ] - 1s 834us/step - loss: 0.7086 - accuracy:
0.8563 - val loss: 0.7159 - val accuracy: 0.8542
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.5603 - accuracy:
0.9375
74/750 [=>.....] - ETA: 0s - loss: 0.7154 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.7138 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.7085 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.7080 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.7095 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.7086 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.7057 - accuracy:
0.8569
593/750 [============>.....] - ETA: 0s - loss: 0.7076 - accuracy:
0.8561
0.8571 - val_loss: 0.7173 - val_accuracy: 0.8538
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.8537 - accuracy:
0.8125
77/750 [==>.....] - ETA: 0s - loss: 0.7089 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.6997 - accuracy:
0.8587
225/750 [======>...... - ETA: 0s - loss: 0.7043 - accuracy:
297/750 [======>..... - ETA: 0s - loss: 0.7013 - accuracy:
```

```
0.8582
369/750 [=========>.....] - ETA: 0s - loss: 0.7039 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.7051 - accuracy:
0.8569
513/750 [=========>.....] - ETA: 0s - loss: 0.7043 - accuracy:
583/750 [===========>.....] - ETA: 0s - loss: 0.7050 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.7040 - accuracy:
726/750 [==============>.] - ETA: 0s - loss: 0.7041 - accuracy:
750/750 [============= ] - 1s 849us/step - loss: 0.7044 - accuracy:
0.8575 - val_loss: 0.7137 - val_accuracy: 0.8532
Epoch 65/220
1/750 [...... - ETA: 0s - loss: 0.7110 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.7087 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.7060 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.7056 - accuracy:
0.8560
299/750 [=======>.....] - ETA: 0s - loss: 0.7075 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.7059 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.7057 - accuracy:
0.8549
520/750 [===========>.....] - ETA: 0s - loss: 0.7051 - accuracy:
594/750 [============>.....] - ETA: 0s - loss: 0.7047 - accuracy:
668/750 [============>....] - ETA: 0s - loss: 0.7033 - accuracy:
750/750 [=============== ] - 1s 834us/step - loss: 0.7021 - accuracy:
0.8575 - val_loss: 0.7108 - val_accuracy: 0.8547
Epoch 66/220
 1/750 [...... 0.7300 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6954 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.6986 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6980 - accuracy:
```

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294/750 [=======>.....] - ETA: 0s - loss: 0.6973 - accuracy:
368/750 [========>.....] - ETA: 0s - loss: 0.7001 - accuracy:
443/750 [========>.....] - ETA: 0s - loss: 0.6974 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.6996 - accuracy:
665/750 [============>....] - ETA: 0s - loss: 0.6997 - accuracy:
0.8589
750/750 [============= ] - 1s 829us/step - loss: 0.6998 - accuracy:
0.8589 - val loss: 0.7109 - val accuracy: 0.8548
Epoch 67/220
1/750 [...... 0.6535 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6884 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.7012 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.6981 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.6973 - accuracy:
374/750 [=========>.....] - ETA: 0s - loss: 0.6926 - accuracy:
0.8626
444/750 [=========>.....] - ETA: 0s - loss: 0.6929 - accuracy:
0.8611
515/750 [===========>.....] - ETA: 0s - loss: 0.6938 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.6958 - accuracy:
660/750 [=============>....] - ETA: 0s - loss: 0.6974 - accuracy:
0.8583 - val loss: 0.7083 - val accuracy: 0.8563
Epoch 68/220
1/750 [.....] - ETA: 0s - loss: 0.5947 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.7039 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.6999 - accuracy:
```

```
0.8592
211/750 [======>.....] - ETA: 0s - loss: 0.6984 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.6981 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.7000 - accuracy:
0.8571
434/750 [========>.....] - ETA: 0s - loss: 0.6975 - accuracy:
0.8591
506/750 [===========>.....] - ETA: 0s - loss: 0.6972 - accuracy:
582/750 [===========>.....] - ETA: 0s - loss: 0.6949 - accuracy:
0.8696
650/750 [=============>....] - ETA: 0s - loss: 0.6963 - accuracy:
0.8597
0.8600 - val loss: 0.7080 - val accuracy: 0.8552
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.7326 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.7134 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.7038 - accuracy:
220/750 [=====>>.....] - ETA: 0s - loss: 0.7014 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.6944 - accuracy:
0.8594
367/750 [=======>.....] - ETA: 0s - loss: 0.6926 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.6967 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.6932 - accuracy:
0.8604
585/750 [============>.....] - ETA: 0s - loss: 0.6940 - accuracy:
0.8601
659/750 [============>....] - ETA: 0s - loss: 0.6922 - accuracy:
0.8602 - val loss: 0.7064 - val accuracy: 0.8575
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.6581 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.7091 - accuracy:
```

```
149/750 [====>.....] - ETA: 0s - loss: 0.7041 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6929 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.6901 - accuracy:
0.8624
371/750 [=======>.....] - ETA: 0s - loss: 0.6876 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.6905 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.6928 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.6937 - accuracy:
661/750 [=============>....] - ETA: 0s - loss: 0.6948 - accuracy:
0.8599
0.8604
0.8604 - val_loss: 0.7035 - val_accuracy: 0.8557
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.7266 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6899 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.6950 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.6965 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.6908 - accuracy:
0.8626
373/750 [========>.....] - ETA: 0s - loss: 0.6934 - accuracy:
447/750 [========>..... - ETA: 0s - loss: 0.6914 - accuracy:
519/750 [==========>.....] - ETA: 0s - loss: 0.6893 - accuracy:
0.8616
594/750 [===========>.....] - ETA: 0s - loss: 0.6904 - accuracy:
0.8616
0.8611
0.8609 - val_loss: 0.7038 - val_accuracy: 0.8576
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.7390 - accuracy:
```

```
0.8438
74/750 [=>.....] - ETA: 0s - loss: 0.7058 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.6972 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.6956 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.6949 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.6906 - accuracy:
443/750 [=========>..... - ETA: 0s - loss: 0.6891 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.6884 - accuracy:
0.8605
590/750 [============>.....] - ETA: 0s - loss: 0.6891 - accuracy:
0.8696
665/750 [=============>....] - ETA: 0s - loss: 0.6902 - accuracy:
0.8611 - val loss: 0.7015 - val accuracy: 0.8574
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.6861 - accuracy:
0.7969
75/750 [==>.....] - ETA: 0s - loss: 0.6695 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.6822 - accuracy:
0.8651
226/750 [======>.....] - ETA: 0s - loss: 0.6849 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.6862 - accuracy:
0.8619
375/750 [=======>>.....] - ETA: 0s - loss: 0.6869 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.6879 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.6865 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.6865 - accuracy:
673/750 [===============>....] - ETA: 0s - loss: 0.6880 - accuracy:
0.8617
0.8623 - val loss: 0.6986 - val accuracy: 0.8585
Epoch 74/220
```

```
1/750 [...... - loss: 0.7494 - accuracy:
74/750 [=>...... - accuracy:
0.8647
149/750 [====>.....] - ETA: 0s - loss: 0.6838 - accuracy:
222/750 [=====>.....] - ETA: 0s - loss: 0.6845 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.6811 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.6840 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.6851 - accuracy:
0.8617
518/750 [===========>.....] - ETA: 0s - loss: 0.6838 - accuracy:
0.8624
591/750 [==============>.....] - ETA: 0s - loss: 0.6850 - accuracy:
743/750 [==============>.] - ETA: 0s - loss: 0.6850 - accuracy:
0.8623
0.8625 - val loss: 0.6991 - val accuracy: 0.8559
Epoch 75/220
1/750 [........................] - ETA: 0s - loss: 0.7901 - accuracy:
0.7969
73/750 [=>.....] - ETA: 0s - loss: 0.6887 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.6905 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6806 - accuracy:
0.8597
298/750 [=======>..... - ETA: 0s - loss: 0.6823 - accuracy:
0.8598
371/750 [========>.....] - ETA: 0s - loss: 0.6857 - accuracy:
0.8596
447/750 [=========>.....] - ETA: 0s - loss: 0.6873 - accuracy:
0.8699
519/750 [===========>.....] - ETA: 0s - loss: 0.6868 - accuracy:
0.8609
594/750 [=============>.....] - ETA: 0s - loss: 0.6865 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.6835 - accuracy:
0.8624
750/750 [============= ] - 1s 824us/step - loss: 0.6825 - accuracy:
```

```
0.8630 - val_loss: 0.6999 - val_accuracy: 0.8574 Epoch 76/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6424 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.6803 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.6841 - accuracy:
0.8637
223/750 [=====>.....] - ETA: 0s - loss: 0.6747 - accuracy:
0.8651
299/750 [=======>..... - ETA: 0s - loss: 0.6726 - accuracy:
0.8669
374/750 [========>.....] - ETA: 0s - loss: 0.6755 - accuracy:
0.8647
449/750 [========>.....] - ETA: 0s - loss: 0.6757 - accuracy:
0.8647
525/750 [=========>.....] - ETA: 0s - loss: 0.6776 - accuracy:
598/750 [==============>.....] - ETA: 0s - loss: 0.6780 - accuracy:
672/750 [===============>....] - ETA: 0s - loss: 0.6791 - accuracy:
0.8633
0.8634 - val_loss: 0.6929 - val_accuracy: 0.8583
Epoch 77/220
1/750 [...... 0.6104 - accuracy:
76/750 [==>....... - accuracy:
0.8670
149/750 [====>.....] - ETA: 0s - loss: 0.6832 - accuracy:
0.8663
222/750 [======>.....] - ETA: 0s - loss: 0.6790 - accuracy:
0.8677
296/750 [=======>.....] - ETA: 0s - loss: 0.6772 - accuracy:
0.8664
372/750 [========>.....] - ETA: 0s - loss: 0.6771 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6809 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.6784 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.6792 - accuracy:
0.8646
668/750 [============>....] - ETA: 0s - loss: 0.6773 - accuracy:
```

```
0.8639
750/750 [================ ] - 1s 828us/step - loss: 0.6789 - accuracy:
0.8640 - val_loss: 0.6905 - val_accuracy: 0.8600
Epoch 78/220
 1/750 [.....] - ETA: 0s - loss: 0.8182 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.6647 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.6722 - accuracy:
227/750 [======>..... - ETA: 0s - loss: 0.6741 - accuracy:
0.8674
301/750 [=======>.....] - ETA: 0s - loss: 0.6800 - accuracy:
0.8646
376/750 [=========>.....] - ETA: 0s - loss: 0.6824 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.6804 - accuracy:
0.8641
524/750 [============>.....] - ETA: 0s - loss: 0.6795 - accuracy:
0.8641
598/750 [===========>.....] - ETA: 0s - loss: 0.6800 - accuracy:
0.8642
674/750 [=============>....] - ETA: 0s - loss: 0.6791 - accuracy:
0.8641
750/750 [============= ] - 1s 824us/step - loss: 0.6775 - accuracy:
0.8642 - val_loss: 0.6927 - val_accuracy: 0.8593
Epoch 79/220
 1/750 [.....] - ETA: 0s - loss: 0.6080 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6831 - accuracy:
0.8573
151/750 [====>.....] - ETA: 0s - loss: 0.6778 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.6786 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.6801 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.6771 - accuracy:
0.8646
448/750 [=========>.....] - ETA: 0s - loss: 0.6746 - accuracy:
0.8664
524/750 [=========>.....] - ETA: 0s - loss: 0.6743 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.6761 - accuracy:
673/750 [=============>....] - ETA: 0s - loss: 0.6752 - accuracy:
```

```
0.8654
0.8654 - val loss: 0.6902 - val accuracy: 0.8597
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.9178 - accuracy:
0.7969
75/750 [==>.....] - ETA: 0s - loss: 0.6736 - accuracy:
150/750 [====>..... - ETA: 0s - loss: 0.6707 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.6759 - accuracy:
0.8641
297/750 [=======>.....] - ETA: 0s - loss: 0.6710 - accuracy:
0.8664
371/750 [=======>.....] - ETA: 0s - loss: 0.6749 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6732 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.6726 - accuracy:
0.8659
591/750 [=============>.....] - ETA: 0s - loss: 0.6721 - accuracy:
0.8648 - val loss: 0.6959 - val accuracy: 0.8564
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.6057 - accuracy:
0.9375
76/750 [==>.....] - ETA: 0s - loss: 0.6687 - accuracy:
0.8729
151/750 [====>.....] - ETA: 0s - loss: 0.6688 - accuracy:
0.8689
225/750 [======>.....] - ETA: 0s - loss: 0.6667 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.6678 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.6719 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.6707 - accuracy:
0.8671
521/750 [=========>.....] - ETA: 0s - loss: 0.6713 - accuracy:
0.8671
591/750 [=============>.....] - ETA: 0s - loss: 0.6701 - accuracy:
```

```
0.8669
750/750 [=============== ] - 1s 830us/step - loss: 0.6717 - accuracy:
0.8662 - val loss: 0.6868 - val accuracy: 0.8606
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.6882 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6559 - accuracy:
0.8701
149/750 [====>.....] - ETA: 0s - loss: 0.6772 - accuracy:
0.8643
223/750 [======>.....] - ETA: 0s - loss: 0.6720 - accuracy:
0.8653
295/750 [=======>...... - ETA: 0s - loss: 0.6746 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.6731 - accuracy:
444/750 [========>.....] - ETA: 0s - loss: 0.6706 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.6696 - accuracy:
592/750 [============>.....] - ETA: 0s - loss: 0.6706 - accuracy:
0.8656 - val_loss: 0.6839 - val_accuracy: 0.8627
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.7272 - accuracy:
0.8281
75/750 [==>.....] - ETA: 0s - loss: 0.6634 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.6709 - accuracy:
0.8639
223/750 [======>.....] - ETA: 0s - loss: 0.6718 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.6722 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.6693 - accuracy:
0.8661
445/750 [=========>...... - ETA: 0s - loss: 0.6676 - accuracy:
0.8664
520/750 [===========>.....] - ETA: 0s - loss: 0.6690 - accuracy:
```

```
0.8657
594/750 [===============>.....] - ETA: 0s - loss: 0.6685 - accuracy:
666/750 [=============>....] - ETA: 0s - loss: 0.6678 - accuracy:
0.8663
0.8661
750/750 [=============== ] - 1s 829us/step - loss: 0.6683 - accuracy:
0.8663 - val loss: 0.6836 - val accuracy: 0.8624
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.7119 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6859 - accuracy:
0.8611
147/750 [====>.....] - ETA: 0s - loss: 0.6835 - accuracy:
221/750 [======>...... - ETA: 0s - loss: 0.6757 - accuracy:
294/750 [=======>...... - ETA: 0s - loss: 0.6706 - accuracy:
0.8664
369/750 [=======>.....] - ETA: 0s - loss: 0.6675 - accuracy:
0.8670
444/750 [==========>.....] - ETA: 0s - loss: 0.6680 - accuracy:
0.8661
519/750 [===========>.....] - ETA: 0s - loss: 0.6677 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.6674 - accuracy:
0.8666 - val loss: 0.6812 - val accuracy: 0.8606
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.6320 - accuracy:
0.8281
77/750 [==>.....] - ETA: 0s - loss: 0.6730 - accuracy:
0.8598
151/750 [====>.....] - ETA: 0s - loss: 0.6716 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6698 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.6653 - accuracy:
0.8669
372/750 [========>.....] - ETA: 0s - loss: 0.6652 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6655 - accuracy:
```

```
0.8667
520/750 [===========>.....] - ETA: 0s - loss: 0.6637 - accuracy:
0.8676
594/750 [============>.....] - ETA: 0s - loss: 0.6647 - accuracy:
0.8676
750/750 [=============== ] - 1s 826us/step - loss: 0.6651 - accuracy:
0.8679 - val_loss: 0.6829 - val_accuracy: 0.8619
Epoch 86/220
1/750 [.....] - ETA: 0s - loss: 0.5959 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6583 - accuracy:
0.8672
150/750 [====>...... - ETA: 0s - loss: 0.6476 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.6508 - accuracy:
0.8708
300/750 [=======>.....] - ETA: 0s - loss: 0.6540 - accuracy:
375/750 [=======>..... - ETA: 0s - loss: 0.6579 - accuracy:
0.8699
447/750 [=========>.....] - ETA: 0s - loss: 0.6555 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.6583 - accuracy:
0.8687
597/750 [===========>.....] - ETA: 0s - loss: 0.6598 - accuracy:
667/750 [=============>....] - ETA: 0s - loss: 0.6604 - accuracy:
0.8676
0.8670 - val loss: 0.6796 - val accuracy: 0.8622
Epoch 87/220
1/750 [.....] - ETA: 0s - loss: 0.6486 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6465 - accuracy:
149/750 [====>......] - ETA: 0s - loss: 0.6623 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.6659 - accuracy:
0.8673
295/750 [=======>..... - ETA: 0s - loss: 0.6624 - accuracy:
0.8676
368/750 [========>.....] - ETA: 0s - loss: 0.6609 - accuracy:
```

```
0.8687
443/750 [=========>.....] - ETA: 0s - loss: 0.6605 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.6587 - accuracy:
0.8689
590/750 [=============>.....] - ETA: 0s - loss: 0.6599 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.6589 - accuracy:
750/750 [============= ] - 1s 838us/step - loss: 0.6620 - accuracy:
0.8683 - val loss: 0.6793 - val accuracy: 0.8618
Epoch 88/220
1/750 [.....] - ETA: 0s - loss: 0.6364 - accuracy:
0.8438
69/750 [=>.....] - ETA: 0s - loss: 0.6663 - accuracy:
0.8648
140/750 [====>...... - ETA: 0s - loss: 0.6608 - accuracy:
0.8676
212/750 [======>.....] - ETA: 0s - loss: 0.6656 - accuracy:
0.8663
282/750 [=======>..... - ETA: 0s - loss: 0.6615 - accuracy:
0.8681
350/750 [========>.....] - ETA: 0s - loss: 0.6618 - accuracy:
0.8681
424/750 [========>..... - ETA: 0s - loss: 0.6614 - accuracy:
0.8681
495/750 [=========>.....] - ETA: 0s - loss: 0.6622 - accuracy:
0.8676
571/750 [===========>.....] - ETA: 0s - loss: 0.6626 - accuracy:
0.8679
0.8683
0.8681
0.8680 - val_loss: 0.6769 - val_accuracy: 0.8612
Epoch 89/220
1/750 [.....] - ETA: 0s - loss: 0.6274 - accuracy:
0.8594
74/750 [=>.....] - ETA: 0s - loss: 0.6522 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6554 - accuracy:
0.8744
221/750 [======>...... - ETA: 0s - loss: 0.6559 - accuracy:
0.8731
295/750 [=======>.....] - ETA: 0s - loss: 0.6535 - accuracy:
```

```
369/750 [=========>.....] - ETA: 0s - loss: 0.6557 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.6600 - accuracy:
0.8699
518/750 [=========>.....] - ETA: 0s - loss: 0.6570 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.6585 - accuracy:
668/750 [==============>....] - ETA: 0s - loss: 0.6580 - accuracy:
740/750 [==============>.] - ETA: 0s - loss: 0.6594 - accuracy:
0.8694
750/750 [============= ] - 1s 832us/step - loss: 0.6589 - accuracy:
0.8695 - val_loss: 0.6791 - val_accuracy: 0.8612
Epoch 90/220
1/750 [...... - ETA: 0s - loss: 0.4992 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.6606 - accuracy:
0.8679
137/750 [====>.....] - ETA: 0s - loss: 0.6743 - accuracy:
0.8636
208/750 [======>.....] - ETA: 0s - loss: 0.6699 - accuracy:
0.8653
283/750 [=======>.....] - ETA: 0s - loss: 0.6676 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6598 - accuracy:
0.8685
430/750 [=========>.....] - ETA: 0s - loss: 0.6590 - accuracy:
504/750 [===========>.....] - ETA: 0s - loss: 0.6561 - accuracy:
0.8697
577/750 [============>.....] - ETA: 0s - loss: 0.6550 - accuracy:
0.8694
0.8688 - val_loss: 0.6735 - val_accuracy: 0.8639
Epoch 91/220
1/750 [...... 0.5759 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6671 - accuracy:
0.8623
149/750 [====>.....] - ETA: 0s - loss: 0.6636 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.6620 - accuracy:
```

```
0.8658
296/750 [=======>.....] - ETA: 0s - loss: 0.6591 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.6580 - accuracy:
0.8680
446/750 [========>.....] - ETA: 0s - loss: 0.6543 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.6544 - accuracy:
593/750 [=============>.....] - ETA: 0s - loss: 0.6542 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.6564 - accuracy:
0.8699
750/750 [============= ] - 1s 832us/step - loss: 0.6555 - accuracy:
0.8702 - val loss: 0.6760 - val accuracy: 0.8612
Epoch 92/220
1/750 [...... os - loss: 0.7720 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6467 - accuracy:
0.8717
150/750 [====>...... - ETA: 0s - loss: 0.6460 - accuracy:
0.8701
223/750 [======>.....] - ETA: 0s - loss: 0.6478 - accuracy:
0.8719
298/750 [=======>.....] - ETA: 0s - loss: 0.6478 - accuracy:
0.8721
374/750 [=========>.....] - ETA: 0s - loss: 0.6499 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.6524 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.6553 - accuracy:
0.8696
597/750 [===========>.....] - ETA: 0s - loss: 0.6550 - accuracy:
672/750 [=============>....] - ETA: 0s - loss: 0.6547 - accuracy:
0.8694
747/750 [==============>.] - ETA: 0s - loss: 0.6540 - accuracy:
0.8701 - val loss: 0.6731 - val accuracy: 0.8625
Epoch 93/220
1/750 [.....] - ETA: 0s - loss: 0.5214 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6546 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.6604 - accuracy:
```

```
0.8685
223/750 [======>.....] - ETA: 0s - loss: 0.6627 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.6573 - accuracy:
0.8701
366/750 [=======>.....] - ETA: 0s - loss: 0.6556 - accuracy:
0.8701
441/750 [========>..... - ETA: 0s - loss: 0.6537 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.6512 - accuracy:
588/750 [===========>.....] - ETA: 0s - loss: 0.6505 - accuracy:
0.8721
659/750 [=============>....] - ETA: 0s - loss: 0.6522 - accuracy:
0.8714
0.8711 - val loss: 0.6706 - val accuracy: 0.8638
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.8066 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6498 - accuracy:
0.8720
148/750 [====>.....] - ETA: 0s - loss: 0.6439 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6446 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.6490 - accuracy:
370/750 [========>.....] - ETA: 0s - loss: 0.6493 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6475 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.6491 - accuracy:
0.8714
592/750 [============>.....] - ETA: 0s - loss: 0.6503 - accuracy:
666/750 [============>....] - ETA: 0s - loss: 0.6508 - accuracy:
0.8716
0.8714 - val_loss: 0.6720 - val_accuracy: 0.8634
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.9747 - accuracy:
0.8125
74/750 [=>.....] - ETA: 0s - loss: 0.6523 - accuracy:
```

```
0.8716
149/750 [====>.....] - ETA: 0s - loss: 0.6512 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6436 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.6480 - accuracy:
0.8716
371/750 [=======>.....] - ETA: 0s - loss: 0.6482 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6486 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.6487 - accuracy:
0.8699
595/750 [============>.....] - ETA: 0s - loss: 0.6476 - accuracy:
0.8706
669/750 [============>....] - ETA: 0s - loss: 0.6495 - accuracy:
0.8704
0.8702 - val_loss: 0.6713 - val_accuracy: 0.8643
Epoch 96/220
1/750 [...... - ETA: 0s - loss: 0.5424 - accuracy:
74/750 [=>...... - 6.6566 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.6592 - accuracy:
0.8686
223/750 [======>.....] - ETA: 0s - loss: 0.6513 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.6515 - accuracy:
371/750 [========>.....] - ETA: 0s - loss: 0.6490 - accuracy:
0.8716
446/750 [=========>.....] - ETA: 0s - loss: 0.6488 - accuracy:
0.8721
521/750 [===========>.....] - ETA: 0s - loss: 0.6492 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.6482 - accuracy:
0.8721
0.8719 - val_loss: 0.6653 - val_accuracy: 0.8671
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.6214 - accuracy:
```

```
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.6597 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.6462 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6479 - accuracy:
298/750 [=======>..... - ETA: 0s - loss: 0.6521 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.6534 - accuracy:
0.8714
448/750 [=========>..... - ETA: 0s - loss: 0.6508 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.6488 - accuracy:
0.8723
675/750 [===========>...] - ETA: 0s - loss: 0.6465 - accuracy:
0.8721
0.8721 - val loss: 0.6654 - val accuracy: 0.8652
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.8170 - accuracy:
0.8438
76/750 [==>.....] - ETA: 0s - loss: 0.6488 - accuracy:
150/750 [=====>......] - ETA: 0s - loss: 0.6415 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.6438 - accuracy:
0.8684
300/750 [========>.....] - ETA: 0s - loss: 0.6452 - accuracy:
0.8696
372/750 [=======>.....] - ETA: 0s - loss: 0.6431 - accuracy:
0.8714
446/750 [=========>.....] - ETA: 0s - loss: 0.6438 - accuracy:
0.8719
521/750 [=========>.....] - ETA: 0s - loss: 0.6440 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.6443 - accuracy:
668/750 [===============>....] - ETA: 0s - loss: 0.6447 - accuracy:
0.8719
750/750 [============== ] - 1s 828us/step - loss: 0.6451 - accuracy:
0.8719 - val_loss: 0.6657 - val_accuracy: 0.8658
Epoch 99/220
```

```
1/750 [....... - 6.8255 - accuracy:
76/750 [==>....... - accuracy:
0.8736
152/750 [====>...... - ETA: 0s - loss: 0.6460 - accuracy:
0.8694
225/750 [======>.....] - ETA: 0s - loss: 0.6449 - accuracy:
0.8697
301/750 [=======>.....] - ETA: 0s - loss: 0.6420 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.6435 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.6432 - accuracy:
0.8733
523/750 [==========>.....] - ETA: 0s - loss: 0.6450 - accuracy:
0.8724
597/750 [=============>.....] - ETA: 0s - loss: 0.6429 - accuracy:
0.8724
0.8725 - val loss: 0.6635 - val accuracy: 0.8659
Epoch 100/220
1/750 [...... 0.7475 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6514 - accuracy:
0.8688
151/750 [=====>.....] - ETA: 0s - loss: 0.6469 - accuracy:
0.8715
226/750 [======>.....] - ETA: 0s - loss: 0.6430 - accuracy:
0.8741
301/750 [=======>.....] - ETA: 0s - loss: 0.6433 - accuracy:
0.8729
374/750 [========>.....] - ETA: 0s - loss: 0.6480 - accuracy:
0.8704
450/750 [==========>.....] - ETA: 0s - loss: 0.6490 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.6466 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.6458 - accuracy:
673/750 [==============>....] - ETA: 0s - loss: 0.6441 - accuracy:
0.8729
750/750 [============= ] - 1s 828us/step - loss: 0.6426 - accuracy:
```

```
0.8731 - val_loss: 0.6619 - val_accuracy: 0.8662
Epoch 101/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7274 - accuracy:
0.8594
74/750 [=>.....] - ETA: 0s - loss: 0.6269 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.6421 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.6390 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.6379 - accuracy:
372/750 [========>.....] - ETA: 0s - loss: 0.6397 - accuracy:
0.8742
446/750 [========>.....] - ETA: 0s - loss: 0.6406 - accuracy:
0.8744
520/750 [=========>.....] - ETA: 0s - loss: 0.6408 - accuracy:
593/750 [=============>.....] - ETA: 0s - loss: 0.6406 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.6413 - accuracy:
0.8731
0.8730
750/750 [============= ] - 1s 826us/step - loss: 0.6413 - accuracy:
0.8731 - val_loss: 0.6647 - val_accuracy: 0.8659
Epoch 102/220
1/750 [...... 0.7630 - accuracy:
0.8125
75/750 [==>.....] - ETA: 0s - loss: 0.6555 - accuracy:
0.8696
149/750 [====>.....] - ETA: 0s - loss: 0.6590 - accuracy:
0.8686
224/750 [=====>.....] - ETA: 0s - loss: 0.6480 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.6478 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.6473 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.6435 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.6411 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.6406 - accuracy:
671/750 [=============>....] - ETA: 0s - loss: 0.6397 - accuracy:
```

```
0.8736
0.8735 - val_loss: 0.6621 - val_accuracy: 0.8649
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.5445 - accuracy:
0.9375
70/750 [=>.....] - ETA: 0s - loss: 0.6379 - accuracy:
141/750 [====>...... - ETA: 0s - loss: 0.6482 - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.6438 - accuracy:
0.8707
290/750 [=======>.....] - ETA: 0s - loss: 0.6407 - accuracy:
0.8715
364/750 [=========>.....] - ETA: 0s - loss: 0.6426 - accuracy:
0.8704
438/750 [=========>...... - ETA: 0s - loss: 0.6408 - accuracy:
0.8712
511/750 [===========>.....] - ETA: 0s - loss: 0.6424 - accuracy:
586/750 [===========>.....] - ETA: 0s - loss: 0.6410 - accuracy:
735/750 [==============>.] - ETA: 0s - loss: 0.6392 - accuracy:
750/750 [============= ] - 1s 829us/step - loss: 0.6387 - accuracy:
0.8729 - val_loss: 0.6597 - val_accuracy: 0.8666
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.5909 - accuracy:
0.8438
75/750 [==>.....] - ETA: 0s - loss: 0.6492 - accuracy:
0.8673
147/750 [====>.....] - ETA: 0s - loss: 0.6463 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6405 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.6412 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.6381 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.6387 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.6378 - accuracy:
588/750 [===========>.....] - ETA: 0s - loss: 0.6368 - accuracy:
660/750 [============>....] - ETA: 0s - loss: 0.6357 - accuracy:
```

```
0.8745
0.8746
0.8743 - val loss: 0.6647 - val accuracy: 0.8645
Epoch 105/220
  1/750 [.....] - ETA: 0s - loss: 0.7550 - accuracy:
0.7969
 75/750 [==>.....] - ETA: 0s - loss: 0.6430 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.6360 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.6320 - accuracy:
0.8758
298/750 [=======>.....] - ETA: 0s - loss: 0.6296 - accuracy:
0.8766
370/750 [=======>.....] - ETA: 0s - loss: 0.6299 - accuracy:
0.8766
446/750 [=========>.....] - ETA: 0s - loss: 0.6297 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.6302 - accuracy:
0.8763
592/750 [=============>.....] - ETA: 0s - loss: 0.6305 - accuracy:
0.8761 \\ 0.00 \\ \bar{0} \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 
0.8742 - val loss: 0.6580 - val accuracy: 0.8674
Epoch 106/220
  1/750 [...... 0.6546 - accuracy:
0.8906
 69/750 [=>.....] - ETA: 0s - loss: 0.6258 - accuracy:
0.8779
138/750 [====>...... - ETA: 0s - loss: 0.6261 - accuracy:
204/750 [======>.....] - ETA: 0s - loss: 0.6278 - accuracy:
0.8780
277/750 [=======>.....] - ETA: 0s - loss: 0.6305 - accuracy:
349/750 [=========>.....] - ETA: 0s - loss: 0.6358 - accuracy:
423/750 [========>..... - ETA: 0s - loss: 0.6334 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 0.6353 - accuracy:
0.8746
570/750 [============>.....] - ETA: 0s - loss: 0.6367 - accuracy:
```

```
0.8746
0.8749
0.8747 - val loss: 0.6580 - val accuracy: 0.8663
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.5098 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6381 - accuracy:
0.8769
150/750 [=====>.....] - ETA: 0s - loss: 0.6327 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.6341 - accuracy:
0.8761
301/750 [========>.....] - ETA: 0s - loss: 0.6308 - accuracy:
376/750 [========>.....] - ETA: 0s - loss: 0.6306 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.6310 - accuracy:
0.8776
525/750 [==========>.....] - ETA: 0s - loss: 0.6343 - accuracy:
745/750 [==============>.] - ETA: 0s - loss: 0.6329 - accuracy:
0.8761 - val_loss: 0.6569 - val_accuracy: 0.8644
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.6047 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6314 - accuracy:
0.8748
151/750 [=====>.....] - ETA: 0s - loss: 0.6322 - accuracy:
0.8774
224/750 [=====>.....] - ETA: 0s - loss: 0.6306 - accuracy:
0.8763
298/750 [=======>.....] - ETA: 0s - loss: 0.6313 - accuracy:
0.8764
372/750 [========>.....] - ETA: 0s - loss: 0.6299 - accuracy:
445/750 [========>...... - ETA: 0s - loss: 0.6292 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.6306 - accuracy:
```

```
0.8753
596/750 [=============>.....] - ETA: 0s - loss: 0.6315 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.6316 - accuracy:
0.8756
750/750 [=============== ] - 1s 826us/step - loss: 0.6317 - accuracy:
0.8754 - val loss: 0.6577 - val accuracy: 0.8676
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.5258 - accuracy:
75/750 [==>....... - accuracy:
0.8771
150/750 [=====>.....] - ETA: 0s - loss: 0.6279 - accuracy:
0.8761
224/750 [======>...... - ETA: 0s - loss: 0.6258 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.6299 - accuracy:
372/750 [=======>.....] - ETA: 0s - loss: 0.6345 - accuracy:
444/750 [==========>.....] - ETA: 0s - loss: 0.6342 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.6313 - accuracy:
0.8751
593/750 [=============>.....] - ETA: 0s - loss: 0.6303 - accuracy:
664/750 [=============>....] - ETA: 0s - loss: 0.6294 - accuracy:
0.8766
750/750 [================ ] - 1s 841us/step - loss: 0.6303 - accuracy:
0.8759 - val loss: 0.6549 - val accuracy: 0.8666
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.5979 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6208 - accuracy:
0.8803
150/750 [====>.....] - ETA: 0s - loss: 0.6218 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6302 - accuracy:
0.8766
300/750 [========>.....] - ETA: 0s - loss: 0.6303 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.6286 - accuracy:
0.8766
448/750 [=========>.....] - ETA: 0s - loss: 0.6296 - accuracy:
```

```
0.8766
522/750 [===========>.....] - ETA: 0s - loss: 0.6296 - accuracy:
0.8761
596/750 [============>.....] - ETA: 0s - loss: 0.6302 - accuracy:
0.8767
750/750 [================ ] - 1s 837us/step - loss: 0.6291 - accuracy:
0.8769 - val_loss: 0.6545 - val_accuracy: 0.8672
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.4897 - accuracy:
0.8906
71/750 [=>.....] - ETA: 0s - loss: 0.6218 - accuracy:
0.8759
144/750 [====>...... - ETA: 0s - loss: 0.6237 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.6280 - accuracy:
0.8774
288/750 [=======>..... - ETA: 0s - loss: 0.6270 - accuracy:
0.8780
363/750 [=======>.....] - ETA: 0s - loss: 0.6262 - accuracy:
0.8787
436/750 [=========>.....] - ETA: 0s - loss: 0.6234 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.6243 - accuracy:
0.8783
584/750 [===========>.....] - ETA: 0s - loss: 0.6243 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.6272 - accuracy:
0.8766
0.8763
0.8767 - val loss: 0.6543 - val accuracy: 0.8650
Epoch 112/220
1/750 [.....] - ETA: 0s - loss: 0.5106 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.6385 - accuracy:
149/750 [====>......] - ETA: 0s - loss: 0.6284 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6241 - accuracy:
299/750 [=======>..... - ETA: 0s - loss: 0.6266 - accuracy:
0.8764
371/750 [========>.....] - ETA: 0s - loss: 0.6249 - accuracy:
```

```
0.8773
446/750 [=========>.....] - ETA: 0s - loss: 0.6258 - accuracy:
520/750 [==========>.....] - ETA: 0s - loss: 0.6258 - accuracy:
0.8770
596/750 [============>.....] - ETA: 0s - loss: 0.6253 - accuracy:
672/750 [=============>....] - ETA: 0s - loss: 0.6256 - accuracy:
0.8767
750/750 [============= ] - 1s 826us/step - loss: 0.6262 - accuracy:
0.8767 - val loss: 0.6516 - val accuracy: 0.8684
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.5994 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.6228 - accuracy:
0.8763
148/750 [====>...... - ETA: 0s - loss: 0.6270 - accuracy:
0.8785
221/750 [======>.....] - ETA: 0s - loss: 0.6294 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.6265 - accuracy:
369/750 [=======>.....] - ETA: 0s - loss: 0.6258 - accuracy:
0.8766
443/750 [=========>.....] - ETA: 0s - loss: 0.6279 - accuracy:
0.8759
518/750 [=========>.....] - ETA: 0s - loss: 0.6294 - accuracy:
0.8749
593/750 [============>.....] - ETA: 0s - loss: 0.6276 - accuracy:
0.8756
0.8770 - val_loss: 0.6506 - val_accuracy: 0.8670
Epoch 114/220
1/750 [.....] - ETA: 0s - loss: 0.6427 - accuracy:
0.7969
75/750 [==>.....] - ETA: 0s - loss: 0.6127 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.6182 - accuracy:
223/750 [======>...... - ETA: 0s - loss: 0.6195 - accuracy:
0.8795
296/750 [=======>.....] - ETA: 0s - loss: 0.6222 - accuracy:
```

```
0.8781
369/750 [=========>.....] - ETA: 0s - loss: 0.6244 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.6264 - accuracy:
0.8778
518/750 [=========>.....] - ETA: 0s - loss: 0.6256 - accuracy:
592/750 [===========>.....] - ETA: 0s - loss: 0.6227 - accuracy:
0.8797
0.8787
750/750 [============= ] - 1s 828us/step - loss: 0.6236 - accuracy:
0.8786 - val_loss: 0.6489 - val_accuracy: 0.8689
Epoch 115/220
1/750 [...... - ETA: 0s - loss: 0.6622 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6116 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.6231 - accuracy:
0.8797
225/750 [======>.....] - ETA: 0s - loss: 0.6206 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.6232 - accuracy:
374/750 [=======>.....] - ETA: 0s - loss: 0.6222 - accuracy:
0.8782
448/750 [=========>.....] - ETA: 0s - loss: 0.6207 - accuracy:
0.8781
521/750 [==========>.....] - ETA: 0s - loss: 0.6234 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.6221 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.6232 - accuracy:
0.8771
0.8776
750/750 [============= ] - 1s 840us/step - loss: 0.6226 - accuracy:
0.8778 - val_loss: 0.6460 - val_accuracy: 0.8688
Epoch 116/220
71/750 [=>...... - accuracy:
0.8770
141/750 [====>.....] - ETA: 0s - loss: 0.6232 - accuracy:
0.8764
216/750 [======>.....] - ETA: 0s - loss: 0.6209 - accuracy:
```

```
0.8784
286/750 [=======>.....] - ETA: 0s - loss: 0.6209 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.6223 - accuracy:
0.8776
429/750 [========>.....] - ETA: 0s - loss: 0.6250 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 0.6253 - accuracy:
0.8763
573/750 [===========>.....] - ETA: 0s - loss: 0.6233 - accuracy:
 0.877  @ 1000  \bar{0} 1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1000  1
645/750 [============>....] - ETA: 0s - loss: 0.6214 - accuracy:
0.8785
750/750 [============= ] - 1s 854us/step - loss: 0.6211 - accuracy:
0.8784 - val loss: 0.6478 - val accuracy: 0.8692
Epoch 117/220
  1/750 [...... 0.8437 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6153 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.6222 - accuracy:
0.8761
217/750 [======>.....] - ETA: 0s - loss: 0.6200 - accuracy:
0.8785
290/750 [======>..... - ETA: 0s - loss: 0.6232 - accuracy:
0.8776
360/750 [=========>.....] - ETA: 0s - loss: 0.6218 - accuracy:
0.8786
432/750 [=========>.....] - ETA: 0s - loss: 0.6198 - accuracy:
0.8791
505/750 [===========>.....] - ETA: 0s - loss: 0.6213 - accuracy:
576/750 [===========>.....] - ETA: 0s - loss: 0.6217 - accuracy:
0.8789
719/750 [===============>..] - ETA: 0s - loss: 0.6200 - accuracy:
0.8791
0.8789 - val loss: 0.6456 - val accuracy: 0.8683
Epoch 118/220
  1/750 [.....] - ETA: 0s - loss: 0.5524 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6445 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.6351 - accuracy:
```

```
0.8728
218/750 [======>.....] - ETA: 0s - loss: 0.6255 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.6226 - accuracy:
0.8776
362/750 [=======>.....] - ETA: 0s - loss: 0.6223 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.6208 - accuracy:
0.8769
508/750 [===========>.....] - ETA: 0s - loss: 0.6198 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.6185 - accuracy:
0.8785
652/750 [=============>....] - ETA: 0s - loss: 0.6182 - accuracy:
0.8786
0.8787 - val loss: 0.6505 - val accuracy: 0.8651
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.6075 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.6354 - accuracy:
0.8703
144/750 [====>.....] - ETA: 0s - loss: 0.6332 - accuracy:
0.8701
218/750 [======>.....] - ETA: 0s - loss: 0.6234 - accuracy:
0.8746
290/750 [=======>.....] - ETA: 0s - loss: 0.6225 - accuracy:
0.8756
363/750 [=======>.....] - ETA: 0s - loss: 0.6228 - accuracy:
0.8764
435/750 [=========>.....] - ETA: 0s - loss: 0.6175 - accuracy:
0.8783
505/750 [=========>.....] - ETA: 0s - loss: 0.6168 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.6175 - accuracy:
0.8790
650/750 [=============>....] - ETA: 0s - loss: 0.6173 - accuracy:
0.8782 - val loss: 0.6448 - val accuracy: 0.8702
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.6925 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6387 - accuracy:
```

```
0.8729
148/750 [====>.....] - ETA: 0s - loss: 0.6290 - accuracy:
0.8744
224/750 [======>.....] - ETA: 0s - loss: 0.6259 - accuracy:
297/750 [=======>..... - ETA: 0s - loss: 0.6227 - accuracy:
0.8754
370/750 [=======>.....] - ETA: 0s - loss: 0.6217 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6188 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.6184 - accuracy:
0.8776
593/750 [============>.....] - ETA: 0s - loss: 0.6170 - accuracy:
0.8777
667/750 [=============>....] - ETA: 0s - loss: 0.6163 - accuracy:
0.8780
0.8784
0.8785 - val_loss: 0.6431 - val_accuracy: 0.8692
Epoch 121/220
1/750 [...... - ETA: 0s - loss: 0.6122 - accuracy:
0.8750
75/750 [==>....... - accuracy:
0.8769
149/750 [====>.....] - ETA: 0s - loss: 0.6078 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.6142 - accuracy:
0.8807
298/750 [=======>.....] - ETA: 0s - loss: 0.6104 - accuracy:
0.8820
372/750 [========>.....] - ETA: 0s - loss: 0.6117 - accuracy:
0.8813
445/750 [=========>..... - ETA: 0s - loss: 0.6164 - accuracy:
0.8794
521/750 [===========>.....] - ETA: 0s - loss: 0.6166 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.6159 - accuracy:
0.8779
0.8784
0.8783 - val_loss: 0.6418 - val_accuracy: 0.8702
Epoch 122/220
1/750 [.....] - ETA: 0s - loss: 0.6563 - accuracy:
```

```
70/750 [=>.....] - ETA: 0s - loss: 0.6111 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.6137 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.6096 - accuracy:
0.8847
291/750 [=======>..... - ETA: 0s - loss: 0.6144 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.6128 - accuracy:
0.8804
439/750 [=========>..... - ETA: 0s - loss: 0.6128 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.6159 - accuracy:
0.8792
586/750 [============>.....] - ETA: 0s - loss: 0.6148 - accuracy:
0.8789
0.8799
0.8799 - val loss: 0.6402 - val accuracy: 0.8688
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.6507 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6048 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.6135 - accuracy:
0.8826
224/750 [======>.....] - ETA: 0s - loss: 0.6099 - accuracy:
0.8841
300/750 [========>.....] - ETA: 0s - loss: 0.6120 - accuracy:
372/750 [=======>.....] - ETA: 0s - loss: 0.6117 - accuracy:
0.8829
446/750 [=========>.....] - ETA: 0s - loss: 0.6079 - accuracy:
0.8836
519/750 [=========>.....] - ETA: 0s - loss: 0.6104 - accuracy:
0.8824
592/750 [===========>.....] - ETA: 0s - loss: 0.6111 - accuracy:
665/750 [===============>....] - ETA: 0s - loss: 0.6119 - accuracy:
0.8896
750/750 [============== ] - 1s 832us/step - loss: 0.6129 - accuracy:
0.8800 - val loss: 0.6388 - val accuracy: 0.8716
Epoch 124/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5619 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5899 - accuracy:
0.8898
149/750 [====>.....] - ETA: 0s - loss: 0.5933 - accuracy:
0.8877
224/750 [=====>.....] - ETA: 0s - loss: 0.5922 - accuracy:
0.8877
296/750 [=======>..... - ETA: 0s - loss: 0.5964 - accuracy:
0.8871
371/750 [=======>.....] - ETA: 0s - loss: 0.6012 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.6016 - accuracy:
0.8844
519/750 [==========>.....] - ETA: 0s - loss: 0.6070 - accuracy:
0.8824
597/750 [=============>.....] - ETA: 0s - loss: 0.6110 - accuracy:
750/750 [=============== ] - 1s 822us/step - loss: 0.6113 - accuracy:
0.8800 - val loss: 0.6391 - val accuracy: 0.8699
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.4843 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6215 - accuracy:
0.8769
149/750 [====>.....] - ETA: 0s - loss: 0.6085 - accuracy:
0.8807
223/750 [======>.....] - ETA: 0s - loss: 0.6062 - accuracy:
299/750 [=======>..... - ETA: 0s - loss: 0.6084 - accuracy:
0.8807
370/750 [========>.....] - ETA: 0s - loss: 0.6081 - accuracy:
0.8801
444/750 [=========>.....] - ETA: 0s - loss: 0.6098 - accuracy:
0.8799
520/750 [===========>.....] - ETA: 0s - loss: 0.6099 - accuracy:
592/750 [=============>.....] - ETA: 0s - loss: 0.6106 - accuracy:
667/750 [=============>....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8805
750/750 [============= ] - 1s 830us/step - loss: 0.6103 - accuracy:
```

```
0.8805 - val_loss: 0.6392 - val_accuracy: 0.8720 Epoch 126/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5605 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6082 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.5938 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.6015 - accuracy:
297/750 [=======>..... - ETA: 0s - loss: 0.6060 - accuracy:
0.8894
371/750 [========>.....] - ETA: 0s - loss: 0.6058 - accuracy:
0.8820
446/750 [========>.....] - ETA: 0s - loss: 0.6050 - accuracy:
0.8826
521/750 [=========>.....] - ETA: 0s - loss: 0.6061 - accuracy:
597/750 [==============>.....] - ETA: 0s - loss: 0.6079 - accuracy:
0.8816
672/750 [==============>....] - ETA: 0s - loss: 0.6087 - accuracy:
0.8814
750/750 [============= ] - 1s 822us/step - loss: 0.6089 - accuracy:
0.8809 - val_loss: 0.6367 - val_accuracy: 0.8697
Epoch 127/220
 1/750 [...... 0.6360 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.6152 - accuracy:
0.8801
150/750 [=====>.....] - ETA: 0s - loss: 0.6029 - accuracy:
0.8817
225/750 [======>.....] - ETA: 0s - loss: 0.6121 - accuracy:
0.8781
299/750 [=======>.....] - ETA: 0s - loss: 0.6118 - accuracy:
0.8786
373/750 [========>.....] - ETA: 0s - loss: 0.6113 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.6070 - accuracy:
0.8821
519/750 [===========>.....] - ETA: 0s - loss: 0.6054 - accuracy:
0.8827
594/750 [============>.....] - ETA: 0s - loss: 0.6060 - accuracy:
0.8824
667/750 [============>....] - ETA: 0s - loss: 0.6062 - accuracy:
```

```
0.8807
750/750 [=============== ] - 1s 825us/step - loss: 0.6077 - accuracy:
0.8809 - val_loss: 0.6383 - val_accuracy: 0.8702
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.6275 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5880 - accuracy:
0.8876
149/750 [====>...... - ETA: 0s - loss: 0.5982 - accuracy:
0.8844
222/750 [======>...... - ETA: 0s - loss: 0.6010 - accuracy:
0.8849
297/750 [=======>.....] - ETA: 0s - loss: 0.6004 - accuracy:
370/750 [=========>.....] - ETA: 0s - loss: 0.6022 - accuracy:
0.8842
444/750 [=========>...... - ETA: 0s - loss: 0.6039 - accuracy:
0.8831
519/750 [===========>.....] - ETA: 0s - loss: 0.6062 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.6060 - accuracy:
0.8817
0.8816
750/750 [============= ] - 1s 826us/step - loss: 0.6065 - accuracy:
0.8812 - val_loss: 0.6359 - val_accuracy: 0.8702
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.5702 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6126 - accuracy:
0.8787
149/750 [====>.....] - ETA: 0s - loss: 0.6175 - accuracy:
0.8767
223/750 [======>.....] - ETA: 0s - loss: 0.6129 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.6129 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.6081 - accuracy:
449/750 [========>.....] - ETA: 0s - loss: 0.6073 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.6063 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.6056 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.6058 - accuracy:
```

```
0.8813
750/750 [=============== ] - 1s 830us/step - loss: 0.6054 - accuracy:
0.8810 - val loss: 0.6351 - val accuracy: 0.8686
Epoch 130/220
 1/750 [.....] - ETA: 0s - loss: 0.6478 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6115 - accuracy:
0.8807
147/750 [====>...... - ETA: 0s - loss: 0.6084 - accuracy:
0.8801
222/750 [======>.....] - ETA: 0s - loss: 0.6135 - accuracy:
0.8803
298/750 [=======>.....] - ETA: 0s - loss: 0.6103 - accuracy:
373/750 [=======>.....] - ETA: 0s - loss: 0.6070 - accuracy:
0.8816
448/750 [==========>.....] - ETA: 0s - loss: 0.6046 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.6040 - accuracy:
0.8821
597/750 [=============>.....] - ETA: 0s - loss: 0.6045 - accuracy:
0.8820
0.8814
750/750 [=============== ] - 1s 825us/step - loss: 0.6041 - accuracy:
0.8817 - val loss: 0.6351 - val accuracy: 0.8691
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.6034 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.5955 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.5993 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.6029 - accuracy:
0.8825
295/750 [=======>.....] - ETA: 0s - loss: 0.6040 - accuracy:
0.8888
372/750 [========>.....] - ETA: 0s - loss: 0.6054 - accuracy:
447/750 [========>.....] - ETA: 0s - loss: 0.6035 - accuracy:
0.8815
520/750 [=========>.....] - ETA: 0s - loss: 0.6045 - accuracy:
0.8816
595/750 [============>.....] - ETA: 0s - loss: 0.6054 - accuracy:
```

```
0.8814
750/750 [=============== ] - 1s 824us/step - loss: 0.6033 - accuracy:
0.8819 - val loss: 0.6345 - val accuracy: 0.8717
Epoch 132/220
  1/750 [.....] - ETA: 0s - loss: 0.4819 - accuracy:
79/750 [==>.....] - ETA: 0s - loss: 0.5871 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.5985 - accuracy:
0.8826
225/750 [======>.....] - ETA: 0s - loss: 0.5999 - accuracy:
0.8831
298/750 [=======>..... - ETA: 0s - loss: 0.6014 - accuracy:
0.8829
371/750 [=======>.....] - ETA: 0s - loss: 0.6002 - accuracy:
0.8834
444/750 [========>.....] - ETA: 0s - loss: 0.5998 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.6004 - accuracy:
0.8831
594/750 [============>.....] - ETA: 0s - loss: 0.6022 - accuracy:
 0.8831 \\ 0.000 \\ \overline{0} \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.0
0.8831 - val loss: 0.6357 - val accuracy: 0.8678
Epoch 133/220
  1/750 [.....] - ETA: 0s - loss: 0.6497 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6102 - accuracy:
0.8773
151/750 [=====>.....] - ETA: 0s - loss: 0.5981 - accuracy:
0.8831
223/750 [======>.....] - ETA: 0s - loss: 0.5971 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.6007 - accuracy:
369/750 [========>.....] - ETA: 0s - loss: 0.6037 - accuracy:
442/750 [========>.....] - ETA: 0s - loss: 0.6002 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.6031 - accuracy:
```

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0.8819
590/750 [===============>.....] - ETA: 0s - loss: 0.6018 - accuracy:
664/750 [=============>....] - ETA: 0s - loss: 0.6016 - accuracy:
0.8826
0.8824
750/750 [=============== ] - 1s 836us/step - loss: 0.6011 - accuracy:
0.8825 - val loss: 0.6312 - val accuracy: 0.8717
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.5912 - accuracy:
75/750 [==>....... - ETA: 0s - loss: 0.6083 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.6001 - accuracy:
0.8816
222/750 [======>...... - ETA: 0s - loss: 0.5976 - accuracy:
298/750 [=======>...... - ETA: 0s - loss: 0.5981 - accuracy:
0.8824
371/750 [=======>.....] - ETA: 0s - loss: 0.5952 - accuracy:
0.8841
445/750 [=========>.....] - ETA: 0s - loss: 0.5979 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.5991 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.6012 - accuracy:
0.8834
0.8834 - val loss: 0.6312 - val accuracy: 0.8707
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.5471 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5928 - accuracy:
0.8862
142/750 [====>.....] - ETA: 0s - loss: 0.5999 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.5987 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.5966 - accuracy:
0.8846
359/750 [=======>.....] - ETA: 0s - loss: 0.5972 - accuracy:
427/750 [==========>.....] - ETA: 0s - loss: 0.5967 - accuracy:
```

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0.8846
497/750 [=========>.....] - ETA: 0s - loss: 0.5950 - accuracy:
570/750 [===========>.....] - ETA: 0s - loss: 0.5952 - accuracy:
0.8854
0.8837
0.8837 - val_loss: 0.6304 - val_accuracy: 0.8712
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.6810 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5890 - accuracy:
0.8829
146/750 [====>...... - ETA: 0s - loss: 0.5887 - accuracy:
0.8848
218/750 [======>.....] - ETA: 0s - loss: 0.5888 - accuracy:
0.8862
289/750 [=======>..... - ETA: 0s - loss: 0.5883 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.5935 - accuracy:
0.8849
427/750 [=========>.....] - ETA: 0s - loss: 0.5949 - accuracy:
493/750 [==========>.....] - ETA: 0s - loss: 0.5965 - accuracy:
0.8836
565/750 [==========>.....] - ETA: 0s - loss: 0.5983 - accuracy:
0.8837
0.8836
0.8836 - val loss: 0.6291 - val accuracy: 0.8710
Epoch 137/220
1/750 [...... - ETA: 0s - loss: 0.5378 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5909 - accuracy:
0.8864
143/750 [====>....... - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.5997 - accuracy:
286/750 [=======>..... - ETA: 0s - loss: 0.5981 - accuracy:
0.8817
356/750 [=======>.....] - ETA: 0s - loss: 0.5974 - accuracy:
```

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0.8825
430/750 [=========>.....] - ETA: 0s - loss: 0.5966 - accuracy:
0.8831
502/750 [==========>.....] - ETA: 0s - loss: 0.5969 - accuracy:
574/750 [===============>.....] - ETA: 0s - loss: 0.5965 - accuracy:
646/750 [===========>....] - ETA: 0s - loss: 0.5969 - accuracy:
750/750 [============= ] - 1s 854us/step - loss: 0.5962 - accuracy:
0.8837 - val loss: 0.6288 - val accuracy: 0.8719
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.5236 - accuracy:
0.9375
74/750 [=>.....] - ETA: 0s - loss: 0.6048 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.5925 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6008 - accuracy:
0.8823
290/750 [=======>..... - ETA: 0s - loss: 0.6013 - accuracy:
0.8824
363/750 [========>.....] - ETA: 0s - loss: 0.6031 - accuracy:
0.8817
436/750 [=========>.....] - ETA: 0s - loss: 0.6022 - accuracy:
0.8825
505/750 [==========>.....] - ETA: 0s - loss: 0.5985 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.5964 - accuracy:
0.8844
0.8844
0.8845 - val_loss: 0.6310 - val_accuracy: 0.8697
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.6940 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5753 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5804 - accuracy:
0.8863
218/750 [======>...... - ETA: 0s - loss: 0.5854 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.5873 - accuracy:
```

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0.8853
364/750 [=========>.....] - ETA: 0s - loss: 0.5932 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5929 - accuracy:
0.8836
506/750 [========>.....] - ETA: 0s - loss: 0.5952 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.5952 - accuracy:
0.8831
721/750 [==============>..] - ETA: 0s - loss: 0.5940 - accuracy:
0.8841
750/750 [============= ] - 1s 853us/step - loss: 0.5942 - accuracy:
0.8841 - val_loss: 0.6271 - val_accuracy: 0.8716
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.5652 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5911 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5869 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.5884 - accuracy:
0.8860
286/750 [=======>.....] - ETA: 0s - loss: 0.5898 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.5916 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.5928 - accuracy:
0.8839
499/750 [==========>.....] - ETA: 0s - loss: 0.5946 - accuracy:
571/750 [============>.....] - ETA: 0s - loss: 0.5950 - accuracy:
0.8836
0.8841
0.8842
0.8848 - val_loss: 0.6267 - val_accuracy: 0.8721
Epoch 141/220
1/750 [...... 0.6116 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5943 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.5870 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.5884 - accuracy:
```

```
0.8837
290/750 [=======>.....] - ETA: 0s - loss: 0.5853 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.5904 - accuracy:
433/750 [========>.....] - ETA: 0s - loss: 0.5855 - accuracy:
507/750 [========>>.....] - ETA: 0s - loss: 0.5868 - accuracy:
0.8851
578/750 [=============>.....] - ETA: 0s - loss: 0.5879 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.5897 - accuracy:
0.8849
750/750 [============= ] - 1s 854us/step - loss: 0.5918 - accuracy:
0.8842 - val loss: 0.6240 - val accuracy: 0.8725
Epoch 142/220
1/750 [...... o.6129 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6130 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.6018 - accuracy:
0.8813
215/750 [======>.....] - ETA: 0s - loss: 0.5931 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.5946 - accuracy:
0.8827
359/750 [=========>.....] - ETA: 0s - loss: 0.5942 - accuracy:
0.8834
430/750 [=========>.....] - ETA: 0s - loss: 0.5909 - accuracy:
0.8846
503/750 [===========>.....] - ETA: 0s - loss: 0.5901 - accuracy:
575/750 [===========>.....] - ETA: 0s - loss: 0.5894 - accuracy:
0.8857
0.8859
719/750 [==============>..] - ETA: 0s - loss: 0.5911 - accuracy:
0.8861
0.8862 - val loss: 0.6239 - val accuracy: 0.8716
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.4769 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5944 - accuracy:
0.8794
146/750 [====>.....] - ETA: 0s - loss: 0.5930 - accuracy:
```

```
0.8825
218/750 [======>.....] - ETA: 0s - loss: 0.5902 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.5859 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.5858 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.5894 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.5894 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.5865 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.5888 - accuracy:
0.8854
0.8849 - val loss: 0.6229 - val accuracy: 0.8723
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.5267 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5870 - accuracy:
0.8875
146/750 [====>.....] - ETA: 0s - loss: 0.5905 - accuracy:
0.8845
214/750 [=====>.....] - ETA: 0s - loss: 0.5902 - accuracy:
0.8849
283/750 [=======>.....] - ETA: 0s - loss: 0.5888 - accuracy:
0.8856
357/750 [=======>.....] - ETA: 0s - loss: 0.5899 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.5877 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.5861 - accuracy:
0.8867
577/750 [============>.....] - ETA: 0s - loss: 0.5866 - accuracy:
0.8863
652/750 [==============>....] - ETA: 0s - loss: 0.5877 - accuracy:
0.8861
0.8856
0.8855 - val_loss: 0.6239 - val_accuracy: 0.8724
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.4669 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5967 - accuracy:
```

```
0.8786
151/750 [=====>.....] - ETA: 0s - loss: 0.5819 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.5775 - accuracy:
298/750 [=======>..... - ETA: 0s - loss: 0.5806 - accuracy:
0.8880
373/750 [=======>.....] - ETA: 0s - loss: 0.5852 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.5856 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.5878 - accuracy:
0.8847
595/750 [============>.....] - ETA: 0s - loss: 0.5860 - accuracy:
670/750 [=============>....] - ETA: 0s - loss: 0.5876 - accuracy:
0.8855 - val_loss: 0.6234 - val_accuracy: 0.8704
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.7022 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5899 - accuracy:
0.8896
148/750 [====>.....] - ETA: 0s - loss: 0.5959 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.5890 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.5838 - accuracy:
0.8884
371/750 [========>.....] - ETA: 0s - loss: 0.5855 - accuracy:
0.8877
445/750 [========>..... - ETA: 0s - loss: 0.5842 - accuracy:
0.8877
518/750 [===========>.....] - ETA: 0s - loss: 0.5847 - accuracy:
0.8872
592/750 [===========>.....] - ETA: 0s - loss: 0.5852 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.5843 - accuracy:
0.8862 - val_loss: 0.6224 - val_accuracy: 0.8721
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.5656 - accuracy:
```

```
76/750 [==>.....] - ETA: 0s - loss: 0.5974 - accuracy:
152/750 [=====>.....] - ETA: 0s - loss: 0.5893 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.5889 - accuracy:
0.8879
299/750 [=======>.....] - ETA: 0s - loss: 0.5839 - accuracy:
0.8891
375/750 [=======>.....] - ETA: 0s - loss: 0.5845 - accuracy:
449/750 [========>...... - ETA: 0s - loss: 0.5863 - accuracy:
522/750 [==========>.....] - ETA: 0s - loss: 0.5839 - accuracy:
0.8882
596/750 [===========>.....] - ETA: 0s - loss: 0.5832 - accuracy:
0.8866
0.8865 - val loss: 0.6206 - val accuracy: 0.8731
Epoch 148/220
1/750 [.....] - ETA: 0s - loss: 0.5512 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5861 - accuracy:
0.8801
147/750 [====>.....] - ETA: 0s - loss: 0.5843 - accuracy:
0.8836
223/750 [======>.....] - ETA: 0s - loss: 0.5851 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.5825 - accuracy:
0.8864
367/750 [=======>.....] - ETA: 0s - loss: 0.5807 - accuracy:
0.8873
442/750 [=========>.....] - ETA: 0s - loss: 0.5818 - accuracy:
0.8871
514/750 [=========>.....] - ETA: 0s - loss: 0.5826 - accuracy:
0.8867
589/750 [===========>.....] - ETA: 0s - loss: 0.5825 - accuracy:
663/750 [===============>....] - ETA: 0s - loss: 0.5836 - accuracy:
738/750 [==============>.] - ETA: 0s - loss: 0.5836 - accuracy:
0.8863
750/750 [============== ] - 1s 829us/step - loss: 0.5844 - accuracy:
0.8860 - val loss: 0.6186 - val accuracy: 0.8742
Epoch 149/220
```

```
1/750 [...... - 6.6516 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5838 - accuracy:
0.8894
150/750 [====>..... - ETA: 0s - loss: 0.5873 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.5899 - accuracy:
0.8846
299/750 [=======>..... - ETA: 0s - loss: 0.5910 - accuracy:
373/750 [========>...... - ETA: 0s - loss: 0.5891 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.5895 - accuracy:
524/750 [===========>.....] - ETA: 0s - loss: 0.5875 - accuracy:
0.8849
599/750 [=============>.....] - ETA: 0s - loss: 0.5862 - accuracy:
0.8862
747/750 [==============>.] - ETA: 0s - loss: 0.5839 - accuracy:
0.8866
0.8867 - val loss: 0.6180 - val accuracy: 0.8725
Epoch 150/220
1/750 [...... os. 7013 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5900 - accuracy:
0.8871
149/750 [====>.....] - ETA: 0s - loss: 0.5829 - accuracy:
0.8864
223/750 [======>.....] - ETA: 0s - loss: 0.5826 - accuracy:
0.8859
297/750 [=======>..... - ETA: 0s - loss: 0.5795 - accuracy:
0.8871
372/750 [========>.....] - ETA: 0s - loss: 0.5780 - accuracy:
0.8881
445/750 [=========>.....] - ETA: 0s - loss: 0.5778 - accuracy:
0.8885
520/750 [===========>.....] - ETA: 0s - loss: 0.5781 - accuracy:
596/750 [=============>.....] - ETA: 0s - loss: 0.5801 - accuracy:
0.8881
670/750 [==============>....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8872
750/750 [============= ] - 1s 836us/step - loss: 0.5819 - accuracy:
```

```
0.8871 - val_loss: 0.6209 - val_accuracy: 0.8735 Epoch 151/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5379 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.5928 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.5888 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.5846 - accuracy:
0.8869
299/750 [=======>..... - ETA: 0s - loss: 0.5837 - accuracy:
0.8870
370/750 [========>.....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8874
445/750 [========>.....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8872
519/750 [=========>.....] - ETA: 0s - loss: 0.5814 - accuracy:
593/750 [==============>.....] - ETA: 0s - loss: 0.5821 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.5810 - accuracy:
0.8870
750/750 [============= ] - 1s 828us/step - loss: 0.5814 - accuracy:
0.8867 - val_loss: 0.6191 - val_accuracy: 0.8720
Epoch 152/220
 1/750 [...... 0.5958 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5727 - accuracy:
0.8893
150/750 [=====>.....] - ETA: 0s - loss: 0.5801 - accuracy:
0.8867
222/750 [======>.....] - ETA: 0s - loss: 0.5759 - accuracy:
0.8893
296/750 [=======>.....] - ETA: 0s - loss: 0.5818 - accuracy:
0.8871
371/750 [========>.....] - ETA: 0s - loss: 0.5799 - accuracy:
445/750 [=========>.....] - ETA: 0s - loss: 0.5763 - accuracy:
0.8898
517/750 [=========>.....] - ETA: 0s - loss: 0.5779 - accuracy:
0.8894
592/750 [============>.....] - ETA: 0s - loss: 0.5785 - accuracy:
666/750 [============>....] - ETA: 0s - loss: 0.5791 - accuracy:
743/750 [==============>.] - ETA: 0s - loss: 0.5800 - accuracy:
```

```
0.8878
0.8878 - val_loss: 0.6173 - val_accuracy: 0.8726
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.4789 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5773 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.5776 - accuracy:
226/750 [======>...... - ETA: 0s - loss: 0.5787 - accuracy:
0.8883
300/750 [========>.....] - ETA: 0s - loss: 0.5780 - accuracy:
0.8896
375/750 [=========>.....] - ETA: 0s - loss: 0.5769 - accuracy:
0.8884
451/750 [=========>...... - ETA: 0s - loss: 0.5781 - accuracy:
525/750 [==========>.....] - ETA: 0s - loss: 0.5776 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.5780 - accuracy:
0.8873
676/750 [============>...] - ETA: 0s - loss: 0.5789 - accuracy:
0.8871
750/750 [============= ] - 1s 826us/step - loss: 0.5791 - accuracy:
0.8869 - val_loss: 0.6151 - val_accuracy: 0.8742
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.6067 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5646 - accuracy:
0.8931
148/750 [====>.....] - ETA: 0s - loss: 0.5752 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.5726 - accuracy:
0.8904
296/750 [=======>.....] - ETA: 0s - loss: 0.5734 - accuracy:
372/750 [=======>.....] - ETA: 0s - loss: 0.5745 - accuracy:
0.8894
444/750 [========>.....] - ETA: 0s - loss: 0.5772 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.5777 - accuracy:
0.8876
592/750 [===========>.....] - ETA: 0s - loss: 0.5773 - accuracy:
0.8882
666/750 [============>....] - ETA: 0s - loss: 0.5759 - accuracy:
```

```
750/750 [=============== ] - 1s 829us/step - loss: 0.5781 - accuracy:
0.8880 - val_loss: 0.6150 - val_accuracy: 0.8742
Epoch 155/220
 1/750 [.....] - ETA: 0s - loss: 0.6120 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5790 - accuracy:
0.8817
149/750 [====>...... - ETA: 0s - loss: 0.5762 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.5800 - accuracy:
0.8856
300/750 [========>.....] - ETA: 0s - loss: 0.5815 - accuracy:
0.8856
376/750 [=======>>.....] - ETA: 0s - loss: 0.5795 - accuracy:
0.8867
445/750 [==========>.....] - ETA: 0s - loss: 0.5805 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.5793 - accuracy:
0.8870
595/750 [===========>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8873
0.8871
750/750 [=============== ] - 1s 830us/step - loss: 0.5771 - accuracy:
0.8880 - val loss: 0.6158 - val accuracy: 0.8724
Epoch 156/220
1/750 [.....] - ETA: 0s - loss: 0.6048 - accuracy:
0.8594
74/750 [=>.....] - ETA: 0s - loss: 0.5747 - accuracy:
0.8904
146/750 [====>...... - ETA: 0s - loss: 0.5765 - accuracy:
0.8899
221/750 [======>.....] - ETA: 0s - loss: 0.5762 - accuracy:
0.8903
294/750 [=======>.....] - ETA: 0s - loss: 0.5736 - accuracy:
366/750 [========>.....] - ETA: 0s - loss: 0.5749 - accuracy:
0.8890
441/750 [========>.....] - ETA: 0s - loss: 0.5762 - accuracy:
0.8885
514/750 [=========>.....] - ETA: 0s - loss: 0.5781 - accuracy:
588/750 [============>.....] - ETA: 0s - loss: 0.5776 - accuracy:
```

```
0.8876
750/750 [================ ] - 1s 830us/step - loss: 0.5760 - accuracy:
0.8886 - val loss: 0.6151 - val accuracy: 0.8736
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.6197 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5669 - accuracy:
0.8869
151/750 [=====>.....] - ETA: 0s - loss: 0.5695 - accuracy:
0.8886
224/750 [======>.....] - ETA: 0s - loss: 0.5692 - accuracy:
0.8902
297/750 [=======>..... - ETA: 0s - loss: 0.5722 - accuracy:
0.8896
372/750 [=======>.....] - ETA: 0s - loss: 0.5736 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.5726 - accuracy:
0.8886
520/750 [=========>.....] - ETA: 0s - loss: 0.5759 - accuracy:
0.8872
594/750 [=============>.....] - ETA: 0s - loss: 0.5769 - accuracy:
742/750 [==============>.] - ETA: 0s - loss: 0.5754 - accuracy:
0.8874
0.8875 - val loss: 0.6144 - val accuracy: 0.8735
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.5104 - accuracy:
0.9219
75/750 [==>.....] - ETA: 0s - loss: 0.5554 - accuracy:
0.8973
149/750 [====>.....] - ETA: 0s - loss: 0.5635 - accuracy:
0.8909
224/750 [=====>.....] - ETA: 0s - loss: 0.5679 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.5705 - accuracy:
0.8899
370/750 [========>.....] - ETA: 0s - loss: 0.5731 - accuracy:
0.8894
448/750 [=========>..... - ETA: 0s - loss: 0.5730 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.5750 - accuracy:
```

```
0.8885
595/750 [=============>.....] - ETA: 0s - loss: 0.5743 - accuracy:
0.8884
668/750 [=============>....] - ETA: 0s - loss: 0.5732 - accuracy:
0.8888
0.8890
0.8890 - val loss: 0.6133 - val accuracy: 0.8746
Epoch 159/220
  1/750 [.....] - ETA: 0s - loss: 0.4759 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5754 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.5765 - accuracy:
0.8906
225/750 [======>...... - ETA: 0s - loss: 0.5725 - accuracy:
0.8918
300/750 [=======>..... - ETA: 0s - loss: 0.5719 - accuracy:
0.8914
375/750 [=======>.....] - ETA: 0s - loss: 0.5694 - accuracy:
448/750 [=========>.....] - ETA: 0s - loss: 0.5722 - accuracy:
0.8903
523/750 [===========>.....] - ETA: 0s - loss: 0.5713 - accuracy:
 0.8900 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.
0.8903
0.8895 - val loss: 0.6155 - val accuracy: 0.8732
Epoch 160/220
  1/750 [.....] - ETA: 0s - loss: 0.5153 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5859 - accuracy:
0.8815
150/750 [====>.....] - ETA: 0s - loss: 0.5831 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.5821 - accuracy:
0.8851
299/750 [=======>.....] - ETA: 0s - loss: 0.5797 - accuracy:
0.8869
375/750 [=======>....] - ETA: 0s - loss: 0.5782 - accuracy:
0.8876
449/750 [=========>.....] - ETA: 0s - loss: 0.5756 - accuracy:
```

```
0.8885
523/750 [===========>.....] - ETA: 0s - loss: 0.5755 - accuracy:
0.8883
598/750 [============>.....] - ETA: 0s - loss: 0.5752 - accuracy:
0.8887
0.8897 - val_loss: 0.6107 - val_accuracy: 0.8741
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.7115 - accuracy:
0.8281
76/750 [==>.....] - ETA: 0s - loss: 0.5644 - accuracy:
0.8949
149/750 [====>.....] - ETA: 0s - loss: 0.5636 - accuracy:
0.8939
222/750 [=====>.....] - ETA: 0s - loss: 0.5645 - accuracy:
0.8927
296/750 [======>..... - ETA: 0s - loss: 0.5677 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.5680 - accuracy:
0.8916
443/750 [=========>.....] - ETA: 0s - loss: 0.5709 - accuracy:
0.8904
520/750 [=========>.....] - ETA: 0s - loss: 0.5736 - accuracy:
0.8896
594/750 [===========>.....] - ETA: 0s - loss: 0.5724 - accuracy:
668/750 [==============>....] - ETA: 0s - loss: 0.5721 - accuracy:
0.8896
0.8900 - val loss: 0.6159 - val accuracy: 0.8728
Epoch 162/220
1/750 [.....] - ETA: 0s - loss: 0.5762 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5764 - accuracy:
148/750 [====>....... - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.5714 - accuracy:
297/750 [=======>..... - ETA: 0s - loss: 0.5698 - accuracy:
0.8884
373/750 [========>.....] - ETA: 0s - loss: 0.5689 - accuracy:
```

```
0.8887
448/750 [=========>.....] - ETA: 0s - loss: 0.5679 - accuracy:
524/750 [==========>.....] - ETA: 0s - loss: 0.5696 - accuracy:
0.8897
675/750 [============>...] - ETA: 0s - loss: 0.5687 - accuracy:
750/750 [============= ] - 1s 824us/step - loss: 0.5700 - accuracy:
0.8895 - val loss: 0.6084 - val accuracy: 0.8752
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.5599 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5720 - accuracy:
0.8880
151/750 [====>.....] - ETA: 0s - loss: 0.5705 - accuracy:
0.8889
226/750 [======>.....] - ETA: 0s - loss: 0.5723 - accuracy:
0.8867
301/750 [=======>.....] - ETA: 0s - loss: 0.5704 - accuracy:
0.8878
376/750 [========>.....] - ETA: 0s - loss: 0.5681 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.5683 - accuracy:
0.8899
523/750 [=========>.....] - ETA: 0s - loss: 0.5653 - accuracy:
0.8911
597/750 [============>.....] - ETA: 0s - loss: 0.5650 - accuracy:
0.8897
0.8899
0.8898 - val_loss: 0.6098 - val_accuracy: 0.8734
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.5972 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5613 - accuracy:
151/750 [=====>.....] - ETA: 0s - loss: 0.5618 - accuracy:
0.8896
224/750 [=====>.....] - ETA: 0s - loss: 0.5631 - accuracy:
0.8880
298/750 [=======>.....] - ETA: 0s - loss: 0.5638 - accuracy:
```

```
0.8877
372/750 [=========>.....] - ETA: 0s - loss: 0.5657 - accuracy:
446/750 [=========>.....] - ETA: 0s - loss: 0.5672 - accuracy:
0.8878
521/750 [=========>.....] - ETA: 0s - loss: 0.5653 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.5682 - accuracy:
750/750 [============= ] - 1s 825us/step - loss: 0.5681 - accuracy:
0.8899 - val_loss: 0.6083 - val_accuracy: 0.8749
Epoch 165/220
1/750 [...... - ETA: 0s - loss: 0.5368 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5607 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.5621 - accuracy:
0.8921
224/750 [=====>.....] - ETA: 0s - loss: 0.5595 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.5634 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.5655 - accuracy:
0.8901
445/750 [=========>.....] - ETA: 0s - loss: 0.5661 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.5644 - accuracy:
594/750 [=============>.....] - ETA: 0s - loss: 0.5654 - accuracy:
0.8996
0.8898
0.8898 - val_loss: 0.6123 - val_accuracy: 0.8733
Epoch 166/220
1/750 [...... 0.6328 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5726 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.5745 - accuracy:
220/750 [=====>>.....] - ETA: 0s - loss: 0.5729 - accuracy:
```

```
0.8881
293/750 [=======>.....] - ETA: 0s - loss: 0.5729 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.5694 - accuracy:
0.8877
441/750 [========>.....] - ETA: 0s - loss: 0.5678 - accuracy:
515/750 [=========>.....] - ETA: 0s - loss: 0.5655 - accuracy:
590/750 [=============>.....] - ETA: 0s - loss: 0.5667 - accuracy:
664/750 [============>....] - ETA: 0s - loss: 0.5662 - accuracy:
0.8903
750/750 [============= ] - 1s 837us/step - loss: 0.5658 - accuracy:
0.8902 - val loss: 0.6091 - val accuracy: 0.8740
Epoch 167/220
1/750 [...... 0.5449 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5652 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.5660 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.5671 - accuracy:
292/750 [======>..... - ETA: 0s - loss: 0.5714 - accuracy:
0.8895
366/750 [=========>.....] - ETA: 0s - loss: 0.5671 - accuracy:
0.8911
440/750 [=========>.....] - ETA: 0s - loss: 0.5655 - accuracy:
0.8907
514/750 [===========>.....] - ETA: 0s - loss: 0.5664 - accuracy:
587/750 [===========>.....] - ETA: 0s - loss: 0.5675 - accuracy:
661/750 [==============>....] - ETA: 0s - loss: 0.5663 - accuracy:
735/750 [==============>.] - ETA: 0s - loss: 0.5664 - accuracy:
0.8900 - val loss: 0.6065 - val accuracy: 0.8744
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.4364 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5644 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.5564 - accuracy:
```

```
0.8928
223/750 [======>.....] - ETA: 0s - loss: 0.5588 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.5581 - accuracy:
0.8936
373/750 [=======>.....] - ETA: 0s - loss: 0.5585 - accuracy:
0.8933
447/750 [========>.....] - ETA: 0s - loss: 0.5599 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.5598 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.5616 - accuracy:
0.8918
668/750 [=============>....] - ETA: 0s - loss: 0.5628 - accuracy:
0.8906
0.8901
0.8900 - val loss: 0.6054 - val accuracy: 0.8769
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.4479 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5692 - accuracy:
0.8919
148/750 [====>.....] - ETA: 0s - loss: 0.5723 - accuracy:
0.8901
224/750 [=====>.....] - ETA: 0s - loss: 0.5675 - accuracy:
297/750 [=======>..... - ETA: 0s - loss: 0.5617 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.5603 - accuracy:
0.8919
445/750 [=========>.....] - ETA: 0s - loss: 0.5583 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.5600 - accuracy:
0.8917
593/750 [============>.....] - ETA: 0s - loss: 0.5616 - accuracy:
0.8915
668/750 [=============>....] - ETA: 0s - loss: 0.5628 - accuracy:
0.8908 - val_loss: 0.6047 - val_accuracy: 0.8756
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.5545 - accuracy:
0.8125
75/750 [==>.....] - ETA: 0s - loss: 0.5626 - accuracy:
```

```
0.8906
149/750 [====>.....] - ETA: 0s - loss: 0.5582 - accuracy:
0.8916
223/750 [======>.....] - ETA: 0s - loss: 0.5608 - accuracy:
298/750 [=======>.....] - ETA: 0s - loss: 0.5606 - accuracy:
0.8921
370/750 [=======>.....] - ETA: 0s - loss: 0.5619 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.5603 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.5600 - accuracy:
0.8916
592/750 [============>.....] - ETA: 0s - loss: 0.5609 - accuracy:
669/750 [=============>....] - ETA: 0s - loss: 0.5615 - accuracy:
0.8908
0.8905 - val_loss: 0.6043 - val_accuracy: 0.8754
Epoch 171/220
1/750 [...... - ETA: 0s - loss: 0.6175 - accuracy:
0.8996
75/750 [==>....... - accuracy:
0.8925
148/750 [====>.....] - ETA: 0s - loss: 0.5617 - accuracy:
0.8904
223/750 [======>.....] - ETA: 0s - loss: 0.5632 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.5645 - accuracy:
0.8891
371/750 [========>.....] - ETA: 0s - loss: 0.5607 - accuracy:
0.8905
446/750 [=========>.....] - ETA: 0s - loss: 0.5594 - accuracy:
0.8909
520/750 [===========>.....] - ETA: 0s - loss: 0.5599 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.5606 - accuracy:
0.8917
0.8914 - val_loss: 0.6062 - val_accuracy: 0.8742
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.6183 - accuracy:
```

```
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.5573 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.5592 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.5558 - accuracy:
0.8921
300/750 [=======>.....] - ETA: 0s - loss: 0.5574 - accuracy:
0.8917
373/750 [=======>.....] - ETA: 0s - loss: 0.5553 - accuracy:
448/750 [=========>..... - ETA: 0s - loss: 0.5562 - accuracy:
523/750 [===========>.....] - ETA: 0s - loss: 0.5570 - accuracy:
0.8918
595/750 [============>.....] - ETA: 0s - loss: 0.5584 - accuracy:
0.8915
668/750 [============>....] - ETA: 0s - loss: 0.5604 - accuracy:
0.8914
0.8912 - val loss: 0.6033 - val accuracy: 0.8751
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.4241 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5661 - accuracy:
0.8878
148/750 [====>...... - ETA: 0s - loss: 0.5628 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.5596 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.5637 - accuracy:
0.8888
370/750 [=======>.....] - ETA: 0s - loss: 0.5625 - accuracy:
0.8893
444/750 [=========>.....] - ETA: 0s - loss: 0.5602 - accuracy:
0.8904
517/750 [=========>.....] - ETA: 0s - loss: 0.5592 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.5576 - accuracy:
0.8916
667/750 [==============>....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8911
0.8913 - val_loss: 0.6029 - val_accuracy: 0.8743
Epoch 174/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4736 - accuracy:
0.9531
77/750 [==>.....] - ETA: 0s - loss: 0.5538 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.5629 - accuracy:
0.8885
223/750 [=====>.....] - ETA: 0s - loss: 0.5574 - accuracy:
298/750 [=======>..... - ETA: 0s - loss: 0.5576 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.5590 - accuracy:
0.8918
445/750 [=========>.....] - ETA: 0s - loss: 0.5560 - accuracy:
0.8931
520/750 [==========>.....] - ETA: 0s - loss: 0.5572 - accuracy:
0.8921
595/750 [=============>.....] - ETA: 0s - loss: 0.5582 - accuracy:
668/750 [===============>....] - ETA: 0s - loss: 0.5587 - accuracy:
0.8917
0.8915 - val loss: 0.6024 - val accuracy: 0.8758
Epoch 175/220
1/750 [...... 0.5002 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5660 - accuracy:
0.8885
142/750 [====>.....] - ETA: 0s - loss: 0.5635 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.5591 - accuracy:
0.8911
284/750 [=======>..... - ETA: 0s - loss: 0.5561 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5539 - accuracy:
0.8938
430/750 [=========>.....] - ETA: 0s - loss: 0.5583 - accuracy:
0.8919
503/750 [===========>.....] - ETA: 0s - loss: 0.5590 - accuracy:
0.8920
579/750 [============>.....] - ETA: 0s - loss: 0.5601 - accuracy:
650/750 [=============>....] - ETA: 0s - loss: 0.5585 - accuracy:
0.8925
750/750 [============= ] - 1s 846us/step - loss: 0.5577 - accuracy:
```

```
0.8927 - val_loss: 0.6025 - val_accuracy: 0.8757 Epoch 176/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4596 - accuracy:
0.9531
76/750 [==>.....] - ETA: 0s - loss: 0.5331 - accuracy:
0.9034
150/750 [====>.....] - ETA: 0s - loss: 0.5468 - accuracy:
224/750 [=====>.....] - ETA: 0s - loss: 0.5529 - accuracy:
0.8929
299/750 [=======>..... - ETA: 0s - loss: 0.5530 - accuracy:
375/750 [========>.....] - ETA: 0s - loss: 0.5545 - accuracy:
0.8929
451/750 [=========>.....] - ETA: 0s - loss: 0.5572 - accuracy:
0.8919
525/750 [=========>.....] - ETA: 0s - loss: 0.5562 - accuracy:
0.8924
0.8913
750/750 [============= ] - 1s 821us/step - loss: 0.5572 - accuracy:
0.8914 - val_loss: 0.6016 - val_accuracy: 0.8756
Epoch 177/220
1/750 [...... 0.5552 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.5653 - accuracy:
0.8883
151/750 [=====>.....] - ETA: 0s - loss: 0.5681 - accuracy:
0.8870
224/750 [=====>.....] - ETA: 0s - loss: 0.5608 - accuracy:
0.8906
300/750 [========>.....] - ETA: 0s - loss: 0.5602 - accuracy:
374/750 [========>.....] - ETA: 0s - loss: 0.5598 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.5601 - accuracy:
0.8913
525/750 [=========>.....] - ETA: 0s - loss: 0.5581 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.5580 - accuracy:
0.8919
668/750 [============>....] - ETA: 0s - loss: 0.5577 - accuracy:
```

```
0.8928
750/750 [================ ] - 1s 830us/step - loss: 0.5562 - accuracy:
0.8925 - val_loss: 0.6003 - val_accuracy: 0.8771
Epoch 178/220
 1/750 [.....] - ETA: 0s - loss: 0.6644 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5618 - accuracy:
0.8917
145/750 [====>...... - ETA: 0s - loss: 0.5528 - accuracy:
220/750 [=====>>...... - ETA: 0s - loss: 0.5537 - accuracy:
0.8936
290/750 [=======>.....] - ETA: 0s - loss: 0.5524 - accuracy:
0.8945
363/750 [=========>.....] - ETA: 0s - loss: 0.5522 - accuracy:
0.8942
436/750 [=========>..... - ETA: 0s - loss: 0.5517 - accuracy:
0.8941
510/750 [===========>.....] - ETA: 0s - loss: 0.5551 - accuracy:
584/750 [===========>.....] - ETA: 0s - loss: 0.5534 - accuracy:
0.8924
732/750 [===============>.] - ETA: 0s - loss: 0.5552 - accuracy:
0.8921
750/750 [============= ] - 1s 836us/step - loss: 0.5549 - accuracy:
0.8921 - val_loss: 0.6035 - val_accuracy: 0.8741
Epoch 179/220
 1/750 [.....] - ETA: 0s - loss: 0.7043 - accuracy:
0.8438
74/750 [=>.....] - ETA: 0s - loss: 0.5456 - accuracy:
0.8925
148/750 [====>.....] - ETA: 0s - loss: 0.5524 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.5557 - accuracy:
0.8896
296/750 [=======>.....] - ETA: 0s - loss: 0.5518 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.5517 - accuracy:
444/750 [========>..... - ETA: 0s - loss: 0.5517 - accuracy:
0.8919
520/750 [=========>.....] - ETA: 0s - loss: 0.5533 - accuracy:
594/750 [===========>.....] - ETA: 0s - loss: 0.5537 - accuracy:
670/750 [============>....] - ETA: 0s - loss: 0.5539 - accuracy:
```

```
0.8920
750/750 [=============== ] - 1s 822us/step - loss: 0.5541 - accuracy:
0.8921 - val loss: 0.6008 - val accuracy: 0.8751
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.6909 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5674 - accuracy:
0.8881
149/750 [====>...... - ETA: 0s - loss: 0.5620 - accuracy:
0.8876
224/750 [======>.....] - ETA: 0s - loss: 0.5582 - accuracy:
0.8895
298/750 [=======>.....] - ETA: 0s - loss: 0.5551 - accuracy:
0.8908
374/750 [=======>.....] - ETA: 0s - loss: 0.5540 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.5530 - accuracy:
0.8928
521/750 [=========>.....] - ETA: 0s - loss: 0.5558 - accuracy:
0.8914
596/750 [============>.....] - ETA: 0s - loss: 0.5569 - accuracy:
0.8921
0.8922 - val loss: 0.5992 - val accuracy: 0.8758
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.4703 - accuracy:
0.9219
77/750 [==>.....] - ETA: 0s - loss: 0.5622 - accuracy:
151/750 [====>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8901
225/750 [======>.....] - ETA: 0s - loss: 0.5609 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.5534 - accuracy:
0.8920
374/750 [========>.....] - ETA: 0s - loss: 0.5509 - accuracy:
448/750 [========>.....] - ETA: 0s - loss: 0.5505 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.5500 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.5529 - accuracy:
```

```
0.8927
0.8931
0.8931 - val loss: 0.5979 - val accuracy: 0.8758
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.4677 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5497 - accuracy:
150/750 [====>.....] - ETA: 0s - loss: 0.5550 - accuracy:
0.8923
226/750 [======>.....] - ETA: 0s - loss: 0.5523 - accuracy:
299/750 [=======>..... - ETA: 0s - loss: 0.5562 - accuracy:
0.8914
373/750 [=======>.....] - ETA: 0s - loss: 0.5567 - accuracy:
446/750 [========>.....] - ETA: 0s - loss: 0.5553 - accuracy:
0.8926
518/750 [===========>.....] - ETA: 0s - loss: 0.5538 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.5533 - accuracy:
743/750 [==============>.] - ETA: 0s - loss: 0.5515 - accuracy:
0.8934
0.8935 - val_loss: 0.5980 - val_accuracy: 0.8756
Epoch 183/220
1/750 [.....] - ETA: 0s - loss: 0.4893 - accuracy:
0.9219
77/750 [==>.....] - ETA: 0s - loss: 0.5463 - accuracy:
0.8914
148/750 [====>.....] - ETA: 0s - loss: 0.5427 - accuracy:
0.8951
221/750 [======>.....] - ETA: 0s - loss: 0.5452 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.5457 - accuracy:
367/750 [========>.....] - ETA: 0s - loss: 0.5491 - accuracy:
0.8929
440/750 [=========>..... - ETA: 0s - loss: 0.5496 - accuracy:
0.8923
515/750 [===========>.....] - ETA: 0s - loss: 0.5500 - accuracy:
```

```
0.8928
589/750 [=============>.....] - ETA: 0s - loss: 0.5507 - accuracy:
663/750 [=============>....] - ETA: 0s - loss: 0.5504 - accuracy:
0.8933
0.8932 - val loss: 0.5968 - val accuracy: 0.8755
Epoch 184/220
1/750 [...... - ETA: 0s - loss: 0.3615 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5399 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5515 - accuracy:
0.8892
221/750 [======>...... - ETA: 0s - loss: 0.5503 - accuracy:
0.8898
294/750 [=======>..... - ETA: 0s - loss: 0.5503 - accuracy:
0.8909
370/750 [=======>.....] - ETA: 0s - loss: 0.5513 - accuracy:
0.8915
442/750 [========>...... - ETA: 0s - loss: 0.5511 - accuracy:
0.8916
517/750 [===========>.....] - ETA: 0s - loss: 0.5493 - accuracy:
593/750 [=============>.....] - ETA: 0s - loss: 0.5492 - accuracy:
667/750 [=============>....] - ETA: 0s - loss: 0.5499 - accuracy:
0.8933 - val loss: 0.5980 - val accuracy: 0.8751
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.4784 - accuracy:
0.9219
76/750 [==>.....] - ETA: 0s - loss: 0.5294 - accuracy:
0.8980
150/750 [====>.....] - ETA: 0s - loss: 0.5428 - accuracy:
0.8961
225/750 [======>.....] - ETA: 0s - loss: 0.5426 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.5459 - accuracy:
0.8949
374/750 [========>...... - ETA: 0s - loss: 0.5505 - accuracy:
449/750 [=========>.....] - ETA: 0s - loss: 0.5505 - accuracy:
```

```
0.8939
522/750 [===========>.....] - ETA: 0s - loss: 0.5486 - accuracy:
0.8945
595/750 [===========>.....] - ETA: 0s - loss: 0.5492 - accuracy:
0.8936
0.8940 - val_loss: 0.5951 - val_accuracy: 0.8777
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.5500 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5440 - accuracy:
0.8972
148/750 [====>.....] - ETA: 0s - loss: 0.5512 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.5500 - accuracy:
0.8923
296/750 [======>..... - ETA: 0s - loss: 0.5515 - accuracy:
372/750 [=======>.....] - ETA: 0s - loss: 0.5506 - accuracy:
0.8934
444/750 [=========>.....] - ETA: 0s - loss: 0.5489 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.5481 - accuracy:
0.8941
592/750 [===========>.....] - ETA: 0s - loss: 0.5479 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.5459 - accuracy:
0.8937 - val loss: 0.5958 - val accuracy: 0.8772
Epoch 187/220
1/750 [...... - ETA: 0s - loss: 0.6805 - accuracy:
0.8594
76/750 [==>.....] - ETA: 0s - loss: 0.5439 - accuracy:
0.8960
223/750 [======>.....] - ETA: 0s - loss: 0.5385 - accuracy:
297/750 [=======>..... - ETA: 0s - loss: 0.5413 - accuracy:
367/750 [=======>.....] - ETA: 0s - loss: 0.5435 - accuracy:
```

```
0.8956
444/750 [=========>.....] - ETA: 0s - loss: 0.5427 - accuracy:
0.8956
516/750 [==========>.....] - ETA: 0s - loss: 0.5432 - accuracy:
0.8954
590/750 [============>.....] - ETA: 0s - loss: 0.5443 - accuracy:
666/750 [=============>....] - ETA: 0s - loss: 0.5465 - accuracy:
750/750 [============= ] - 1s 837us/step - loss: 0.5467 - accuracy:
0.8941 - val loss: 0.5957 - val accuracy: 0.8792
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.4475 - accuracy:
0.9375
72/750 [=>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8976
141/750 [====>...... - ETA: 0s - loss: 0.5352 - accuracy:
0.8974
210/750 [=====>.....] - ETA: 0s - loss: 0.5440 - accuracy:
283/750 [=======>..... - ETA: 0s - loss: 0.5441 - accuracy:
0.8944
350/750 [========>.....] - ETA: 0s - loss: 0.5448 - accuracy:
0.8946
420/750 [========>..... - ETA: 0s - loss: 0.5446 - accuracy:
0.8953
492/750 [=========>.....] - ETA: 0s - loss: 0.5452 - accuracy:
0.8942
561/750 [============>.....] - ETA: 0s - loss: 0.5453 - accuracy:
0.8946
0.8944 - val_loss: 0.5939 - val_accuracy: 0.8788
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.5874 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5437 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.5454 - accuracy:
0.8948
211/750 [======>.....] - ETA: 0s - loss: 0.5475 - accuracy:
281/750 [=======>.....] - ETA: 0s - loss: 0.5496 - accuracy:
```

```
0.8928
356/750 [=========>.....] - ETA: 0s - loss: 0.5493 - accuracy:
0.8916
426/750 [=========>.....] - ETA: 0s - loss: 0.5488 - accuracy:
0.8919
501/750 [========>.....] - ETA: 0s - loss: 0.5471 - accuracy:
576/750 [==========>.....] - ETA: 0s - loss: 0.5462 - accuracy:
723/750 [==============>..] - ETA: 0s - loss: 0.5457 - accuracy:
0.8937
750/750 [============= ] - 1s 844us/step - loss: 0.5453 - accuracy:
0.8938 - val_loss: 0.5967 - val_accuracy: 0.8752
Epoch 190/220
1/750 [...... - ETA: 0s - loss: 0.5864 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5527 - accuracy:
0.8869
151/750 [====>.....] - ETA: 0s - loss: 0.5434 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.5420 - accuracy:
296/750 [=======>.....] - ETA: 0s - loss: 0.5412 - accuracy:
0.8937
371/750 [=======>.....] - ETA: 0s - loss: 0.5427 - accuracy:
0.8945
447/750 [=========>.....] - ETA: 0s - loss: 0.5434 - accuracy:
0.8938
517/750 [===========>.....] - ETA: 0s - loss: 0.5437 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.5460 - accuracy:
0.8933
0.8943
0.8946 - val_loss: 0.5936 - val_accuracy: 0.8762
Epoch 191/220
76/750 [==>.....] - ETA: 0s - loss: 0.5302 - accuracy:
0.9019
153/750 [====>.....] - ETA: 0s - loss: 0.5336 - accuracy:
0.8977
226/750 [======>.....] - ETA: 0s - loss: 0.5311 - accuracy:
```

```
0.8987
299/750 [=======>.....] - ETA: 0s - loss: 0.5336 - accuracy:
0.8986
375/750 [========>.....] - ETA: 0s - loss: 0.5354 - accuracy:
0.8987
449/750 [========>.....] - ETA: 0s - loss: 0.5402 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.5379 - accuracy:
0.8976
596/750 [=============>.....] - ETA: 0s - loss: 0.5386 - accuracy:
670/750 [=============>....] - ETA: 0s - loss: 0.5413 - accuracy:
0.8957
750/750 [============= ] - 1s 826us/step - loss: 0.5433 - accuracy:
0.8955 - val loss: 0.5983 - val accuracy: 0.8724
Epoch 192/220
1/750 [...... 0.5350 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5364 - accuracy:
0.8979
148/750 [====>...... - ETA: 0s - loss: 0.5413 - accuracy:
0.8970
223/750 [======>.....] - ETA: 0s - loss: 0.5404 - accuracy:
296/750 [======>..... - ETA: 0s - loss: 0.5399 - accuracy:
0.8979
372/750 [=======>.....] - ETA: 0s - loss: 0.5369 - accuracy:
0.8985
448/750 [=========>.....] - ETA: 0s - loss: 0.5369 - accuracy:
0.8986
520/750 [===========>.....] - ETA: 0s - loss: 0.5388 - accuracy:
0.8977
595/750 [===========>.....] - ETA: 0s - loss: 0.5415 - accuracy:
670/750 [==============>....] - ETA: 0s - loss: 0.5422 - accuracy:
0.8956
0.8956 - val loss: 0.5926 - val_accuracy: 0.8767
Epoch 193/220
1/750 [.....] - ETA: 0s - loss: 0.4949 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5244 - accuracy:
0.8994
152/750 [====>.....] - ETA: 0s - loss: 0.5400 - accuracy:
```

```
0.8929
225/750 [======>.....] - ETA: 0s - loss: 0.5392 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.5403 - accuracy:
377/750 [=======>.....] - ETA: 0s - loss: 0.5414 - accuracy:
450/750 [=========>.....] - ETA: 0s - loss: 0.5420 - accuracy:
0.8947
524/750 [===========>.....] - ETA: 0s - loss: 0.5426 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.5423 - accuracy:
0.8954
670/750 [===============>....] - ETA: 0s - loss: 0.5411 - accuracy:
0.8951 - val loss: 0.5924 - val accuracy: 0.8790
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.5442 - accuracy:
0.8906
77/750 [==>.....] - ETA: 0s - loss: 0.5444 - accuracy:
0.8981
150/750 [====>.....] - ETA: 0s - loss: 0.5463 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.5449 - accuracy:
0.8946
300/750 [========>.....] - ETA: 0s - loss: 0.5426 - accuracy:
0.8963
375/750 [========>.....] - ETA: 0s - loss: 0.5428 - accuracy:
450/750 [==========>.....] - ETA: 0s - loss: 0.5418 - accuracy:
0.8966
524/750 [=========>.....] - ETA: 0s - loss: 0.5414 - accuracy:
597/750 [============>.....] - ETA: 0s - loss: 0.5409 - accuracy:
0.8961
750/750 [============= ] - 1s 822us/step - loss: 0.5406 - accuracy:
0.8961 - val loss: 0.5983 - val accuracy: 0.8759
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.6790 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5367 - accuracy:
```

```
0.8936
150/750 [=====>.....] - ETA: 0s - loss: 0.5342 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.5390 - accuracy:
299/750 [=======>.....] - ETA: 0s - loss: 0.5393 - accuracy:
0.8954
373/750 [=======>.....] - ETA: 0s - loss: 0.5387 - accuracy:
447/750 [=========>.....] - ETA: 0s - loss: 0.5388 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.5384 - accuracy:
0.8957
593/750 [============>.....] - ETA: 0s - loss: 0.5390 - accuracy:
669/750 [=============>....] - ETA: 0s - loss: 0.5391 - accuracy:
0.8956
0.8954
0.8953 - val_loss: 0.5897 - val_accuracy: 0.8779
Epoch 196/220
1/750 [...... - ETA: 0s - loss: 0.4693 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5374 - accuracy:
0.8976
147/750 [====>.....] - ETA: 0s - loss: 0.5321 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.5348 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.5347 - accuracy:
0.8980
370/750 [========>.....] - ETA: 0s - loss: 0.5354 - accuracy:
0.8976
443/750 [=========>..... - ETA: 0s - loss: 0.5387 - accuracy:
0.8967
517/750 [===========>.....] - ETA: 0s - loss: 0.5383 - accuracy:
0.8959
592/750 [===========>.....] - ETA: 0s - loss: 0.5395 - accuracy:
665/750 [=============>....] - ETA: 0s - loss: 0.5394 - accuracy:
0.8960
0.8963 - val_loss: 0.5920 - val_accuracy: 0.8772
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.6623 - accuracy:
```

```
73/750 [=>.....] - ETA: 0s - loss: 0.5380 - accuracy:
0.8949
146/750 [====>.....] - ETA: 0s - loss: 0.5456 - accuracy:
0.8926
221/750 [======>.....] - ETA: 0s - loss: 0.5449 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.5432 - accuracy:
0.8941
369/750 [=======>.....] - ETA: 0s - loss: 0.5401 - accuracy:
442/750 [=========>..... - ETA: 0s - loss: 0.5381 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8959
590/750 [============>.....] - ETA: 0s - loss: 0.5368 - accuracy:
0.8958
665/750 [============>....] - ETA: 0s - loss: 0.5377 - accuracy:
0.8954 - val loss: 0.5914 - val accuracy: 0.8777
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.4739 - accuracy:
0.8996
74/750 [=>.....] - ETA: 0s - loss: 0.5382 - accuracy:
0.8967
148/750 [====>.....] - ETA: 0s - loss: 0.5347 - accuracy:
224/750 [======>.....] - ETA: 0s - loss: 0.5342 - accuracy:
0.8986
297/750 [=======>.....] - ETA: 0s - loss: 0.5344 - accuracy:
0.8977
372/750 [=======>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.8977
445/750 [=========>.....] - ETA: 0s - loss: 0.5331 - accuracy:
0.8976
519/750 [=========>.....] - ETA: 0s - loss: 0.5338 - accuracy:
0.8975
595/750 [============>.....] - ETA: 0s - loss: 0.5359 - accuracy:
667/750 [==============>....] - ETA: 0s - loss: 0.5358 - accuracy:
0.8971
0.8969
0.8969 - val loss: 0.5916 - val accuracy: 0.8758
Epoch 199/220
```

```
1/750 [...... - 6.6564 - accuracy:
75/750 [==>....... - accuracy:
0.8960
148/750 [====>...... - ETA: 0s - loss: 0.5356 - accuracy:
0.8984
222/750 [=====>.....] - ETA: 0s - loss: 0.5364 - accuracy:
296/750 [=======>..... - ETA: 0s - loss: 0.5322 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.5308 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.5335 - accuracy:
0.8980
513/750 [==========>.....] - ETA: 0s - loss: 0.5334 - accuracy:
0.8973
586/750 [=============>.....] - ETA: 0s - loss: 0.5351 - accuracy:
0.8968
736/750 [==============>.] - ETA: 0s - loss: 0.5362 - accuracy:
0.8970
750/750 [================ ] - 1s 830us/step - loss: 0.5367 - accuracy:
0.8967 - val loss: 0.5875 - val accuracy: 0.8785
Epoch 200/220
1/750 [...... 0.5464 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5367 - accuracy:
0.9001
147/750 [====>.....] - ETA: 0s - loss: 0.5378 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5390 - accuracy:
0.8963
292/750 [=======>..... - ETA: 0s - loss: 0.5383 - accuracy:
0.8968
368/750 [========>.....] - ETA: 0s - loss: 0.5382 - accuracy:
438/750 [==========>.....] - ETA: 0s - loss: 0.5366 - accuracy:
509/750 [===========>.....] - ETA: 0s - loss: 0.5375 - accuracy:
0.8964
585/750 [============>.....] - ETA: 0s - loss: 0.5375 - accuracy:
659/750 [=============>....] - ETA: 0s - loss: 0.5365 - accuracy:
0.8965
0.8971
750/750 [============= ] - 1s 833us/step - loss: 0.5360 - accuracy:
```

```
0.8969 - val_loss: 0.5918 - val_accuracy: 0.8751 
Epoch 201/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4560 - accuracy:
0.9219
76/750 [==>.....] - ETA: 0s - loss: 0.5261 - accuracy:
0.8995
150/750 [====>...... - ETA: 0s - loss: 0.5330 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.5361 - accuracy:
297/750 [=======>..... - ETA: 0s - loss: 0.5364 - accuracy:
0.8963
370/750 [========>.....] - ETA: 0s - loss: 0.5374 - accuracy:
0.8964
445/750 [========>.....] - ETA: 0s - loss: 0.5387 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.5398 - accuracy:
597/750 [=============>.....] - ETA: 0s - loss: 0.5386 - accuracy:
670/750 [=============>....] - ETA: 0s - loss: 0.5383 - accuracy:
0.8953
750/750 [============= ] - 1s 828us/step - loss: 0.5350 - accuracy:
0.8967 - val_loss: 0.5926 - val_accuracy: 0.8772
Epoch 202/220
1/750 [...... 0.5219 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5335 - accuracy:
0.8967
149/750 [====>.....] - ETA: 0s - loss: 0.5349 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.5359 - accuracy:
295/750 [=======>.....] - ETA: 0s - loss: 0.5352 - accuracy:
0.8967
370/750 [========>.....] - ETA: 0s - loss: 0.5369 - accuracy:
444/750 [=========>.....] - ETA: 0s - loss: 0.5381 - accuracy:
520/750 [=========>.....] - ETA: 0s - loss: 0.5354 - accuracy:
594/750 [============>.....] - ETA: 0s - loss: 0.5360 - accuracy:
0.8959
668/750 [============>....] - ETA: 0s - loss: 0.5342 - accuracy:
```

```
0.8970
0.8969 - val_loss: 0.5898 - val_accuracy: 0.8752
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.4333 - accuracy:
0.9375
76/750 [==>.....] - ETA: 0s - loss: 0.5291 - accuracy:
148/750 [====>...... - ETA: 0s - loss: 0.5270 - accuracy:
222/750 [======>...... - ETA: 0s - loss: 0.5331 - accuracy:
0.8976
296/750 [=======>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8981
368/750 [=========>.....] - ETA: 0s - loss: 0.5331 - accuracy:
0.8990
445/750 [=========>...... - ETA: 0s - loss: 0.5326 - accuracy:
0.8991
516/750 [===========>.....] - ETA: 0s - loss: 0.5338 - accuracy:
0.8981
592/750 [===========>.....] - ETA: 0s - loss: 0.5325 - accuracy:
0.8988
0.8982
740/750 [==============>.] - ETA: 0s - loss: 0.5334 - accuracy:
0.8981
750/750 [============= ] - 1s 829us/step - loss: 0.5333 - accuracy:
0.8981 - val_loss: 0.5877 - val_accuracy: 0.8768
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.5411 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5317 - accuracy:
0.9021
150/750 [====>.....] - ETA: 0s - loss: 0.5250 - accuracy:
223/750 [======>.....] - ETA: 0s - loss: 0.5285 - accuracy:
0.8983
297/750 [=======>.....] - ETA: 0s - loss: 0.5266 - accuracy:
370/750 [=======>.....] - ETA: 0s - loss: 0.5288 - accuracy:
443/750 [========>..... - ETA: 0s - loss: 0.5312 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.5291 - accuracy:
0.8991
592/750 [===========>.....] - ETA: 0s - loss: 0.5295 - accuracy:
0.8989
668/750 [============>....] - ETA: 0s - loss: 0.5313 - accuracy:
```

```
0.8983
0.8978 - val loss: 0.5886 - val accuracy: 0.8783
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.5723 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5140 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.5270 - accuracy:
0.8979
220/750 [======>.....] - ETA: 0s - loss: 0.5264 - accuracy:
0.8996
291/750 [=======>.....] - ETA: 0s - loss: 0.5289 - accuracy:
0.8991
367/750 [=======>.....] - ETA: 0s - loss: 0.5314 - accuracy:
0.8981
441/750 [==========>.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8982
513/750 [=========>.....] - ETA: 0s - loss: 0.5306 - accuracy:
0.8986
589/750 [============>.....] - ETA: 0s - loss: 0.5302 - accuracy:
0.8988
0.8983
750/750 [=============== ] - 1s 830us/step - loss: 0.5313 - accuracy:
0.8978 - val loss: 0.5935 - val accuracy: 0.8764
Epoch 206/220
1/750 [...... 0.6796 - accuracy:
0.8438
74/750 [=>.....] - ETA: 0s - loss: 0.5410 - accuracy:
0.8917
147/750 [====>.....] - ETA: 0s - loss: 0.5430 - accuracy:
0.8936
222/750 [======>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8967
298/750 [=======>.....] - ETA: 0s - loss: 0.5375 - accuracy:
0.8951
372/750 [=======>.....] - ETA: 0s - loss: 0.5372 - accuracy:
445/750 [========>.....] - ETA: 0s - loss: 0.5373 - accuracy:
0.8959
520/750 [=========>.....] - ETA: 0s - loss: 0.5332 - accuracy:
594/750 [=============>.....] - ETA: 0s - loss: 0.5344 - accuracy:
```

```
0.8970
0.8976
0.8974
750/750 [================ ] - 1s 837us/step - loss: 0.5308 - accuracy:
0.8974 - val loss: 0.5846 - val accuracy: 0.8780
Epoch 207/220
1/750 [.....] - ETA: 0s - loss: 0.5115 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5427 - accuracy:
0.8944
147/750 [====>.....] - ETA: 0s - loss: 0.5269 - accuracy:
0.8997
222/750 [======>.....] - ETA: 0s - loss: 0.5301 - accuracy:
0.8973
297/750 [=======>..... - ETA: 0s - loss: 0.5312 - accuracy:
0.8964
372/750 [=======>.....] - ETA: 0s - loss: 0.5305 - accuracy:
0.8966
444/750 [========>.....] - ETA: 0s - loss: 0.5307 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.5328 - accuracy:
0.8962
594/750 [============>.....] - ETA: 0s - loss: 0.5324 - accuracy:
744/750 [==============>.] - ETA: 0s - loss: 0.5301 - accuracy:
0.8973
0.8972 - val loss: 0.5862 - val accuracy: 0.8767
Epoch 208/220
1/750 [.....] - ETA: 0s - loss: 0.4639 - accuracy:
78/750 [==>.....] - ETA: 0s - loss: 0.5206 - accuracy:
153/750 [=====>.....] - ETA: 0s - loss: 0.5273 - accuracy:
227/750 [======>.....] - ETA: 0s - loss: 0.5284 - accuracy:
0.8993
303/750 [=======>.....] - ETA: 0s - loss: 0.5299 - accuracy:
0.8991
374/750 [========>.....] - ETA: 0s - loss: 0.5292 - accuracy:
0.8988
449/750 [========>...... - ETA: 0s - loss: 0.5305 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.5296 - accuracy:
```

```
0.8980
593/750 [=============>.....] - ETA: 0s - loss: 0.5297 - accuracy:
665/750 [============>....] - ETA: 0s - loss: 0.5302 - accuracy:
0.8979
0.8981
0.8983 - val loss: 0.5849 - val accuracy: 0.8769
Epoch 209/220
1/750 [...... - ETA: 0s - loss: 0.6365 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5495 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8963
221/750 [======>...... - ETA: 0s - loss: 0.5282 - accuracy:
0.8988
295/750 [=======>..... - ETA: 0s - loss: 0.5240 - accuracy:
0.9001
372/750 [=======>.....] - ETA: 0s - loss: 0.5245 - accuracy:
0.8996
445/750 [=========>.....] - ETA: 0s - loss: 0.5242 - accuracy:
0.8995
521/750 [===========>.....] - ETA: 0s - loss: 0.5249 - accuracy:
0.8994
596/750 [=============>.....] - ETA: 0s - loss: 0.5258 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.5273 - accuracy:
0.8980
0.8980
0.8979 - val loss: 0.5872 - val accuracy: 0.8758
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.4455 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.5208 - accuracy:
0.8999
147/750 [====>.....] - ETA: 0s - loss: 0.5269 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.5302 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.5252 - accuracy:
0.8983
370/750 [=======>....] - ETA: 0s - loss: 0.5253 - accuracy:
0.8983
447/750 [=========>.....] - ETA: 0s - loss: 0.5260 - accuracy:
```

```
0.8980
520/750 [===========>.....] - ETA: 0s - loss: 0.5270 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.5283 - accuracy:
0.8975
0.8982 - val_loss: 0.5819 - val_accuracy: 0.8793
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.4263 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5318 - accuracy:
0.8959
152/750 [====>...... - ETA: 0s - loss: 0.5211 - accuracy:
228/750 [======>..... - ETA: 0s - loss: 0.5197 - accuracy:
304/750 [=======>.....] - ETA: 0s - loss: 0.5206 - accuracy:
379/750 [=======>>.....] - ETA: 0s - loss: 0.5209 - accuracy:
0.9005
452/750 [==========>.....] - ETA: 0s - loss: 0.5241 - accuracy:
526/750 [==========>.....] - ETA: 0s - loss: 0.5245 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.5266 - accuracy:
0.8992
666/750 [=============>....] - ETA: 0s - loss: 0.5265 - accuracy:
0.8990
0.8991
0.8991 - val loss: 0.5833 - val accuracy: 0.8785
Epoch 212/220
1/750 [.....] - ETA: 0s - loss: 0.5147 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5176 - accuracy:
148/750 [====>......] - ETA: 0s - loss: 0.5205 - accuracy:
226/750 [======>.....] - ETA: 0s - loss: 0.5234 - accuracy:
0.8995
300/750 [=======>..... - ETA: 0s - loss: 0.5244 - accuracy:
373/750 [========>.....] - ETA: 0s - loss: 0.5248 - accuracy:
```

```
0.8985
448/750 [=========>.....] - ETA: 0s - loss: 0.5214 - accuracy:
0.8999
522/750 [==========>.....] - ETA: 0s - loss: 0.5231 - accuracy:
0.8988
597/750 [============>.....] - ETA: 0s - loss: 0.5231 - accuracy:
750/750 [============= ] - 1s 822us/step - loss: 0.5257 - accuracy:
0.8982 - val loss: 0.5862 - val accuracy: 0.8763
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.5822 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.5159 - accuracy:
152/750 [====>.....] - ETA: 0s - loss: 0.5310 - accuracy:
0.8999
224/750 [=====>.....] - ETA: 0s - loss: 0.5307 - accuracy:
0.8996
296/750 [=======>..... - ETA: 0s - loss: 0.5277 - accuracy:
0.8997
371/750 [========>.....] - ETA: 0s - loss: 0.5238 - accuracy:
443/750 [=========>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.9009
514/750 [===========>.....] - ETA: 0s - loss: 0.5250 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.5251 - accuracy:
0.8997
0.8995
0.8994 - val_loss: 0.5846 - val_accuracy: 0.8772
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.5853 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5304 - accuracy:
0.8931
150/750 [=====>.....] - ETA: 0s - loss: 0.5294 - accuracy:
226/750 [======>...... - ETA: 0s - loss: 0.5280 - accuracy:
299/750 [======>..... - ETA: 0s - loss: 0.5252 - accuracy:
```

```
0.8985
374/750 [=========>.....] - ETA: 0s - loss: 0.5256 - accuracy:
0.8976
450/750 [==========>.....] - ETA: 0s - loss: 0.5242 - accuracy:
0.8986
525/750 [=========>.....] - ETA: 0s - loss: 0.5248 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.5224 - accuracy:
0.8986
750/750 [============= ] - 1s 825us/step - loss: 0.5249 - accuracy:
0.8987 - val_loss: 0.5814 - val_accuracy: 0.8788
Epoch 215/220
1/750 [...... - ETA: 0s - loss: 0.5414 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5126 - accuracy:
0.8989
150/750 [====>..... - ETA: 0s - loss: 0.5217 - accuracy:
0.8983
225/750 [======>.....] - ETA: 0s - loss: 0.5192 - accuracy:
301/750 [=======>.....] - ETA: 0s - loss: 0.5205 - accuracy:
371/750 [=======>.....] - ETA: 0s - loss: 0.5194 - accuracy:
442/750 [=========>.....] - ETA: 0s - loss: 0.5185 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.5219 - accuracy:
580/750 [============>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.9006
653/750 [=============>....] - ETA: 0s - loss: 0.5225 - accuracy:
0.9004
750/750 [============= ] - 1s 836us/step - loss: 0.5234 - accuracy:
0.9004 - val_loss: 0.5804 - val_accuracy: 0.8793
Epoch 216/220
1/750 [...... 0.7482 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.5343 - accuracy:
0.8951
148/750 [====>.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8941
225/750 [======>.....] - ETA: 0s - loss: 0.5282 - accuracy:
```

```
0.8963
299/750 [=======>.....] - ETA: 0s - loss: 0.5241 - accuracy:
372/750 [=======>.....] - ETA: 0s - loss: 0.5227 - accuracy:
446/750 [========>.....] - ETA: 0s - loss: 0.5246 - accuracy:
519/750 [========>>.....] - ETA: 0s - loss: 0.5248 - accuracy:
0.8984
595/750 [============>.....] - ETA: 0s - loss: 0.5236 - accuracy:
668/750 [============>....] - ETA: 0s - loss: 0.5241 - accuracy:
0.8993
750/750 [============= ] - 1s 826us/step - loss: 0.5225 - accuracy:
0.9000 - val loss: 0.5859 - val accuracy: 0.8786
Epoch 217/220
1/750 [...... 0.5536 - accuracy:
0.8906
76/750 [==>.....] - ETA: 0s - loss: 0.5385 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.5359 - accuracy:
0.8933
221/750 [======>.....] - ETA: 0s - loss: 0.5291 - accuracy:
296/750 [======>..... - ETA: 0s - loss: 0.5246 - accuracy:
0.8974
368/750 [=========>.....] - ETA: 0s - loss: 0.5244 - accuracy:
0.8980
442/750 [=========>.....] - ETA: 0s - loss: 0.5247 - accuracy:
0.8981
517/750 [===========>.....] - ETA: 0s - loss: 0.5236 - accuracy:
0.8990
592/750 [===========>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8993
667/750 [=============>....] - ETA: 0s - loss: 0.5221 - accuracy:
0.8993
0.8997 - val loss: 0.5797 - val_accuracy: 0.8776
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.4861 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5208 - accuracy:
149/750 [====>.....] - ETA: 0s - loss: 0.5220 - accuracy:
```

```
0.9024
223/750 [======>.....] - ETA: 0s - loss: 0.5234 - accuracy:
297/750 [=======>.....] - ETA: 0s - loss: 0.5210 - accuracy:
0.9018
373/750 [=======>....] - ETA: 0s - loss: 0.5249 - accuracy:
0.9001
445/750 [========>.....] - ETA: 0s - loss: 0.5237 - accuracy:
521/750 [===========>.....] - ETA: 0s - loss: 0.5207 - accuracy:
596/750 [===========>.....] - ETA: 0s - loss: 0.5214 - accuracy:
669/750 [=============>....] - ETA: 0s - loss: 0.5206 - accuracy:
0.8998
0.8998 - val loss: 0.5797 - val accuracy: 0.8790
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.5072 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.5131 - accuracy:
150/750 [=====>.....] - ETA: 0s - loss: 0.5137 - accuracy:
226/750 [======>..... - ETA: 0s - loss: 0.5148 - accuracy:
0.8998
297/750 [=======>.....] - ETA: 0s - loss: 0.5182 - accuracy:
0.8990
373/750 [=======>.....] - ETA: 0s - loss: 0.5198 - accuracy:
0.8997
448/750 [=========>.....] - ETA: 0s - loss: 0.5207 - accuracy:
0.9001
523/750 [=========>.....] - ETA: 0s - loss: 0.5212 - accuracy:
597/750 [============>.....] - ETA: 0s - loss: 0.5202 - accuracy:
0.8998
0.9000 - val_loss: 0.5799 - val_accuracy: 0.8767
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.5354 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.5072 - accuracy:
```

```
0.9046
151/750 [=====>.....] - ETA: 0s - loss: 0.5160 - accuracy:
225/750 [======>.....] - ETA: 0s - loss: 0.5195 - accuracy:
300/750 [=======>.....] - ETA: 0s - loss: 0.5194 - accuracy:
0.8998
376/750 [=======>>.....] - ETA: 0s - loss: 0.5186 - accuracy:
451/750 [=========>.....] - ETA: 0s - loss: 0.5201 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.5204 - accuracy:
0.8994
600/750 [===========>.....] - ETA: 0s - loss: 0.5208 - accuracy:
0.8993
0.8993
750/750 [============== ] - 1s 821us/step - loss: 0.5200 - accuracy:
0.9001 - val loss: 0.5786 - val accuracy: 0.8785
 1/313 [...... - ETA: 3s - loss: 0.7354 - accuracy:
108/313 [=======>..... - ETA: 0s - loss: 0.6116 - accuracy:
214/313 [==========>.....] - ETA: 0s - loss: 0.6211 - accuracy:
0.8671
0.8683
Testing loss: 0.6079840064048767
Testing accuracy: 86.83000206947327%
```

Running for Model 11/12

Model: "sequential_11"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 40)	31400
hidden1 (Dense)	(None, 40)	1640
hidden2 (Dense)	(None, 40)	1640
hidden3 (Dense)	(None, 40)	1640
hidden4 (Dense)	(None, 40)	1640
hidden5 (Dense)	(None, 40)	1640
output_layer (Dense)	(None, 10)	410

```
Trainable params: 40,010
Non-trainable params: 0
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.001 and
L2 REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 40,
'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size':
40, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 40,
'activation_function': 'relu'}, {'name': 'hidden5', 'size': 40,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 2:20 - loss: 2.6000 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 2.6074 - accuracy: 0.0994
156/750 [=====>......] - ETA: 0s - loss: 2.6049 - accuracy:
0.0993
224/750 [======>.....] - ETA: 0s - loss: 2.6028 - accuracy:
311/750 [=======>.....] - ETA: 0s - loss: 2.6010 - accuracy:
0.0997
396/750 [========>.....] - ETA: 0s - loss: 2.5990 - accuracy:
0.1004
486/750 [=========>.....] - ETA: 0s - loss: 2.5966 - accuracy:
0.1017
570/750 [==========>.....] - ETA: 0s - loss: 2.5950 - accuracy:
653/750 [============>....] - ETA: 0s - loss: 2.5933 - accuracy:
0.1014
750/750 [============== ] - 1s 860us/step - loss: 2.5913 - accuracy:
0.1012 - val_loss: 2.5755 - val_accuracy: 0.1051
Epoch 2/220
 1/750 [.....] - ETA: 0s - loss: 2.5923 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 2.5721 - accuracy:
0.1109
164/750 [====>.....] - ETA: 0s - loss: 2.5718 - accuracy:
246/750 [======>..... - ETA: 0s - loss: 2.5705 - accuracy:
0.1054
```

Total params: 40,010

```
328/750 [========>.....] - ETA: 0s - loss: 2.5687 - accuracy:
0.1061
412/750 [========>.....] - ETA: 0s - loss: 2.5666 - accuracy:
0.1084
494/750 [==========>.....] - ETA: 0s - loss: 2.5646 - accuracy:
0.1099
582/750 [===========>.....] - ETA: 0s - loss: 2.5626 - accuracy:
666/750 [============>....] - ETA: 0s - loss: 2.5604 - accuracy:
0.1141
750/750 [============ ] - ETA: 0s - loss: 2.5576 - accuracy:
0.1170
0.1170 - val loss: 2.5343 - val accuracy: 0.1413
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 2.5149 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 2.5303 - accuracy:
172/750 [====>...... - ETA: 0s - loss: 2.5269 - accuracy:
0.1529
255/750 [=======>.....] - ETA: 0s - loss: 2.5238 - accuracy:
0.1538
0.1544
427/750 [=========>.....] - ETA: 0s - loss: 2.5159 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 2.5122 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 2.5078 - accuracy:
679/750 [===========>...] - ETA: 0s - loss: 2.5042 - accuracy:
0.1715 - val_loss: 2.4594 - val_accuracy: 0.2065
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 2.5336 - accuracy:
80/750 [==>.....] - ETA: 0s - loss: 2.4557 - accuracy:
0.2086
165/750 [====>.....] - ETA: 0s - loss: 2.4490 - accuracy:
0.2087
241/750 [======>.....] - ETA: 0s - loss: 2.4434 - accuracy:
328/750 [========>.....] - ETA: 0s - loss: 2.4363 - accuracy:
0.2157
416/750 [========>..... - ETA: 0s - loss: 2.4308 - accuracy:
0.2183
```

```
501/750 [===========>.....] - ETA: 0s - loss: 2.4249 - accuracy:
0.2219
589/750 [============>.....] - ETA: 0s - loss: 2.4185 - accuracy:
0.2263
0.2331 - val_loss: 2.3460 - val_accuracy: 0.2701
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 2.3654 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 2.3380 - accuracy:
0.2716
173/750 [====>...... - ETA: 0s - loss: 2.3256 - accuracy:
0.2786
260/750 [=======>.....] - ETA: 0s - loss: 2.3225 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 2.3136 - accuracy:
0.2864
437/750 [=========>....] - ETA: 0s - loss: 2.3036 - accuracy:
0.2917
521/750 [==========>.....] - ETA: 0s - loss: 2.2970 - accuracy:
0.3041
609/750 [===========>.....] - ETA: 0s - loss: 2.2895 - accuracy:
0.3296 - val_loss: 2.2064 - val_accuracy: 0.3917
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 2.1687 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 2.2032 - accuracy:
0.3956
173/750 [====>...... - ETA: 0s - loss: 2.1923 - accuracy:
0.4026
257/750 [======>.....] - ETA: 0s - loss: 2.1831 - accuracy:
0.4013
341/750 [========>.....] - ETA: 0s - loss: 2.1766 - accuracy:
427/750 [==========>.....] - ETA: 0s - loss: 2.1690 - accuracy:
0.4039
511/750 [===========>.....] - ETA: 0s - loss: 2.1594 - accuracy:
0.4038
596/750 [============>.....] - ETA: 0s - loss: 2.1529 - accuracy:
```

```
0.4019 - val loss: 2.0724 - val accuracy: 0.3932
Epoch 7/220
1/750 [.....] - ETA: 0s - loss: 2.0679 - accuracy:
0.4531
84/750 [==>.....] - ETA: 0s - loss: 2.0716 - accuracy:
0.3996
170/750 [====>...... - ETA: 0s - loss: 2.0557 - accuracy:
0.4018
255/750 [=======>.....] - ETA: 0s - loss: 2.0453 - accuracy:
0.4018
340/750 [========>.....] - ETA: 0s - loss: 2.0399 - accuracy:
0.3998
425/750 [=========>.....] - ETA: 0s - loss: 2.0313 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 2.0246 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 2.0166 - accuracy:
750/750 [=============== ] - 1s 730us/step - loss: 2.0021 - accuracy:
0.4009 - val_loss: 1.9336 - val_accuracy: 0.3997
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 2.0623 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 1.9213 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 1.9117 - accuracy:
0.4096
254/750 [=======>.....] - ETA: 0s - loss: 1.9055 - accuracy:
337/750 [========>.....] - ETA: 0s - loss: 1.9019 - accuracy:
423/750 [========>..... - ETA: 0s - loss: 1.8947 - accuracy:
0.4126
507/750 [=========>.....] - ETA: 0s - loss: 1.8869 - accuracy:
0.4154
592/750 [=============>.....] - ETA: 0s - loss: 1.8768 - accuracy:
0.4197
750/750 [================ ] - 1s 728us/step - loss: 1.8607 - accuracy:
0.4232 - val loss: 1.7884 - val accuracy: 0.4364
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 1.6772 - accuracy:
0.4844
```

```
85/750 [==>...... - ETA: 0s - loss: 1.7716 - accuracy:
0.4634
171/750 [====>.....] - ETA: 0s - loss: 1.7667 - accuracy:
255/750 [======>.....] - ETA: 0s - loss: 1.7525 - accuracy:
340/750 [========>......] - ETA: 0s - loss: 1.7485 - accuracy:
425/750 [=========>..... - ETA: 0s - loss: 1.7380 - accuracy:
0.4638
509/750 [=========>.....] - ETA: 0s - loss: 1.7312 - accuracy:
0.4654
593/750 [============>.....] - ETA: 0s - loss: 1.7251 - accuracy:
0.4711
750/750 [=============== ] - 1s 736us/step - loss: 1.7101 - accuracy:
0.4739 - val_loss: 1.6298 - val_accuracy: 0.5069
Epoch 10/220
1/750 [...... - ETA: 0s - loss: 1.7477 - accuracy:
0.4688
83/750 [==>...... - ETA: 0s - loss: 1.6081 - accuracy:
0.5286
170/750 [====>.....] - ETA: 0s - loss: 1.6014 - accuracy:
254/750 [======>.....] - ETA: 0s - loss: 1.5957 - accuracy:
337/750 [========>.....] - ETA: 0s - loss: 1.5868 - accuracy:
0.5634
423/750 [========>.....] - ETA: 0s - loss: 1.5822 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 1.5742 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 1.5651 - accuracy:
678/750 [============>...] - ETA: 0s - loss: 1.5547 - accuracy:
750/750 [============= ] - 1s 728us/step - loss: 1.5458 - accuracy:
0.5966 - val_loss: 1.4579 - val_accuracy: 0.6380
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 1.5750 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 1.4537 - accuracy:
0.6421
171/750 [=====>.....] - ETA: 0s - loss: 1.4429 - accuracy:
251/750 [======>.....] - ETA: 0s - loss: 1.4297 - accuracy:
```

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335/750 [========>.....] - ETA: 0s - loss: 1.4157 - accuracy:
0.6534
419/750 [========>.....] - ETA: 0s - loss: 1.4075 - accuracy:
499/750 [=========>.....] - ETA: 0s - loss: 1.3978 - accuracy:
582/750 [===========>.....] - ETA: 0s - loss: 1.3848 - accuracy:
666/750 [============>....] - ETA: 0s - loss: 1.3752 - accuracy:
0.6563
0.6578 - val_loss: 1.2817 - val_accuracy: 0.6667
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 1.1870 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 1.2800 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 1.2645 - accuracy:
249/750 [======>..... - ETA: 0s - loss: 1.2577 - accuracy:
329/750 [========>.....] - ETA: 0s - loss: 1.2524 - accuracy:
0.6784
410/750 [========>.....] - ETA: 0s - loss: 1.2427 - accuracy:
493/750 [=========>.....] - ETA: 0s - loss: 1.2360 - accuracy:
581/750 [=============>.....] - ETA: 0s - loss: 1.2266 - accuracy:
0.6851
0.6867 - val_loss: 1.1536 - val_accuracy: 0.6974
Epoch 13/220
1/750 [...... - ETA: 0s - loss: 1.1978 - accuracy:
0.6875
85/750 [==>.....] - ETA: 0s - loss: 1.1601 - accuracy:
170/750 [====>.....] - ETA: 0s - loss: 1.1487 - accuracy:
0.6991
254/750 [======>..... - ETA: 0s - loss: 1.1434 - accuracy:
0.7013
337/750 [=======>.....] - ETA: 0s - loss: 1.1358 - accuracy:
0.7047
419/750 [========>..... - ETA: 0s - loss: 1.1292 - accuracy:
0.7968
```

```
502/750 [===========>.....] - ETA: 0s - loss: 1.1206 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 1.1155 - accuracy:
0.7113
0.7119 - val_loss: 1.0715 - val_accuracy: 0.7170
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 0.9461 - accuracy:
0.7969
85/750 [==>.....] - ETA: 0s - loss: 1.0737 - accuracy:
168/750 [====>...... - ETA: 0s - loss: 1.0702 - accuracy:
253/750 [=======>.....] - ETA: 0s - loss: 1.0688 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 1.0617 - accuracy:
0.7261
422/750 [========>..... - ETA: 0s - loss: 1.0573 - accuracy:
0.7281
508/750 [==========>.....] - ETA: 0s - loss: 1.0554 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 1.0494 - accuracy:
0.7299
0.7297 - val_loss: 1.0210 - val_accuracy: 0.7337
Epoch 15/220
1/750 [.....] - ETA: 0s - loss: 0.9503 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 1.0062 - accuracy:
171/750 [====>...... - ETA: 0s - loss: 1.0134 - accuracy:
0.7399
254/750 [======>..... - ETA: 0s - loss: 1.0101 - accuracy:
340/750 [=======>...... - ETA: 0s - loss: 1.0068 - accuracy:
0.7441
425/750 [========>...... - ETA: 0s - loss: 1.0094 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 1.0062 - accuracy:
```

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750/750 [=============== ] - 1s 717us/step - loss: 1.0012 - accuracy:
0.7449 - val loss: 0.9842 - val accuracy: 0.7452
Epoch 16/220
 1/750 [.....] - ETA: 0s - loss: 1.0919 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.9840 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.9855 - accuracy:
0.7513
259/750 [=======>.....] - ETA: 0s - loss: 0.9804 - accuracy:
0.7543
347/750 [========>.....] - ETA: 0s - loss: 0.9801 - accuracy:
0.7526
434/750 [==========>.....] - ETA: 0s - loss: 0.9820 - accuracy:
520/750 [===========>.....] - ETA: 0s - loss: 0.9754 - accuracy:
0.7531
697/750 [============>...] - ETA: 0s - loss: 0.9701 - accuracy:
0.7558 - val_loss: 0.9578 - val_accuracy: 0.7551
Epoch 17/220
1/750 [.....] - ETA: 0s - loss: 1.1811 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.9772 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.9658 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.9553 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.9502 - accuracy:
427/750 [========>..... - ETA: 0s - loss: 0.9501 - accuracy:
0.7648
514/750 [=========>.....] - ETA: 0s - loss: 0.9482 - accuracy:
0.7661
600/750 [===========>.....] - ETA: 0s - loss: 0.9480 - accuracy:
686/750 [===============>...] - ETA: 0s - loss: 0.9475 - accuracy:
750/750 [=============== ] - 1s 717us/step - loss: 0.9467 - accuracy:
0.7649 - val loss: 0.9365 - val accuracy: 0.7698
Epoch 18/220
 1/750 [.....] - ETA: 0s - loss: 0.9017 - accuracy:
0.7031
```

```
88/750 [==>.....] - ETA: 0s - loss: 0.9025 - accuracy:
0.7836
174/750 [====>.....] - ETA: 0s - loss: 0.9227 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.9224 - accuracy:
0.7736
346/750 [=======>.....] - ETA: 0s - loss: 0.9254 - accuracy:
0.7723
434/750 [=========>..... - ETA: 0s - loss: 0.9266 - accuracy:
0.7714
521/750 [=========>.....] - ETA: 0s - loss: 0.9252 - accuracy:
0.7717
0.7717
750/750 [================ ] - 1s 714us/step - loss: 0.9278 - accuracy:
0.7717 - val loss: 0.9183 - val_accuracy: 0.7760
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 1.0104 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.9243 - accuracy:
0.7723
170/750 [=====>.....] - ETA: 0s - loss: 0.9210 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.9146 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.9134 - accuracy:
0.7776
430/750 [=========>.....] - ETA: 0s - loss: 0.9153 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.9146 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.9149 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.9133 - accuracy:
750/750 [============== ] - 1s 716us/step - loss: 0.9119 - accuracy:
0.7778 - val_loss: 0.9048 - val_accuracy: 0.7823
Epoch 20/220
1/750 [...... os - loss: 0.9993 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.9037 - accuracy:
0.7854
174/750 [====>.....] - ETA: 0s - loss: 0.9010 - accuracy:
0.7835
260/750 [======>.....] - ETA: 0s - loss: 0.9039 - accuracy:
0.7819
```

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345/750 [========>.....] - ETA: 0s - loss: 0.9073 - accuracy:
0.7816
432/750 [=========>.....] - ETA: 0s - loss: 0.9031 - accuracy:
0.7839
520/750 [=========>.....] - ETA: 0s - loss: 0.9027 - accuracy:
0.7837
605/750 [==========>.....] - ETA: 0s - loss: 0.9011 - accuracy:
0.7844
690/750 [============>...] - ETA: 0s - loss: 0.8999 - accuracy:
0.7836
750/750 [============= ] - 1s 718us/step - loss: 0.8978 - accuracy:
0.7846 - val_loss: 0.8914 - val_accuracy: 0.7854
Epoch 21/220
 1/750 [.....] - ETA: 0s - loss: 0.9842 - accuracy:
86/750 [==>...... - ETA: 0s - loss: 0.9038 - accuracy:
0.7849
173/750 [====>.....] - ETA: 0s - loss: 0.8934 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.9001 - accuracy:
0.7857
344/750 [========>.....] - ETA: 0s - loss: 0.8957 - accuracy:
0.7869
430/750 [=========>.....] - ETA: 0s - loss: 0.8898 - accuracy:
0.7870
519/750 [=========>....] - ETA: 0s - loss: 0.8902 - accuracy:
0.7872
604/750 [===============>.....] - ETA: 0s - loss: 0.8862 - accuracy:
0.7885
0.7891
0.7889 - val loss: 0.8806 - val accuracy: 0.7921
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.7230 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.8828 - accuracy:
0.7837
174/750 [====>...... - accuracy:
0.7874
261/750 [======>..... - ETA: 0s - loss: 0.8764 - accuracy:
0.7895
349/750 [=======>.....] - ETA: 0s - loss: 0.8787 - accuracy:
437/750 [========>.....] - ETA: 0s - loss: 0.8779 - accuracy:
0.7913
522/750 [=========>.....] - ETA: 0s - loss: 0.8780 - accuracy:
0.7915
```

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607/750 [===========>.....] - ETA: 0s - loss: 0.8777 - accuracy:
0.7912
0.7921
750/750 [================ ] - 1s 717us/step - loss: 0.8746 - accuracy:
0.7936 - val_loss: 0.8723 - val_accuracy: 0.7971
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.8554 - accuracy:
0.7812
89/750 [==>.....] - ETA: 0s - loss: 0.8592 - accuracy:
0.8007
175/750 [=====>.....] - ETA: 0s - loss: 0.8603 - accuracy:
0.7998
261/750 [======>..... - ETA: 0s - loss: 0.8657 - accuracy:
0.7986
348/750 [========>.....] - ETA: 0s - loss: 0.8663 - accuracy:
0.7963
435/750 [==========>.....] - ETA: 0s - loss: 0.8688 - accuracy:
0.7969
522/750 [=========>.....] - ETA: 0s - loss: 0.8678 - accuracy:
0.7968
0.7973
694/750 [============>...] - ETA: 0s - loss: 0.8657 - accuracy:
0.7981
0.7988 - val loss: 0.8641 - val accuracy: 0.7987
Epoch 24/220
1/750 [.....] - ETA: 0s - loss: 0.8189 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.8439 - accuracy:
172/750 [=====>.....] - ETA: 0s - loss: 0.8588 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.8589 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.8553 - accuracy:
430/750 [=========>..... - ETA: 0s - loss: 0.8553 - accuracy:
517/750 [========>.....] - ETA: 0s - loss: 0.8542 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.8563 - accuracy:
0.8019 - val_loss: 0.8592 - val_accuracy: 0.8009
```

```
1/750 [.....] - ETA: 0s - loss: 0.7574 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.8562 - accuracy:
0.8996
174/750 [=====>.....] - ETA: 0s - loss: 0.8593 - accuracy:
0.7997
260/750 [======>..... - ETA: 0s - loss: 0.8516 - accuracy:
0.8029
349/750 [========>......] - ETA: 0s - loss: 0.8487 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.8478 - accuracy:
519/750 [============>.....] - ETA: 0s - loss: 0.8449 - accuracy:
750/750 [================ ] - 1s 714us/step - loss: 0.8477 - accuracy:
0.8059 - val_loss: 0.8475 - val_accuracy: 0.8071
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.8801 - accuracy:
0.8281
88/750 [==>.....] - ETA: 0s - loss: 0.8521 - accuracy:
0.8029
175/750 [=====>.....] - ETA: 0s - loss: 0.8460 - accuracy:
0.8085
259/750 [=======>.....] - ETA: 0s - loss: 0.8420 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.8417 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.8424 - accuracy:
516/750 [========>>.....] - ETA: 0s - loss: 0.8445 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.8436 - accuracy:
0.8083
0.8093 - val loss: 0.8417 - val accuracy: 0.8092
Epoch 27/220
87/750 [==>.....] - ETA: 0s - loss: 0.8255 - accuracy:
```

```
174/750 [====>...... - ETA: 0s - loss: 0.8318 - accuracy:
0.8094
260/750 [=======>.....] - ETA: 0s - loss: 0.8312 - accuracy:
345/750 [=======>.....] - ETA: 0s - loss: 0.8364 - accuracy:
0.8981
432/750 [=========>.....] - ETA: 0s - loss: 0.8343 - accuracy:
0.8077
518/750 [=========>.....] - ETA: 0s - loss: 0.8334 - accuracy:
0.8094
607/750 [===========>.....] - ETA: 0s - loss: 0.8335 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.8335 - accuracy:
750/750 [================ ] - 1s 714us/step - loss: 0.8323 - accuracy:
0.8108 - val loss: 0.8337 - val accuracy: 0.8098
Epoch 28/220
 1/750 [.....] - ETA: 0s - loss: 0.9067 - accuracy:
86/750 [==>...... - ETA: 0s - loss: 0.8441 - accuracy:
0.8076
174/750 [====>.....] - ETA: 0s - loss: 0.8297 - accuracy:
0.8109
259/750 [=======>.....] - ETA: 0s - loss: 0.8320 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.8312 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.8295 - accuracy:
0.8124
513/750 [===========>.....] - ETA: 0s - loss: 0.8276 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.8276 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.8271 - accuracy:
0.8149
0.8141 - val_loss: 0.8266 - val_accuracy: 0.8142
Epoch 29/220
 1/750 [.....] - ETA: 0s - loss: 0.8314 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.8171 - accuracy:
0.8184
176/750 [=====>...... - ETA: 0s - loss: 0.8228 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.8223 - accuracy:
0.8150
347/750 [=======>.....] - ETA: 0s - loss: 0.8200 - accuracy:
```

```
436/750 [=========>.....] - ETA: 0s - loss: 0.8231 - accuracy:
0.8153
522/750 [===========>.....] - ETA: 0s - loss: 0.8226 - accuracy:
0.8158
0.8171
0.8174 - val loss: 0.8206 - val accuracy: 0.8154
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.7550 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.8198 - accuracy:
168/750 [====>.....] - ETA: 0s - loss: 0.8169 - accuracy:
253/750 [======>.....] - ETA: 0s - loss: 0.8085 - accuracy:
334/750 [========>...... - ETA: 0s - loss: 0.8114 - accuracy:
0.8199
418/750 [========>.....] - ETA: 0s - loss: 0.8120 - accuracy:
0.8186
503/750 [=========>.....] - ETA: 0s - loss: 0.8146 - accuracy:
0.8172
587/750 [=============>.....] - ETA: 0s - loss: 0.8160 - accuracy:
0.8176
670/750 [================>....] - ETA: 0s - loss: 0.8145 - accuracy:
0.8185
750/750 [============== ] - 1s 741us/step - loss: 0.8124 - accuracy:
0.8190 - val_loss: 0.8144 - val_accuracy: 0.8175
Epoch 31/220
1/750 [.....] - ETA: 0s - loss: 0.8336 - accuracy:
77/750 [==>.....] - ETA: 0s - loss: 0.7798 - accuracy:
0.8340
161/750 [====>.....] - ETA: 0s - loss: 0.8003 - accuracy:
0.8264
249/750 [======>.....] - ETA: 0s - loss: 0.8069 - accuracy:
0.8217
336/750 [=======>.....] - ETA: 0s - loss: 0.8085 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.8040 - accuracy:
0.8231
507/750 [========>>.....] - ETA: 0s - loss: 0.8041 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.8057 - accuracy:
```

```
683/750 [============>...] - ETA: 0s - loss: 0.8076 - accuracy:
0.8213
0.8212 - val_loss: 0.8107 - val_accuracy: 0.8181
Epoch 32/220
1/750 [.....] - ETA: 0s - loss: 0.6972 - accuracy:
0.8281
81/750 [==>.....] - ETA: 0s - loss: 0.8199 - accuracy:
0.8171
166/750 [====>.....] - ETA: 0s - loss: 0.8090 - accuracy:
0.8206
251/750 [======>.....] - ETA: 0s - loss: 0.8066 - accuracy:
0.8207
335/750 [=======>.....] - ETA: 0s - loss: 0.8083 - accuracy:
421/750 [========>.....] - ETA: 0s - loss: 0.8060 - accuracy:
509/750 [===========>.....] - ETA: 0s - loss: 0.8084 - accuracy:
0.8188
597/750 [===========>.....] - ETA: 0s - loss: 0.8035 - accuracy:
750/750 [================ ] - 1s 717us/step - loss: 0.8005 - accuracy:
0.8222 - val loss: 0.8065 - val accuracy: 0.8214
Epoch 33/220
 1/750 [................] - ETA: 0s - loss: 0.7753 - accuracy:
0.8594
86/750 [==>.....] - ETA: 0s - loss: 0.8146 - accuracy:
0.8174
174/750 [====>.....] - ETA: 0s - loss: 0.7965 - accuracy:
262/750 [======>..... - ETA: 0s - loss: 0.7956 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.7963 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.7964 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.7937 - accuracy:
0.8247
608/750 [===========>.....] - ETA: 0s - loss: 0.7965 - accuracy:
750/750 [================ ] - 1s 713us/step - loss: 0.7950 - accuracy:
0.8239 - val_loss: 0.7986 - val_accuracy: 0.8224
Epoch 34/220
```

```
1/750 [...... - ETA: 0s - loss: 0.6298 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.7889 - accuracy:
0.8261
169/750 [====>.....] - ETA: 0s - loss: 0.7929 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.7932 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.7931 - accuracy:
0.8233
430/750 [=========>.....] - ETA: 0s - loss: 0.7911 - accuracy:
517/750 [==========>.....] - ETA: 0s - loss: 0.7923 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.7912 - accuracy:
0.8254 - val loss: 0.7959 - val accuracy: 0.8245
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.8046 - accuracy:
0.7969
86/750 [==>.....] - ETA: 0s - loss: 0.7747 - accuracy:
0.8309
171/750 [====>.....] - ETA: 0s - loss: 0.7761 - accuracy:
256/750 [=======>.....] - ETA: 0s - loss: 0.7803 - accuracy:
0.8301
340/750 [========>.....] - ETA: 0s - loss: 0.7786 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.7797 - accuracy:
0.8299
511/750 [=========>.....] - ETA: 0s - loss: 0.7831 - accuracy:
597/750 [===========>.....] - ETA: 0s - loss: 0.7823 - accuracy:
0.8291
682/750 [============>...] - ETA: 0s - loss: 0.7849 - accuracy:
0.8279
750/750 [================ ] - 1s 728us/step - loss: 0.7856 - accuracy:
0.8276 - val loss: 0.7923 - val accuracy: 0.8259
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.7985 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 0.7841 - accuracy:
175/750 [=====>...... - ETA: 0s - loss: 0.7814 - accuracy:
0.8295
```

```
263/750 [=======>.....] - ETA: 0s - loss: 0.7846 - accuracy:
0.8289
347/750 [========>.....] - ETA: 0s - loss: 0.7793 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.7805 - accuracy:
0.8311
522/750 [=========>.....] - ETA: 0s - loss: 0.7790 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.7812 - accuracy:
0.8292
692/750 [============>...] - ETA: 0s - loss: 0.7797 - accuracy:
0.8293
0.8292 - val loss: 0.7867 - val accuracy: 0.8272
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.6211 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.7761 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.7724 - accuracy:
0.8317
258/750 [=======>.....] - ETA: 0s - loss: 0.7703 - accuracy:
0.8327
346/750 [=======>.....] - ETA: 0s - loss: 0.7738 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.7718 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.7759 - accuracy:
750/750 [================ ] - 1s 716us/step - loss: 0.7761 - accuracy:
0.8299 - val_loss: 0.7820 - val_accuracy: 0.8279
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 1.0163 - accuracy:
0.7656
89/750 [==>.....] - ETA: 0s - loss: 0.7843 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.7725 - accuracy:
261/750 [======>..... - ETA: 0s - loss: 0.7676 - accuracy:
0.8329
347/750 [========>.....] - ETA: 0s - loss: 0.7659 - accuracy:
0.8326
433/750 [=========>..... - ETA: 0s - loss: 0.7687 - accuracy:
```

```
520/750 [===========>.....] - ETA: 0s - loss: 0.7691 - accuracy:
0.8311
0.8311 - val_loss: 0.7785 - val_accuracy: 0.8304
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.7525 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.7783 - accuracy:
0.8301
175/750 [=====>.....] - ETA: 0s - loss: 0.7734 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.7744 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.7669 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.7699 - accuracy:
0.8317
515/750 [==========>.....] - ETA: 0s - loss: 0.7685 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.7684 - accuracy:
0.8324 - val_loss: 0.7736 - val_accuracy: 0.8305
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.7631 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.7675 - accuracy:
0.8351
174/750 [====>...... - ETA: 0s - loss: 0.7750 - accuracy:
262/750 [======>.....] - ETA: 0s - loss: 0.7682 - accuracy:
351/750 [========>.....] - ETA: 0s - loss: 0.7671 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.7660 - accuracy:
0.8351
523/750 [===========>.....] - ETA: 0s - loss: 0.7664 - accuracy:
0.8345
0.8351
0.8354
```

```
0.8349 - val loss: 0.7704 - val accuracy: 0.8311
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.8601 - accuracy:
0.7969
87/750 [==>.....] - ETA: 0s - loss: 0.7600 - accuracy:
0.8328
168/750 [====>...... - ETA: 0s - loss: 0.7641 - accuracy:
0.8337
257/750 [=======>.....] - ETA: 0s - loss: 0.7625 - accuracy:
0.8343
344/750 [========>.....] - ETA: 0s - loss: 0.7625 - accuracy:
0.8344
427/750 [==========>.....] - ETA: 0s - loss: 0.7592 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.7593 - accuracy:
0.8361
750/750 [================ ] - 1s 718us/step - loss: 0.7591 - accuracy:
0.8360 - val_loss: 0.7673 - val_accuracy: 0.8327
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.7254 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.7486 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.7617 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.7581 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.7532 - accuracy:
431/750 [========>..... - ETA: 0s - loss: 0.7551 - accuracy:
0.8364
518/750 [=========>......] - ETA: 0s - loss: 0.7545 - accuracy:
0.8365
0.8367
689/750 [===============>...] - ETA: 0s - loss: 0.7545 - accuracy:
0.8361 - val loss: 0.7654 - val accuracy: 0.8332
Epoch 43/220
1/750 [.....] - ETA: 0s - loss: 0.7004 - accuracy:
0.8281
```

```
87/750 [==>...... - ETA: 0s - loss: 0.7549 - accuracy:
0.8348
176/750 [=====>.....] - ETA: 0s - loss: 0.7593 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.7584 - accuracy:
0.8341
345/750 [=======>.....] - ETA: 0s - loss: 0.7572 - accuracy:
0.8351
431/750 [=========>...... - ETA: 0s - loss: 0.7575 - accuracy:
0.8345
515/750 [=========>.....] - ETA: 0s - loss: 0.7528 - accuracy:
0.8361
0.8371
750/750 [=============== ] - 1s 717us/step - loss: 0.7518 - accuracy:
0.8374 - val_loss: 0.7607 - val_accuracy: 0.8335
Epoch 44/220
1/750 [...... - ETA: 0s - loss: 0.5826 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.7472 - accuracy:
0.8403
174/750 [====>.....] - ETA: 0s - loss: 0.7455 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.7444 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.7461 - accuracy:
0.8419
432/750 [=========>.....] - ETA: 0s - loss: 0.7477 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.7479 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.7458 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.7483 - accuracy:
750/750 [============== ] - 1s 713us/step - loss: 0.7479 - accuracy:
0.8389 - val_loss: 0.7578 - val_accuracy: 0.8372
Epoch 45/220
1/750 [...... 0.6983 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.7256 - accuracy:
172/750 [=====>.....] - ETA: 0s - loss: 0.7303 - accuracy:
256/750 [======>.....] - ETA: 0s - loss: 0.7380 - accuracy:
```

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339/750 [========>.....] - ETA: 0s - loss: 0.7379 - accuracy:
0.8414
427/750 [=========>.....] - ETA: 0s - loss: 0.7398 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.7427 - accuracy:
0.8407
582/750 [===========>.....] - ETA: 0s - loss: 0.7451 - accuracy:
0.8395
671/750 [=============>....] - ETA: 0s - loss: 0.7439 - accuracy:
750/750 [============= ] - 1s 729us/step - loss: 0.7447 - accuracy:
0.8397 - val_loss: 0.7569 - val_accuracy: 0.8355
Epoch 46/220
 1/750 [.....] - ETA: 0s - loss: 0.9620 - accuracy:
85/750 [==>...... - accuracy:
0.8371
171/750 [====>.....] - ETA: 0s - loss: 0.7391 - accuracy:
258/750 [=======>..... - ETA: 0s - loss: 0.7397 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.7407 - accuracy:
0.8399
433/750 [=========>.....] - ETA: 0s - loss: 0.7405 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.7380 - accuracy:
0.8406
750/750 [=============== ] - 1s 710us/step - loss: 0.7414 - accuracy:
0.8412 - val loss: 0.7505 - val accuracy: 0.8369
Epoch 47/220
 1/750 [.....] - ETA: 0s - loss: 0.6522 - accuracy:
85/750 [==>...... - ETA: 0s - loss: 0.7310 - accuracy:
0.8417
173/750 [=====>......] - ETA: 0s - loss: 0.7375 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.7398 - accuracy:
0.8396
344/750 [=======>.....] - ETA: 0s - loss: 0.7380 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.7364 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.7358 - accuracy:
0.8414
```

```
605/750 [=============>.....] - ETA: 0s - loss: 0.7360 - accuracy:
0.8414
750/750 [=============== ] - 1s 712us/step - loss: 0.7377 - accuracy:
0.8420 - val_loss: 0.7489 - val_accuracy: 0.8366
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.9130 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.7165 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.7274 - accuracy:
0.8424
260/750 [======>..... - ETA: 0s - loss: 0.7317 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.7314 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.7348 - accuracy:
0.8426
519/750 [=========>.....] - ETA: 0s - loss: 0.7342 - accuracy:
690/750 [============>...] - ETA: 0s - loss: 0.7332 - accuracy:
0.8426
0.8425 - val loss: 0.7457 - val accuracy: 0.8399
Epoch 49/220
1/750 [.....] - ETA: 0s - loss: 0.7049 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.7335 - accuracy:
165/750 [====>.....] - ETA: 0s - loss: 0.7372 - accuracy:
0.8401
250/750 [======>.....] - ETA: 0s - loss: 0.7326 - accuracy:
334/750 [========>.....] - ETA: 0s - loss: 0.7315 - accuracy:
0.8438
419/750 [========>..... - ETA: 0s - loss: 0.7313 - accuracy:
503/750 [=========>.....] - ETA: 0s - loss: 0.7313 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.7324 - accuracy:
668/750 [=============>....] - ETA: 0s - loss: 0.7324 - accuracy:
```

```
750/750 [================ ] - 1s 737us/step - loss: 0.7314 - accuracy:
0.8442 - val loss: 0.7419 - val accuracy: 0.8410
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.6943 - accuracy:
0.8906
84/750 [==>.....] - ETA: 0s - loss: 0.7009 - accuracy:
0.8588
167/750 [====>...... - ETA: 0s - loss: 0.7074 - accuracy:
253/750 [=======>.....] - ETA: 0s - loss: 0.7165 - accuracy:
0.8491
336/750 [========>.....] - ETA: 0s - loss: 0.7245 - accuracy:
0.8471
420/750 [========>.....] - ETA: 0s - loss: 0.7250 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.7267 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.7273 - accuracy:
0.8462 - val_loss: 0.7396 - val_accuracy: 0.8417
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.6389 - accuracy:
0.8906
83/750 [==>.....] - ETA: 0s - loss: 0.7116 - accuracy:
0.8524
167/750 [====>...... - ETA: 0s - loss: 0.7192 - accuracy:
255/750 [=======>.....] - ETA: 0s - loss: 0.7201 - accuracy:
337/750 [========>.....] - ETA: 0s - loss: 0.7189 - accuracy:
422/750 [========>..... - ETA: 0s - loss: 0.7185 - accuracy:
509/750 [=========>....] - ETA: 0s - loss: 0.7202 - accuracy:
0.8490
593/750 [============>.....] - ETA: 0s - loss: 0.7232 - accuracy:
0.8465 - val loss: 0.7358 - val accuracy: 0.8410
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.8220 - accuracy:
0.7969
```

```
86/750 [==>...... - ETA: 0s - loss: 0.7254 - accuracy:
0.8476
172/750 [====>.....] - ETA: 0s - loss: 0.7303 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.7305 - accuracy:
0.8444
342/750 [========>.....] - ETA: 0s - loss: 0.7274 - accuracy:
426/750 [=========>..... - ETA: 0s - loss: 0.7263 - accuracy:
0.8465
512/750 [=========>.....] - ETA: 0s - loss: 0.7259 - accuracy:
0.8466
593/750 [============>.....] - ETA: 0s - loss: 0.7250 - accuracy:
750/750 [=============== ] - 1s 730us/step - loss: 0.7222 - accuracy:
0.8474 - val_loss: 0.7362 - val_accuracy: 0.8400
Epoch 53/220
 1/750 [...... - ETA: 0s - loss: 0.6122 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.7155 - accuracy:
0.8483
169/750 [====>.....] - ETA: 0s - loss: 0.7167 - accuracy:
256/750 [======>.....] - ETA: 0s - loss: 0.7194 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.7212 - accuracy:
0.8479
421/750 [========>.....] - ETA: 0s - loss: 0.7174 - accuracy:
507/750 [=========>.....] - ETA: 0s - loss: 0.7185 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.7183 - accuracy:
674/750 [=============>....] - ETA: 0s - loss: 0.7178 - accuracy:
0.8481
750/750 [============= ] - 1s 728us/step - loss: 0.7191 - accuracy:
0.8472 - val_loss: 0.7327 - val_accuracy: 0.8424
Epoch 54/220
 1/750 [........................] - ETA: 0s - loss: 0.8509 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.7016 - accuracy:
170/750 [=====>.....] - ETA: 0s - loss: 0.7116 - accuracy:
257/750 [======>.....] - ETA: 0s - loss: 0.7142 - accuracy:
```

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339/750 [========>.....] - ETA: 0s - loss: 0.7128 - accuracy:
0.8494
424/750 [========>.....] - ETA: 0s - loss: 0.7126 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.7172 - accuracy:
0.8486
592/750 [===========>.....] - ETA: 0s - loss: 0.7169 - accuracy:
0.8489
675/750 [============>...] - ETA: 0s - loss: 0.7158 - accuracy:
0.8494
750/750 [============= ] - 1s 730us/step - loss: 0.7162 - accuracy:
0.8486 - val_loss: 0.7291 - val_accuracy: 0.8427
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.6531 - accuracy:
87/750 [==>...... - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.7133 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.7150 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.7165 - accuracy:
429/750 [========>..... - ETA: 0s - loss: 0.7180 - accuracy:
0.8483
518/750 [=========>.....] - ETA: 0s - loss: 0.7164 - accuracy:
596/750 [=============>.....] - ETA: 0s - loss: 0.7169 - accuracy:
0.8487
0.8501 - val loss: 0.7305 - val accuracy: 0.8414
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.8084 - accuracy:
84/750 [==>....... - ETA: 0s - loss: 0.6895 - accuracy:
0.8584
167/750 [====>.....] - ETA: 0s - loss: 0.7009 - accuracy:
253/750 [======>..... - ETA: 0s - loss: 0.7103 - accuracy:
336/750 [=======>.....] - ETA: 0s - loss: 0.7150 - accuracy:
419/750 [========>..... - ETA: 0s - loss: 0.7123 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.7136 - accuracy:
```

```
584/750 [============>.....] - ETA: 0s - loss: 0.7129 - accuracy:
0.8496
750/750 [=============== ] - 1s 732us/step - loss: 0.7110 - accuracy:
0.8497 - val_loss: 0.7241 - val_accuracy: 0.8437
Epoch 57/220
1/750 [.....] - ETA: 0s - loss: 0.6393 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.7004 - accuracy:
0.8623
170/750 [====>.....] - ETA: 0s - loss: 0.7059 - accuracy:
258/750 [======>..... - ETA: 0s - loss: 0.7082 - accuracy:
0.8564
342/750 [========>.....] - ETA: 0s - loss: 0.7057 - accuracy:
429/750 [==========>.....] - ETA: 0s - loss: 0.7064 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.7074 - accuracy:
0.8541
685/750 [============>...] - ETA: 0s - loss: 0.7080 - accuracy:
0.8523 - val loss: 0.7241 - val accuracy: 0.8413
Epoch 58/220
1/750 [.....] - ETA: 0s - loss: 0.8729 - accuracy:
0.7969
83/750 [==>.....] - ETA: 0s - loss: 0.7109 - accuracy:
165/750 [====>.....] - ETA: 0s - loss: 0.7042 - accuracy:
250/750 [======>.....] - ETA: 0s - loss: 0.7097 - accuracy:
332/750 [========>.....] - ETA: 0s - loss: 0.7085 - accuracy:
0.8519
415/750 [========>..... - ETA: 0s - loss: 0.7072 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.7065 - accuracy:
0.8521
583/750 [============>.....] - ETA: 0s - loss: 0.7054 - accuracy:
0.8526
669/750 [============>....] - ETA: 0s - loss: 0.7048 - accuracy:
0.8528 - val_loss: 0.7204 - val_accuracy: 0.8457
```

```
1/750 [.....] - ETA: 0s - loss: 0.8179 - accuracy:
87/750 [==>...... - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.7191 - accuracy:
0.8501
256/750 [======>..... - ETA: 0s - loss: 0.7171 - accuracy:
0.8498
340/750 [========>......] - ETA: 0s - loss: 0.7084 - accuracy:
0.8526
425/750 [=========>.....] - ETA: 0s - loss: 0.7089 - accuracy:
511/750 [============>.....] - ETA: 0s - loss: 0.7053 - accuracy:
593/750 [=============>.....] - ETA: 0s - loss: 0.7043 - accuracy:
750/750 [================ ] - 1s 725us/step - loss: 0.7030 - accuracy:
0.8522 - val_loss: 0.7182 - val_accuracy: 0.8469
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.6801 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.6943 - accuracy:
167/750 [====>.....] - ETA: 0s - loss: 0.7020 - accuracy:
0.8539
248/750 [======>.....] - ETA: 0s - loss: 0.7098 - accuracy:
331/750 [=======>.....] - ETA: 0s - loss: 0.7016 - accuracy:
415/750 [========>.....] - ETA: 0s - loss: 0.6976 - accuracy:
503/750 [========>>.....] - ETA: 0s - loss: 0.6994 - accuracy:
588/750 [===========>.....] - ETA: 0s - loss: 0.6996 - accuracy:
0.8534
0.8528 - val loss: 0.7165 - val accuracy: 0.8459
Epoch 61/220
1/750 [.....] - ETA: 0s - loss: 0.6775 - accuracy:
0.8750
82/750 [==>.....] - ETA: 0s - loss: 0.6864 - accuracy:
```

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164/750 [====>...... - ETA: 0s - loss: 0.6922 - accuracy:
247/750 [======>.....] - ETA: 0s - loss: 0.6877 - accuracy:
0.8551
330/750 [=======>.....] - ETA: 0s - loss: 0.6939 - accuracy:
0.8536
415/750 [========>..... - ETA: 0s - loss: 0.6931 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.6938 - accuracy:
0.8542
588/750 [===========>.....] - ETA: 0s - loss: 0.6958 - accuracy:
674/750 [==============>....] - ETA: 0s - loss: 0.6974 - accuracy:
750/750 [================ ] - 1s 729us/step - loss: 0.6981 - accuracy:
0.8537 - val loss: 0.7144 - val accuracy: 0.8470
Epoch 62/220
1/750 [.....] - ETA: 0s - loss: 0.8190 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.6928 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.6960 - accuracy:
0.8534
256/750 [=======>.....] - ETA: 0s - loss: 0.6946 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 0.6921 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.6933 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.6905 - accuracy:
688/750 [============>...] - ETA: 0s - loss: 0.6943 - accuracy:
0.8540 - val_loss: 0.7115 - val_accuracy: 0.8465
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.5904 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6862 - accuracy:
0.8563
170/750 [====>...... - ETA: 0s - loss: 0.6902 - accuracy:
257/750 [=======>.....] - ETA: 0s - loss: 0.6913 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.6949 - accuracy:
```

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429/750 [=========>.....] - ETA: 0s - loss: 0.6954 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.6935 - accuracy:
0.8571
0.8561
750/750 [============== ] - 1s 721us/step - loss: 0.6933 - accuracy:
0.8556 - val loss: 0.7122 - val accuracy: 0.8467
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.5403 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.6827 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6903 - accuracy:
264/750 [=======>.....] - ETA: 0s - loss: 0.6899 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.6870 - accuracy:
0.8564
438/750 [=========>.....] - ETA: 0s - loss: 0.6883 - accuracy:
526/750 [=========>.....] - ETA: 0s - loss: 0.6893 - accuracy:
0.8563
0.8559
750/750 [=============== ] - 1s 710us/step - loss: 0.6908 - accuracy:
0.8556 - val_loss: 0.7082 - val_accuracy: 0.8496
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.5864 - accuracy:
0.9219
89/750 [==>.....] - ETA: 0s - loss: 0.6920 - accuracy:
0.8566
173/750 [====>.....] - ETA: 0s - loss: 0.6970 - accuracy:
0.8549
260/750 [=======>.....] - ETA: 0s - loss: 0.6959 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.6958 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.6934 - accuracy:
517/750 [===========>.....] - ETA: 0s - loss: 0.6900 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.6918 - accuracy:
```

```
688/750 [============>...] - ETA: 0s - loss: 0.6888 - accuracy:
750/750 [================ ] - 1s 716us/step - loss: 0.6882 - accuracy:
0.8570 - val loss: 0.7059 - val accuracy: 0.8497
Epoch 66/220
1/750 [.....] - ETA: 0s - loss: 0.7514 - accuracy:
0.8438
88/750 [==>.....] - ETA: 0s - loss: 0.7012 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.6968 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.6949 - accuracy:
0.8531
351/750 [========>.....] - ETA: 0s - loss: 0.6963 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.6914 - accuracy:
0.8547
526/750 [==========>.....] - ETA: 0s - loss: 0.6895 - accuracy:
610/750 [============>.....] - ETA: 0s - loss: 0.6879 - accuracy:
0.8577 - val loss: 0.7043 - val accuracy: 0.8485
Epoch 67/220
1/750 [................] - ETA: 0s - loss: 0.5281 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.6695 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.6739 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.6721 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.6807 - accuracy:
0.8596
429/750 [=========>.....] - ETA: 0s - loss: 0.6797 - accuracy:
0.8699
515/750 [=========>.....] - ETA: 0s - loss: 0.6794 - accuracy:
0.8601
600/750 [===========>.....] - ETA: 0s - loss: 0.6826 - accuracy:
0.8581 - val_loss: 0.7020 - val_accuracy: 0.8507
Epoch 68/220
```

```
1/750 [...... - ETA: 0s - loss: 0.6317 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.6940 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.7018 - accuracy:
0.8523
0.8551
339/750 [=======>.....] - ETA: 0s - loss: 0.6920 - accuracy:
0.8554
425/750 [=========>.....] - ETA: 0s - loss: 0.6878 - accuracy:
514/750 [===========>.....] - ETA: 0s - loss: 0.6856 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.6849 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 0.6832 - accuracy:
0.8577
0.8588 - val loss: 0.6999 - val accuracy: 0.8493
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.6478 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6831 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.6864 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.6824 - accuracy:
0.8596
347/750 [========>.....] - ETA: 0s - loss: 0.6762 - accuracy:
429/750 [========>.....] - ETA: 0s - loss: 0.6758 - accuracy:
0.8621
514/750 [=========>.....] - ETA: 0s - loss: 0.6765 - accuracy:
602/750 [===========>.....] - ETA: 0s - loss: 0.6773 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 0.6789 - accuracy:
0.8601
0.8596 - val loss: 0.6977 - val accuracy: 0.8501
Epoch 70/220
1/750 [.....] - ETA: 0s - loss: 0.6359 - accuracy:
87/750 [==>...... - accuracy:
172/750 [====>...... - ETA: 0s - loss: 0.6779 - accuracy:
0.8596
```

```
259/750 [=======>..... - ETA: 0s - loss: 0.6770 - accuracy:
0.8603
345/750 [========>.....] - ETA: 0s - loss: 0.6783 - accuracy:
429/750 [=========>..... - ETA: 0s - loss: 0.6786 - accuracy:
0.8589
516/750 [=========>.....] - ETA: 0s - loss: 0.6792 - accuracy:
0.8583
603/750 [===========>.....] - ETA: 0s - loss: 0.6768 - accuracy:
0.8596
689/750 [===========>...] - ETA: 0s - loss: 0.6785 - accuracy:
0.8591
0.8594 - val loss: 0.6984 - val accuracy: 0.8528
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.7544 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6859 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.6852 - accuracy:
0.8577
256/750 [=======>.....] - ETA: 0s - loss: 0.6853 - accuracy:
0.8588
426/750 [=========>.....] - ETA: 0s - loss: 0.6794 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.6777 - accuracy:
0.8611
598/750 [============>.....] - ETA: 0s - loss: 0.6776 - accuracy:
685/750 [===========>...] - ETA: 0s - loss: 0.6763 - accuracy:
0.8612 - val_loss: 0.6938 - val_accuracy: 0.8518
Epoch 72/220
1/750 [...... 0.6681 - accuracy:
0.8438
88/750 [==>.....] - ETA: 0s - loss: 0.6686 - accuracy:
177/750 [=====>.....] - ETA: 0s - loss: 0.6663 - accuracy:
0.8633
264/750 [======>..... - ETA: 0s - loss: 0.6670 - accuracy:
0.8616
351/750 [=======>.....] - ETA: 0s - loss: 0.6727 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.6720 - accuracy:
```

```
520/750 [===========>.....] - ETA: 0s - loss: 0.6724 - accuracy:
0.8616
0.8609 - val_loss: 0.6951 - val_accuracy: 0.8516
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.6461 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6753 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.6726 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.6695 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.6684 - accuracy:
0.8631
431/750 [=========>.....] - ETA: 0s - loss: 0.6721 - accuracy:
0.8617
513/750 [==========>.....] - ETA: 0s - loss: 0.6699 - accuracy:
598/750 [===========>.....] - ETA: 0s - loss: 0.6724 - accuracy:
0.8617
0.8616 - val_loss: 0.6894 - val_accuracy: 0.8549
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.6026 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.6605 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.6688 - accuracy:
0.8636
257/750 [======>.....] - ETA: 0s - loss: 0.6701 - accuracy:
0.8628
344/750 [========>.....] - ETA: 0s - loss: 0.6661 - accuracy:
432/750 [==========>.....] - ETA: 0s - loss: 0.6695 - accuracy:
0.8624
516/750 [===========>.....] - ETA: 0s - loss: 0.6671 - accuracy:
0.8633
602/750 [===========>.....] - ETA: 0s - loss: 0.6666 - accuracy:
```

```
0.8631 - val loss: 0.6901 - val accuracy: 0.8552
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.8959 - accuracy:
0.7969
85/750 [==>.....] - ETA: 0s - loss: 0.6689 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.6714 - accuracy:
0.8631
257/750 [=======>.....] - ETA: 0s - loss: 0.6744 - accuracy:
340/750 [========>.....] - ETA: 0s - loss: 0.6699 - accuracy:
0.8617
429/750 [==========>.....] - ETA: 0s - loss: 0.6689 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.6681 - accuracy:
599/750 [=============>.....] - ETA: 0s - loss: 0.6664 - accuracy:
684/750 [============>...] - ETA: 0s - loss: 0.6657 - accuracy:
0.8630 - val_loss: 0.6950 - val_accuracy: 0.8512
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.5554 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.6748 - accuracy:
0.8586
167/750 [====>...... - ETA: 0s - loss: 0.6634 - accuracy:
254/750 [=======>.....] - ETA: 0s - loss: 0.6636 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.6682 - accuracy:
425/750 [========>...... - ETA: 0s - loss: 0.6661 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.6653 - accuracy:
0.8638
593/750 [===========>.....] - ETA: 0s - loss: 0.6660 - accuracy:
0.8636 - val loss: 0.6855 - val accuracy: 0.8557
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.7200 - accuracy:
0.7969
```

```
80/750 [==>...... - ETA: 0s - loss: 0.6641 - accuracy:
0.8611
164/750 [====>.....] - ETA: 0s - loss: 0.6596 - accuracy:
250/750 [======>.....] - ETA: 0s - loss: 0.6598 - accuracy:
0.8654
334/750 [=======>.....] - ETA: 0s - loss: 0.6591 - accuracy:
0.8653
421/750 [========>..... - ETA: 0s - loss: 0.6574 - accuracy:
0.8658
504/750 [=========>.....] - ETA: 0s - loss: 0.6603 - accuracy:
0.8644
589/750 [============>.....] - ETA: 0s - loss: 0.6610 - accuracy:
0.8637 - val_loss: 0.6864 - val_accuracy: 0.8535
Epoch 78/220
1/750 [...... - ETA: 0s - loss: 0.7212 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.6617 - accuracy:
0.8666
169/750 [====>......] - ETA: 0s - loss: 0.6544 - accuracy:
0.8663
253/750 [=======>.....] - ETA: 0s - loss: 0.6558 - accuracy:
0.8646
338/750 [========>.....] - ETA: 0s - loss: 0.6593 - accuracy:
0.8644
426/750 [=========>.....] - ETA: 0s - loss: 0.6578 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.6605 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.6603 - accuracy:
0.8647
681/750 [============>...] - ETA: 0s - loss: 0.6608 - accuracy:
750/750 [============= ] - 1s 733us/step - loss: 0.6616 - accuracy:
0.8640 - val_loss: 0.6830 - val_accuracy: 0.8556
Epoch 79/220
 1/750 [........................] - ETA: 0s - loss: 0.6791 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6363 - accuracy:
174/750 [====>...... - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.6502 - accuracy:
0.8661
```

```
345/750 [========>.....] - ETA: 0s - loss: 0.6503 - accuracy:
0.8666
429/750 [=========>.....] - ETA: 0s - loss: 0.6556 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.6584 - accuracy:
0.8644
601/750 [===========>.....] - ETA: 0s - loss: 0.6599 - accuracy:
0.8643
686/750 [=============>...] - ETA: 0s - loss: 0.6601 - accuracy:
0.8643
750/750 [============= ] - 1s 728us/step - loss: 0.6601 - accuracy:
0.8645 - val_loss: 0.6804 - val_accuracy: 0.8562
Epoch 80/220
 1/750 [.....] - ETA: 0s - loss: 0.7689 - accuracy:
0.8281
85/750 [==>...... - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.6566 - accuracy:
255/750 [======>..... - ETA: 0s - loss: 0.6535 - accuracy:
0.8681
338/750 [========>.....] - ETA: 0s - loss: 0.6533 - accuracy:
0.8679
422/750 [========>.....] - ETA: 0s - loss: 0.6530 - accuracy:
0.8673
503/750 [=========>.....] - ETA: 0s - loss: 0.6554 - accuracy:
0.8664
590/750 [=============>.....] - ETA: 0s - loss: 0.6569 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.6568 - accuracy:
0.8661
0.8653 - val loss: 0.6804 - val accuracy: 0.8572
Epoch 81/220
 1/750 [.....] - ETA: 0s - loss: 0.6492 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.6670 - accuracy:
0.8675
176/750 [=====>.....] - ETA: 0s - loss: 0.6607 - accuracy:
0.8674
262/750 [======>..... - ETA: 0s - loss: 0.6638 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.6611 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.6604 - accuracy:
0.8646
525/750 [=========>.....] - ETA: 0s - loss: 0.6603 - accuracy:
```

```
750/750 [================ ] - 1s 710us/step - loss: 0.6564 - accuracy:
0.8655 - val_loss: 0.6783 - val_accuracy: 0.8564
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.4840 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.6386 - accuracy:
0.8709
176/750 [=====>.....] - ETA: 0s - loss: 0.6467 - accuracy:
0.8675
259/750 [======>..... - ETA: 0s - loss: 0.6479 - accuracy:
0.8678
345/750 [========>.....] - ETA: 0s - loss: 0.6481 - accuracy:
0.8684
430/750 [==========>.....] - ETA: 0s - loss: 0.6514 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.6497 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.6530 - accuracy:
0.8659 - val loss: 0.6766 - val accuracy: 0.8562
Epoch 83/220
1/750 [.....] - ETA: 0s - loss: 0.6481 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6426 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6580 - accuracy:
0.8646
258/750 [======>.....] - ETA: 0s - loss: 0.6558 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.6544 - accuracy:
0.8667
432/750 [=========>..... - ETA: 0s - loss: 0.6552 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.6542 - accuracy:
0.8683
691/750 [============>...] - ETA: 0s - loss: 0.6515 - accuracy:
0.8674
0.8676 - val_loss: 0.6758 - val_accuracy: 0.8580
```

```
1/750 [.....] - ETA: 0s - loss: 0.7051 - accuracy:
0.8281
86/750 [==>.....] - ETA: 0s - loss: 0.6492 - accuracy:
172/750 [=====>.....] - ETA: 0s - loss: 0.6562 - accuracy:
0.8657
258/750 [======>...... - ETA: 0s - loss: 0.6567 - accuracy:
0.8659
343/750 [========>......] - ETA: 0s - loss: 0.6591 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.6546 - accuracy:
514/750 [============>.....] - ETA: 0s - loss: 0.6513 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.6525 - accuracy:
750/750 [================ ] - 1s 721us/step - loss: 0.6510 - accuracy:
0.8667 - val_loss: 0.6756 - val_accuracy: 0.8568
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.6977 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.6366 - accuracy:
170/750 [=====>.....] - ETA: 0s - loss: 0.6413 - accuracy:
0.8721
256/750 [=======>.....] - ETA: 0s - loss: 0.6413 - accuracy:
0.8704
342/750 [========>.....] - ETA: 0s - loss: 0.6425 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.6458 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.6469 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.6482 - accuracy:
0.8666
0.8664
0.8669 - val loss: 0.6727 - val accuracy: 0.8594
Epoch 86/220
1/750 [...... - 6.605 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.6511 - accuracy:
0.8694
```

```
168/750 [====>...... - ETA: 0s - loss: 0.6494 - accuracy:
0.8677
252/750 [=======>.....] - ETA: 0s - loss: 0.6453 - accuracy:
0.8689
332/750 [========>.....] - ETA: 0s - loss: 0.6455 - accuracy:
418/750 [========>..... - ETA: 0s - loss: 0.6485 - accuracy:
0.8675
502/750 [=========>.....] - ETA: 0s - loss: 0.6453 - accuracy:
0.8680
586/750 [===========>.....] - ETA: 0s - loss: 0.6459 - accuracy:
0.8679
667/750 [=============>....] - ETA: 0s - loss: 0.6464 - accuracy:
0.8676
0.8675 - val_loss: 0.6724 - val_accuracy: 0.8582
Epoch 87/220
1/750 [.....] - ETA: 0s - loss: 0.6549 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.6404 - accuracy:
0.8703
167/750 [====>.....] - ETA: 0s - loss: 0.6468 - accuracy:
252/750 [=======>.....] - ETA: 0s - loss: 0.6501 - accuracy:
335/750 [========>.....] - ETA: 0s - loss: 0.6453 - accuracy:
420/750 [========>.....] - ETA: 0s - loss: 0.6455 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.6457 - accuracy:
0.8677
591/750 [===========>.....] - ETA: 0s - loss: 0.6460 - accuracy:
678/750 [============>...] - ETA: 0s - loss: 0.6456 - accuracy:
0.8677
750/750 [============= ] - 1s 729us/step - loss: 0.6454 - accuracy:
0.8678 - val_loss: 0.6698 - val_accuracy: 0.8585
Epoch 88/220
1/750 [...... 0.7096 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.6501 - accuracy:
0.8631
165/750 [=====>.....] - ETA: 0s - loss: 0.6479 - accuracy:
249/750 [======>.....] - ETA: 0s - loss: 0.6505 - accuracy:
0.8654
```

```
332/750 [========>.....] - ETA: 0s - loss: 0.6480 - accuracy:
0.8653
419/750 [========>.....] - ETA: 0s - loss: 0.6440 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.6457 - accuracy:
0.8674
586/750 [===========>.....] - ETA: 0s - loss: 0.6443 - accuracy:
0.8681
673/750 [=============>....] - ETA: 0s - loss: 0.6432 - accuracy:
0.8686
750/750 [============= ] - 1s 729us/step - loss: 0.6440 - accuracy:
0.8684 - val_loss: 0.6693 - val_accuracy: 0.8577
Epoch 89/220
 1/750 [.....] - ETA: 0s - loss: 0.5761 - accuracy:
83/750 [==>...... - ETA: 0s - loss: 0.6509 - accuracy:
167/750 [====>.....] - ETA: 0s - loss: 0.6528 - accuracy:
254/750 [======>..... - ETA: 0s - loss: 0.6480 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.6485 - accuracy:
425/750 [========>.....] - ETA: 0s - loss: 0.6478 - accuracy:
0.8676
508/750 [=========>.....] - ETA: 0s - loss: 0.6467 - accuracy:
0.8689
593/750 [=============>.....] - ETA: 0s - loss: 0.6445 - accuracy:
674/750 [==============>....] - ETA: 0s - loss: 0.6437 - accuracy:
0.8690 - val loss: 0.6669 - val accuracy: 0.8600
Epoch 90/220
 1/750 [.....] - ETA: 0s - loss: 0.5160 - accuracy:
0.8906
84/750 [==>...... - ETA: 0s - loss: 0.6407 - accuracy:
0.8677
169/750 [=====>.....] - ETA: 0s - loss: 0.6393 - accuracy:
256/750 [======>..... - ETA: 0s - loss: 0.6418 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.6407 - accuracy:
0.8679
425/750 [========>.....] - ETA: 0s - loss: 0.6420 - accuracy:
0.8684
510/750 [=========>.....] - ETA: 0s - loss: 0.6437 - accuracy:
```

```
594/750 [===========>.....] - ETA: 0s - loss: 0.6441 - accuracy:
0.8680
0.8687
750/750 [================ ] - 1s 730us/step - loss: 0.6408 - accuracy:
0.8690 - val_loss: 0.6700 - val_accuracy: 0.8568
Epoch 91/220
1/750 [.....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8906
89/750 [==>.....] - ETA: 0s - loss: 0.6332 - accuracy:
0.8724
175/750 [=====>.....] - ETA: 0s - loss: 0.6426 - accuracy:
0.8689
263/750 [======>..... - ETA: 0s - loss: 0.6460 - accuracy:
0.8680
347/750 [========>.....] - ETA: 0s - loss: 0.6450 - accuracy:
0.8677
434/750 [==========>.....] - ETA: 0s - loss: 0.6446 - accuracy:
0.8674
521/750 [=========>.....] - ETA: 0s - loss: 0.6420 - accuracy:
0.8683
689/750 [=============>...] - ETA: 0s - loss: 0.6420 - accuracy:
0.8698 - val loss: 0.6658 - val accuracy: 0.8607
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.6263 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6337 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.6390 - accuracy:
263/750 [======>..... - ETA: 0s - loss: 0.6317 - accuracy:
0.8758
349/750 [========>.....] - ETA: 0s - loss: 0.6335 - accuracy:
0.8731
434/750 [=========>..... - ETA: 0s - loss: 0.6353 - accuracy:
522/750 [===========>.....] - ETA: 0s - loss: 0.6343 - accuracy:
0.8721
693/750 [============>...] - ETA: 0s - loss: 0.6355 - accuracy:
0.8711
0.8706 - val_loss: 0.6645 - val_accuracy: 0.8606
```

```
1/750 [.....] - ETA: 0s - loss: 0.7559 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6271 - accuracy:
0.8739
176/750 [=====>.....] - ETA: 0s - loss: 0.6394 - accuracy:
0.8708
262/750 [======>..... - ETA: 0s - loss: 0.6387 - accuracy:
0.8701
348/750 [========>......] - ETA: 0s - loss: 0.6399 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.6369 - accuracy:
521/750 [============>.....] - ETA: 0s - loss: 0.6390 - accuracy:
0.8701
750/750 [================ ] - 1s 714us/step - loss: 0.6357 - accuracy:
0.8707 - val_loss: 0.6630 - val_accuracy: 0.8628
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.6481 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6401 - accuracy:
0.8763
174/750 [=====>.....] - ETA: 0s - loss: 0.6377 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.6371 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.6363 - accuracy:
0.8731
433/750 [=========>.....] - ETA: 0s - loss: 0.6358 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.6361 - accuracy:
588/750 [===========>.....] - ETA: 0s - loss: 0.6346 - accuracy:
0.8714 - val loss: 0.6620 - val accuracy: 0.8608
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.7182 - accuracy:
0.8281
83/750 [==>.....] - ETA: 0s - loss: 0.6302 - accuracy:
```

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170/750 [====>...... - ETA: 0s - loss: 0.6196 - accuracy:
0.8747
257/750 [=======>.....] - ETA: 0s - loss: 0.6221 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.6278 - accuracy:
426/750 [========>.....] - ETA: 0s - loss: 0.6269 - accuracy:
0.8729
511/750 [=========>.....] - ETA: 0s - loss: 0.6302 - accuracy:
0.8721
596/750 [===========>.....] - ETA: 0s - loss: 0.6309 - accuracy:
0.8717
0.8715
0.8712 - val loss: 0.6608 - val accuracy: 0.8607
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.6255 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.6134 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.6262 - accuracy:
0.8726
262/750 [=======>.....] - ETA: 0s - loss: 0.6305 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6341 - accuracy:
0.8709
432/750 [==========>.....] - ETA: 0s - loss: 0.6318 - accuracy:
0.8709
521/750 [==========>.....] - ETA: 0s - loss: 0.6303 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.6306 - accuracy:
0.8721
693/750 [============>...] - ETA: 0s - loss: 0.6301 - accuracy:
0.8714 - val_loss: 0.6584 - val_accuracy: 0.8608
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.5032 - accuracy:
0.9062
88/750 [==>.....] - ETA: 0s - loss: 0.6343 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.6285 - accuracy:
0.8727
260/750 [=======>.....] - ETA: 0s - loss: 0.6306 - accuracy:
0.8721
344/750 [=======>.....] - ETA: 0s - loss: 0.6347 - accuracy:
0.8701
```

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429/750 [=========>.....] - ETA: 0s - loss: 0.6340 - accuracy:
0.8708
516/750 [===========>.....] - ETA: 0s - loss: 0.6333 - accuracy:
0.8717
750/750 [============== ] - 1s 716us/step - loss: 0.6300 - accuracy:
0.8716 - val loss: 0.6569 - val accuracy: 0.8647
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.4965 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.6225 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.6230 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.6299 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.6288 - accuracy:
0.8709
429/750 [=========>.....] - ETA: 0s - loss: 0.6294 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.6285 - accuracy:
0.8713
750/750 [=============== ] - 1s 716us/step - loss: 0.6282 - accuracy:
0.8719 - val_loss: 0.6562 - val_accuracy: 0.8645
Epoch 99/220
1/750 [.....] - ETA: 0s - loss: 0.7643 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.6201 - accuracy:
0.8748
175/750 [=====>.....] - ETA: 0s - loss: 0.6193 - accuracy:
0.8731
259/750 [=======>.....] - ETA: 0s - loss: 0.6254 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.6309 - accuracy:
0.8709
429/750 [=========>.....] - ETA: 0s - loss: 0.6265 - accuracy:
0.8734
515/750 [=========>.....] - ETA: 0s - loss: 0.6270 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.6279 - accuracy:
0.8729
```

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689/750 [============>...] - ETA: 0s - loss: 0.6267 - accuracy:
0.8733
750/750 [================ ] - 1s 717us/step - loss: 0.6269 - accuracy:
0.8730 - val loss: 0.6623 - val accuracy: 0.8614
Epoch 100/220
 1/750 [.....] - ETA: 0s - loss: 0.6093 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.6070 - accuracy:
0.8801
172/750 [====>.....] - ETA: 0s - loss: 0.6128 - accuracy:
0.8767
254/750 [======>.....] - ETA: 0s - loss: 0.6179 - accuracy:
0.8738
340/750 [=======>.....] - ETA: 0s - loss: 0.6189 - accuracy:
0.8746
425/750 [=========>.....] - ETA: 0s - loss: 0.6239 - accuracy:
0.8731
513/750 [===========>.....] - ETA: 0s - loss: 0.6232 - accuracy:
0.8736
601/750 [===========>.....] - ETA: 0s - loss: 0.6223 - accuracy:
750/750 [=============== ] - 1s 720us/step - loss: 0.6251 - accuracy:
0.8729 - val loss: 0.6543 - val accuracy: 0.8634
Epoch 101/220
 1/750 [................] - ETA: 0s - loss: 0.5588 - accuracy:
0.9219
86/750 [==>.....] - ETA: 0s - loss: 0.6178 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.6215 - accuracy:
0.8746
258/750 [=======>.....] - ETA: 0s - loss: 0.6252 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.6270 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.6282 - accuracy:
0.8729
515/750 [=========>.....] - ETA: 0s - loss: 0.6264 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.6254 - accuracy:
689/750 [============>...] - ETA: 0s - loss: 0.6249 - accuracy:
0.8734
750/750 [=============== ] - 1s 717us/step - loss: 0.6238 - accuracy:
0.8741 - val_loss: 0.6533 - val_accuracy: 0.8642
Epoch 102/220
```

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1/750 [...... - ETA: 0s - loss: 0.4786 - accuracy:
0.9375
88/750 [==>.....] - ETA: 0s - loss: 0.6166 - accuracy:
175/750 [=====>.....] - ETA: 0s - loss: 0.6162 - accuracy:
0.8766
262/750 [======>.....] - ETA: 0s - loss: 0.6229 - accuracy:
0.8743
349/750 [=======>.....] - ETA: 0s - loss: 0.6216 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.6228 - accuracy:
0.8743
518/750 [===========>.....] - ETA: 0s - loss: 0.6240 - accuracy:
695/750 [===========>...] - ETA: 0s - loss: 0.6227 - accuracy:
0.8740 - val loss: 0.6526 - val accuracy: 0.8629
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.6865 - accuracy:
0.7969
85/750 [==>.....] - ETA: 0s - loss: 0.6100 - accuracy:
0.8783
172/750 [====>.....] - ETA: 0s - loss: 0.6124 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.6163 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.6152 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.6176 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.6167 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.6163 - accuracy:
0.8763
693/750 [============>...] - ETA: 0s - loss: 0.6198 - accuracy:
0.8751
750/750 [================ ] - 1s 713us/step - loss: 0.6207 - accuracy:
0.8745 - val_loss: 0.6510 - val_accuracy: 0.8649
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.5740 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6032 - accuracy:
0.8793
173/750 [====>...... - ETA: 0s - loss: 0.6263 - accuracy:
```

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261/750 [=======>.....] - ETA: 0s - loss: 0.6261 - accuracy:
0.8708
347/750 [========>.....] - ETA: 0s - loss: 0.6210 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.6205 - accuracy:
0.8740
522/750 [=========>.....] - ETA: 0s - loss: 0.6179 - accuracy:
0.8746
609/750 [===========>.....] - ETA: 0s - loss: 0.6194 - accuracy:
0.8743
696/750 [===========>...] - ETA: 0s - loss: 0.6191 - accuracy:
0.8743 - val loss: 0.6535 - val accuracy: 0.8635
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.5339 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.6132 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.6087 - accuracy:
0.8807
255/750 [=======>.....] - ETA: 0s - loss: 0.6118 - accuracy:
0.8787
337/750 [========>.....] - ETA: 0s - loss: 0.6196 - accuracy:
421/750 [========>.....] - ETA: 0s - loss: 0.6182 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.6179 - accuracy:
0.8757
594/750 [============>.....] - ETA: 0s - loss: 0.6192 - accuracy:
683/750 [============>...] - ETA: 0s - loss: 0.6188 - accuracy:
0.8749 - val_loss: 0.6503 - val_accuracy: 0.8631
Epoch 106/220
 1/750 [...... 0.6035 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6100 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.6163 - accuracy:
0.8739
258/750 [=======>..... - ETA: 0s - loss: 0.6153 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.6182 - accuracy:
428/750 [=========>..... - ETA: 0s - loss: 0.6240 - accuracy:
0.8723
```

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509/750 [===========>.....] - ETA: 0s - loss: 0.6208 - accuracy:
0.8736
591/750 [============>.....] - ETA: 0s - loss: 0.6183 - accuracy:
0.8755 - val_loss: 0.6454 - val_accuracy: 0.8664
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.5934 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.6407 - accuracy:
0.8646
171/750 [====>...... - ETA: 0s - loss: 0.6282 - accuracy:
0.8716
256/750 [=======>.....] - ETA: 0s - loss: 0.6211 - accuracy:
337/750 [========>.....] - ETA: 0s - loss: 0.6196 - accuracy:
0.8763
423/750 [========>..... - ETA: 0s - loss: 0.6212 - accuracy:
0.8751
506/750 [==========>.....] - ETA: 0s - loss: 0.6199 - accuracy:
591/750 [===========>.....] - ETA: 0s - loss: 0.6161 - accuracy:
0.8761
679/750 [============>...] - ETA: 0s - loss: 0.6162 - accuracy:
0.8760
750/750 [================ ] - 1s 722us/step - loss: 0.6154 - accuracy:
0.8761 - val_loss: 0.6468 - val_accuracy: 0.8660
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.5380 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.6228 - accuracy:
163/750 [====>...... - ETA: 0s - loss: 0.6186 - accuracy:
244/750 [======>.....] - ETA: 0s - loss: 0.6132 - accuracy:
0.8765
320/750 [=======>.....] - ETA: 0s - loss: 0.6124 - accuracy:
0.8763
404/750 [========>..... - ETA: 0s - loss: 0.6125 - accuracy:
490/750 [==========>.....] - ETA: 0s - loss: 0.6163 - accuracy:
0.8746
577/750 [===========>.....] - ETA: 0s - loss: 0.6160 - accuracy:
0.8748
```

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750/750 [============ ] - ETA: 0s - loss: 0.6135 - accuracy:
0.8766
0.8766 - val loss: 0.6464 - val accuracy: 0.8641
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.7366 - accuracy:
0.8281
86/750 [==>.....] - ETA: 0s - loss: 0.6090 - accuracy:
0.8770
170/750 [=====>.....] - ETA: 0s - loss: 0.6093 - accuracy:
0.8778
257/750 [======>.....] - ETA: 0s - loss: 0.6058 - accuracy:
0.8794
341/750 [=======>.....] - ETA: 0s - loss: 0.6095 - accuracy:
0.8785
429/750 [=========>.....] - ETA: 0s - loss: 0.6133 - accuracy:
516/750 [===========>.....] - ETA: 0s - loss: 0.6121 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.6111 - accuracy:
0.8764
750/750 [=============== ] - 1s 713us/step - loss: 0.6123 - accuracy:
0.8764 - val loss: 0.6448 - val accuracy: 0.8652
Epoch 110/220
 1/750 [................] - ETA: 0s - loss: 0.5265 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5991 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.6132 - accuracy:
0.8768
256/750 [=======>.....] - ETA: 0s - loss: 0.6135 - accuracy:
330/750 [=======>.....] - ETA: 0s - loss: 0.6110 - accuracy:
0.8785
409/750 [========>....] - ETA: 0s - loss: 0.6138 - accuracy:
0.8775
490/750 [=========>...... - ETA: 0s - loss: 0.6114 - accuracy:
0.8771
570/750 [==========>.....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8777
0.8771
750/750 [================ ] - 1s 736us/step - loss: 0.6110 - accuracy:
0.8770 - val_loss: 0.6517 - val_accuracy: 0.8611
```

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1/750 [.....] - ETA: 0s - loss: 0.6786 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.6157 - accuracy:
0.8741
173/750 [=====>.....] - ETA: 0s - loss: 0.6073 - accuracy:
0.8764
258/750 [=======>..... - ETA: 0s - loss: 0.6100 - accuracy:
0.8773
344/750 [========>......] - ETA: 0s - loss: 0.6109 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.6093 - accuracy:
0.8772
515/750 [============>.....] - ETA: 0s - loss: 0.6091 - accuracy:
0.8766
750/750 [================ ] - 1s 721us/step - loss: 0.6098 - accuracy:
0.8763 - val_loss: 0.6438 - val_accuracy: 0.8676
Epoch 112/220
1/750 [.....] - ETA: 0s - loss: 0.6692 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.6205 - accuracy:
0.8726
167/750 [====>.....] - ETA: 0s - loss: 0.6095 - accuracy:
0.8760
251/750 [=======>.....] - ETA: 0s - loss: 0.6138 - accuracy:
332/750 [========>.....] - ETA: 0s - loss: 0.6125 - accuracy:
410/750 [========>.....] - ETA: 0s - loss: 0.6133 - accuracy:
492/750 [=========>.....] - ETA: 0s - loss: 0.6132 - accuracy:
568/750 [==========>.....] - ETA: 0s - loss: 0.6115 - accuracy:
0.8760
0.8770 - val loss: 0.6399 - val accuracy: 0.8666
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.5573 - accuracy:
0.8594
```

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89/750 [==>...... - ETA: 0s - loss: 0.6172 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.6101 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.6133 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.6081 - accuracy:
0.8786
432/750 [=========>..... - ETA: 0s - loss: 0.6070 - accuracy:
0.8791
519/750 [=========>.....] - ETA: 0s - loss: 0.6067 - accuracy:
0.8776
0.8783
750/750 [================ ] - 1s 714us/step - loss: 0.6069 - accuracy:
0.8779 - val loss: 0.6434 - val_accuracy: 0.8624
Epoch 114/220
1/750 [...... - ETA: 0s - loss: 0.4821 - accuracy:
0.9688
85/750 [==>.....] - ETA: 0s - loss: 0.6006 - accuracy:
0.8869
167/750 [====>.....] - ETA: 0s - loss: 0.6090 - accuracy:
253/750 [=======>.....] - ETA: 0s - loss: 0.6062 - accuracy:
0.8896
341/750 [========>.....] - ETA: 0s - loss: 0.6049 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.6065 - accuracy:
514/750 [============>.....] - ETA: 0s - loss: 0.6070 - accuracy:
593/750 [===========>.....] - ETA: 0s - loss: 0.6073 - accuracy:
672/750 [=============>....] - ETA: 0s - loss: 0.6070 - accuracy:
750/750 [============== ] - 1s 734us/step - loss: 0.6060 - accuracy:
0.8785 - val_loss: 0.6399 - val_accuracy: 0.8668
Epoch 115/220
1/750 [...... 0.6277 - accuracy:
82/750 [==>.....] - ETA: 0s - loss: 0.5919 - accuracy:
0.8874
169/750 [=====>.....] - ETA: 0s - loss: 0.5998 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.5939 - accuracy:
0.8829
```

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342/750 [========>.....] - ETA: 0s - loss: 0.5988 - accuracy:
0.8813
429/750 [=========>.....] - ETA: 0s - loss: 0.6011 - accuracy:
517/750 [=========>.....] - ETA: 0s - loss: 0.6024 - accuracy:
0.8798
602/750 [===========>.....] - ETA: 0s - loss: 0.6035 - accuracy:
0.8793
688/750 [=============>...] - ETA: 0s - loss: 0.6057 - accuracy:
0.8782
750/750 [============= ] - 1s 718us/step - loss: 0.6046 - accuracy:
0.8783 - val_loss: 0.6414 - val_accuracy: 0.8641
Epoch 116/220
 1/750 [.....] - ETA: 0s - loss: 0.7015 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5965 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.5977 - accuracy:
257/750 [======>..... - ETA: 0s - loss: 0.6017 - accuracy:
0.8796
343/750 [========>.....] - ETA: 0s - loss: 0.6023 - accuracy:
429/750 [========>..... - ETA: 0s - loss: 0.6014 - accuracy:
0.8789
516/750 [=========>.....] - ETA: 0s - loss: 0.6037 - accuracy:
598/750 [=============>.....] - ETA: 0s - loss: 0.6036 - accuracy:
0.8789
0.8791 - val loss: 0.6361 - val accuracy: 0.8685
Epoch 117/220
 1/750 [.....] - ETA: 0s - loss: 0.6527 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.6007 - accuracy:
0.8814
170/750 [=====>.....] - ETA: 0s - loss: 0.5995 - accuracy:
0.8807
258/750 [======>..... - ETA: 0s - loss: 0.5965 - accuracy:
0.8817
341/750 [=======>.....] - ETA: 0s - loss: 0.6009 - accuracy:
0.8794
427/750 [=========>.....] - ETA: 0s - loss: 0.6020 - accuracy:
0.8796
514/750 [=========>.....] - ETA: 0s - loss: 0.6011 - accuracy:
0.8793
```

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594/750 [===========>.....] - ETA: 0s - loss: 0.6009 - accuracy:
0.8795
0.8795
750/750 [================ ] - 1s 725us/step - loss: 0.6019 - accuracy:
0.8795 - val_loss: 0.6418 - val_accuracy: 0.8652
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.6434 - accuracy:
83/750 [==>.....] - ETA: 0s - loss: 0.6080 - accuracy:
0.8780
170/750 [====>.....] - ETA: 0s - loss: 0.6043 - accuracy:
256/750 [======>..... - ETA: 0s - loss: 0.6038 - accuracy:
0.8790
339/750 [========>.....] - ETA: 0s - loss: 0.6047 - accuracy:
0.8779
425/750 [==========>.....] - ETA: 0s - loss: 0.6033 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.6023 - accuracy:
597/750 [============>.....] - ETA: 0s - loss: 0.6016 - accuracy:
0.8797
683/750 [============>...] - ETA: 0s - loss: 0.6022 - accuracy:
0.8793
0.8796 - val loss: 0.6450 - val accuracy: 0.8636
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.4357 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5942 - accuracy:
0.8864
169/750 [====>.....] - ETA: 0s - loss: 0.5970 - accuracy:
254/750 [======>.....] - ETA: 0s - loss: 0.5978 - accuracy:
0.8894
337/750 [========>.....] - ETA: 0s - loss: 0.5982 - accuracy:
0.8807
419/750 [========>..... - ETA: 0s - loss: 0.6000 - accuracy:
505/750 [========>.....] - ETA: 0s - loss: 0.5986 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.5996 - accuracy:
669/750 [============>....] - ETA: 0s - loss: 0.5981 - accuracy:
0.8802 - val_loss: 0.6351 - val_accuracy: 0.8669
```

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1/750 [.....] - ETA: 0s - loss: 0.7132 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.6012 - accuracy:
0.8779
170/750 [====>...... - ETA: 0s - loss: 0.6001 - accuracy:
0.8787
254/750 [======>...... - ETA: 0s - loss: 0.5996 - accuracy:
339/750 [========>.....] - ETA: 0s - loss: 0.5992 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.5983 - accuracy:
514/750 [============>.....] - ETA: 0s - loss: 0.5995 - accuracy:
750/750 [================ ] - 1s 716us/step - loss: 0.5980 - accuracy:
0.8805 - val_loss: 0.6394 - val_accuracy: 0.8652
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.6495 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5949 - accuracy:
0.8894
174/750 [=====>.....] - ETA: 0s - loss: 0.5947 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.5971 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.5974 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5964 - accuracy:
519/750 [========>:....] - ETA: 0s - loss: 0.5957 - accuracy:
605/750 [==========>.....] - ETA: 0s - loss: 0.5953 - accuracy:
0.8807
0.8806 - val loss: 0.6335 - val accuracy: 0.8678
Epoch 122/220
1/750 [...... 0.6425 - accuracy:
0.8750
88/750 [==>.....] - ETA: 0s - loss: 0.5964 - accuracy:
0.8798
```

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174/750 [====>...... - ETA: 0s - loss: 0.5904 - accuracy:
0.8854
260/750 [=======>.....] - ETA: 0s - loss: 0.5937 - accuracy:
0.8831
345/750 [=======>.....] - ETA: 0s - loss: 0.5968 - accuracy:
0.8820
429/750 [========>.....] - ETA: 0s - loss: 0.5933 - accuracy:
0.8813
517/750 [=========>.....] - ETA: 0s - loss: 0.5973 - accuracy:
0.8798
599/750 [===========>.....] - ETA: 0s - loss: 0.5965 - accuracy:
0.8807 - val loss: 0.6313 - val accuracy: 0.8690
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.8494 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5930 - accuracy:
0.8801
166/750 [=====>.....] - ETA: 0s - loss: 0.5963 - accuracy:
0.8829
251/750 [=======>.....] - ETA: 0s - loss: 0.5999 - accuracy:
333/750 [========>.....] - ETA: 0s - loss: 0.6005 - accuracy:
413/750 [=========>...... - ETA: 0s - loss: 0.5991 - accuracy:
0.8799
500/750 [==========>.....] - ETA: 0s - loss: 0.5977 - accuracy:
584/750 [=============>.....] - ETA: 0s - loss: 0.5942 - accuracy:
0.8814
666/750 [============>....] - ETA: 0s - loss: 0.5950 - accuracy:
748/750 [==============>.] - ETA: 0s - loss: 0.5941 - accuracy:
750/750 [============== ] - 1s 741us/step - loss: 0.5942 - accuracy:
0.8811 - val_loss: 0.6310 - val_accuracy: 0.8672
Epoch 124/220
1/750 [...... 0.5985 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5873 - accuracy:
170/750 [=====>.....] - ETA: 0s - loss: 0.5965 - accuracy:
259/750 [======>..... - ETA: 0s - loss: 0.5916 - accuracy:
0.8801
```

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343/750 [========>.....] - ETA: 0s - loss: 0.5948 - accuracy:
0.8788
428/750 [=========>.....] - ETA: 0s - loss: 0.5930 - accuracy:
0.8811
516/750 [=========>.....] - ETA: 0s - loss: 0.5923 - accuracy:
0.8818
601/750 [===========>.....] - ETA: 0s - loss: 0.5913 - accuracy:
0.8820
686/750 [============>...] - ETA: 0s - loss: 0.5929 - accuracy:
0.8818
750/750 [============= ] - 1s 721us/step - loss: 0.5928 - accuracy:
0.8815 - val_loss: 0.6309 - val_accuracy: 0.8680
Epoch 125/220
 1/750 [.....] - ETA: 0s - loss: 0.4315 - accuracy:
0.9531
84/750 [==>...... - ETA: 0s - loss: 0.5861 - accuracy:
0.8884
169/750 [====>.....] - ETA: 0s - loss: 0.5895 - accuracy:
252/750 [======>..... - ETA: 0s - loss: 0.5955 - accuracy:
0.8824
336/750 [========>.....] - ETA: 0s - loss: 0.5900 - accuracy:
420/750 [========>.....] - ETA: 0s - loss: 0.5888 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.5911 - accuracy:
589/750 [=============>.....] - ETA: 0s - loss: 0.5895 - accuracy:
0.8826
0.8819 - val loss: 0.6281 - val accuracy: 0.8692
Epoch 126/220
 1/750 [.....] - ETA: 0s - loss: 0.6467 - accuracy:
0.8281
88/750 [==>.....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8816
173/750 [=====>.....] - ETA: 0s - loss: 0.5907 - accuracy:
0.8816
260/750 [======>..... - ETA: 0s - loss: 0.5895 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.5928 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.5947 - accuracy:
0.8799
512/750 [=========>.....] - ETA: 0s - loss: 0.5923 - accuracy:
0.8807
```

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596/750 [===========>.....] - ETA: 0s - loss: 0.5911 - accuracy:
0.8815
750/750 [================ ] - 1s 728us/step - loss: 0.5903 - accuracy:
0.8813 - val_loss: 0.6282 - val_accuracy: 0.8692
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.5920 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5856 - accuracy:
0.8856
169/750 [====>.....] - ETA: 0s - loss: 0.5845 - accuracy:
249/750 [======>.....] - ETA: 0s - loss: 0.5893 - accuracy:
0.8833
333/750 [========>.....] - ETA: 0s - loss: 0.5855 - accuracy:
417/750 [=========>................] - ETA: 0s - loss: 0.5853 - accuracy:
0.8847
504/750 [=========>.....] - ETA: 0s - loss: 0.5858 - accuracy:
587/750 [============>.....] - ETA: 0s - loss: 0.5855 - accuracy:
0.8834
0.8822 - val loss: 0.6268 - val accuracy: 0.8703
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.6401 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5788 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.5977 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.5985 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.5958 - accuracy:
0.8899
428/750 [=========>..... - ETA: 0s - loss: 0.5907 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.5912 - accuracy:
599/750 [============>.....] - ETA: 0s - loss: 0.5911 - accuracy:
0.8814
684/750 [============>...] - ETA: 0s - loss: 0.5893 - accuracy:
0.8826
0.8828 - val_loss: 0.6273 - val_accuracy: 0.8669
```

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1/750 [.....] - ETA: 0s - loss: 0.6733 - accuracy:
0.8594
87/750 [==>.....] - ETA: 0s - loss: 0.5797 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.5897 - accuracy:
0.8821
255/750 [======>...... - ETA: 0s - loss: 0.5858 - accuracy:
0.8845
323/750 [=======>.....] - ETA: 0s - loss: 0.5883 - accuracy:
0.8824
410/750 [========>.....] - ETA: 0s - loss: 0.5859 - accuracy:
496/750 [==========>.....] - ETA: 0s - loss: 0.5840 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.5837 - accuracy:
0.8837
665/750 [==============>....] - ETA: 0s - loss: 0.5861 - accuracy:
0.8831
0.8829
0.8829 - val_loss: 0.6262 - val_accuracy: 0.8669
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.6904 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.5726 - accuracy:
0.8870
168/750 [=====>.....] - ETA: 0s - loss: 0.5770 - accuracy:
253/750 [======>..... - ETA: 0s - loss: 0.5766 - accuracy:
0.8864
337/750 [========>.....] - ETA: 0s - loss: 0.5783 - accuracy:
0.8869
422/750 [========>.....] - ETA: 0s - loss: 0.5836 - accuracy:
0.8848
505/750 [=========>.....] - ETA: 0s - loss: 0.5815 - accuracy:
0.8856
589/750 [============>.....] - ETA: 0s - loss: 0.5840 - accuracy:
671/750 [============>....] - ETA: 0s - loss: 0.5853 - accuracy:
0.8832 - val loss: 0.6307 - val accuracy: 0.8675
Epoch 131/220
1/750 [.....] - ETA: 0s - loss: 0.5927 - accuracy:
```

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88/750 [==>...... - ETA: 0s - loss: 0.5793 - accuracy:
0.8899
172/750 [====>.....] - ETA: 0s - loss: 0.5798 - accuracy:
256/750 [======>.....] - ETA: 0s - loss: 0.5807 - accuracy:
0.8867
343/750 [========>.....] - ETA: 0s - loss: 0.5809 - accuracy:
0.8861
427/750 [=========>..... - ETA: 0s - loss: 0.5806 - accuracy:
0.8865
514/750 [=========>.....] - ETA: 0s - loss: 0.5813 - accuracy:
596/750 [============>.....] - ETA: 0s - loss: 0.5828 - accuracy:
0.8834
0.8835 - val_loss: 0.6253 - val_accuracy: 0.8698
Epoch 132/220
1/750 [...... - ETA: 0s - loss: 0.5091 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.5842 - accuracy:
0.8790
171/750 [=====>.....] - ETA: 0s - loss: 0.5863 - accuracy:
0.8823
253/750 [=======>.....] - ETA: 0s - loss: 0.5803 - accuracy:
0.8841
335/750 [========>.....] - ETA: 0s - loss: 0.5830 - accuracy:
410/750 [========>.....] - ETA: 0s - loss: 0.5858 - accuracy:
492/750 [=========>.....] - ETA: 0s - loss: 0.5850 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.5849 - accuracy:
661/750 [=============>....] - ETA: 0s - loss: 0.5834 - accuracy:
746/750 [==============>.] - ETA: 0s - loss: 0.5833 - accuracy:
0.8827
0.8826 - val loss: 0.6247 - val accuracy: 0.8690
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.7796 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5873 - accuracy:
0.8844
169/750 [====>..... - ETA: 0s - loss: 0.5814 - accuracy:
0.8834
```

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255/750 [=======>.....] - ETA: 0s - loss: 0.5825 - accuracy:
0.8836
345/750 [========>.....] - ETA: 0s - loss: 0.5818 - accuracy:
430/750 [=========>..... - ETA: 0s - loss: 0.5799 - accuracy:
0.8844
517/750 [=========>.....] - ETA: 0s - loss: 0.5826 - accuracy:
0.8832
606/750 [===========>.....] - ETA: 0s - loss: 0.5835 - accuracy:
0.8836
691/750 [============>...] - ETA: 0s - loss: 0.5829 - accuracy:
0.8839 - val loss: 0.6231 - val accuracy: 0.8707
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.5781 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5970 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.5878 - accuracy:
253/750 [=======>.....] - ETA: 0s - loss: 0.5836 - accuracy:
0.8827
339/750 [========>.....] - ETA: 0s - loss: 0.5800 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.5819 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.5802 - accuracy:
0.8846
599/750 [============>.....] - ETA: 0s - loss: 0.5819 - accuracy:
0.8845
683/750 [============>...] - ETA: 0s - loss: 0.5817 - accuracy:
0.8842 - val_loss: 0.6209 - val_accuracy: 0.8699
Epoch 135/220
 1/750 [...... 0.5853 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.5638 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5733 - accuracy:
0.8877
261/750 [======>..... - ETA: 0s - loss: 0.5683 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.5720 - accuracy:
0.8860
437/750 [=========>..... - ETA: 0s - loss: 0.5755 - accuracy:
0.8863
```

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522/750 [===========>.....] - ETA: 0s - loss: 0.5755 - accuracy:
0.8864
0.8862
0.8847 - val_loss: 0.6243 - val_accuracy: 0.8679
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.6190 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5856 - accuracy:
0.8836
173/750 [====>...... - ETA: 0s - loss: 0.5814 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.5778 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.5799 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5803 - accuracy:
517/750 [==========>.....] - ETA: 0s - loss: 0.5801 - accuracy:
0.8854
604/750 [===========>.....] - ETA: 0s - loss: 0.5787 - accuracy:
0.8846 - val_loss: 0.6206 - val_accuracy: 0.8699
Epoch 137/220
1/750 [.....] - ETA: 0s - loss: 0.4177 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5818 - accuracy:
0.8817
173/750 [====>...... - ETA: 0s - loss: 0.5799 - accuracy:
0.8836
259/750 [======>..... - ETA: 0s - loss: 0.5747 - accuracy:
0.8850
347/750 [========>.....] - ETA: 0s - loss: 0.5780 - accuracy:
0.8844
434/750 [==========>.....] - ETA: 0s - loss: 0.5791 - accuracy:
0.8838
520/750 [===========>.....] - ETA: 0s - loss: 0.5763 - accuracy:
0.8849
609/750 [===========>.....] - ETA: 0s - loss: 0.5751 - accuracy:
0.8851
```

```
0.8849 - val loss: 0.6187 - val accuracy: 0.8709
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.5757 - accuracy:
0.8750
85/750 [==>.....] - ETA: 0s - loss: 0.5829 - accuracy:
0.8875
173/750 [====>...... - ETA: 0s - loss: 0.5748 - accuracy:
0.8868
260/750 [=======>.....] - ETA: 0s - loss: 0.5748 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.5777 - accuracy:
0.8854
431/750 [==========>.....] - ETA: 0s - loss: 0.5755 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.5767 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.5753 - accuracy:
0.8859 - val_loss: 0.6202 - val_accuracy: 0.8693
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.4411 - accuracy:
0.9688
86/750 [==>.....] - ETA: 0s - loss: 0.5755 - accuracy:
172/750 [=====>.....] - ETA: 0s - loss: 0.5819 - accuracy:
0.8834
259/750 [======>..... - ETA: 0s - loss: 0.5810 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.5781 - accuracy:
433/750 [========>...... - ETA: 0s - loss: 0.5766 - accuracy:
0.8854
518/750 [=========>.....] - ETA: 0s - loss: 0.5757 - accuracy:
0.8860
663/750 [============>....] - ETA: 0s - loss: 0.5762 - accuracy:
0.8858 - val_loss: 0.6169 - val_accuracy: 0.8717
Epoch 140/220
```

```
1/750 [...... - ETA: 0s - loss: 0.7213 - accuracy:
0.8281
82/750 [==>.....] - ETA: 0s - loss: 0.5764 - accuracy:
168/750 [=====>.....] - ETA: 0s - loss: 0.5705 - accuracy:
0.8867
254/750 [=======>.....] - ETA: 0s - loss: 0.5754 - accuracy:
0.8858
340/750 [=======>.....] - ETA: 0s - loss: 0.5786 - accuracy:
0.8845
423/750 [========>.....] - ETA: 0s - loss: 0.5783 - accuracy:
0.8849
508/750 [===========>.....] - ETA: 0s - loss: 0.5785 - accuracy:
596/750 [=============>.....] - ETA: 0s - loss: 0.5761 - accuracy:
679/750 [============>...] - ETA: 0s - loss: 0.5755 - accuracy:
0.8864 - val loss: 0.6190 - val accuracy: 0.8670
Epoch 141/220
1/750 [...... - ETA: 0s - loss: 0.6726 - accuracy:
0.8438
85/750 [==>.....] - ETA: 0s - loss: 0.5727 - accuracy:
169/750 [====>.....] - ETA: 0s - loss: 0.5699 - accuracy:
0.8876
245/750 [======>.....] - ETA: 0s - loss: 0.5724 - accuracy:
0.8864
325/750 [========>.....] - ETA: 0s - loss: 0.5716 - accuracy:
0.8871
402/750 [========>.....] - ETA: 0s - loss: 0.5725 - accuracy:
0.8861
484/750 [==========>.....] - ETA: 0s - loss: 0.5725 - accuracy:
566/750 [==========>.....] - ETA: 0s - loss: 0.5738 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.5726 - accuracy:
0.8856
0.8862
0.8855 - val loss: 0.6159 - val accuracy: 0.8701
Epoch 142/220
1/750 [...... 0.5302 - accuracy:
84/750 [==>...... - ETA: 0s - loss: 0.5680 - accuracy:
0.8895
```

```
163/750 [====>...... - ETA: 0s - loss: 0.5738 - accuracy:
0.8849
246/750 [======>.....] - ETA: 0s - loss: 0.5655 - accuracy:
330/750 [=======>.....] - ETA: 0s - loss: 0.5702 - accuracy:
0.8864
414/750 [========>..... - ETA: 0s - loss: 0.5690 - accuracy:
0.8865
497/750 [=========>.....] - ETA: 0s - loss: 0.5706 - accuracy:
0.8871
586/750 [===========>.....] - ETA: 0s - loss: 0.5698 - accuracy:
0.8871
669/750 [==============>....] - ETA: 0s - loss: 0.5716 - accuracy:
750/750 [================ ] - 1s 736us/step - loss: 0.5718 - accuracy:
0.8868 - val loss: 0.6152 - val accuracy: 0.8696
Epoch 143/220
 1/750 [.....] - ETA: 0s - loss: 0.5519 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5600 - accuracy:
0.8834
171/750 [=====>.....] - ETA: 0s - loss: 0.5652 - accuracy:
0.8842
256/750 [=======>.....] - ETA: 0s - loss: 0.5752 - accuracy:
0.8821
341/750 [=======>.....] - ETA: 0s - loss: 0.5735 - accuracy:
0.8831
426/750 [==========>.....] - ETA: 0s - loss: 0.5745 - accuracy:
0.8841
510/750 [==========>.....] - ETA: 0s - loss: 0.5733 - accuracy:
592/750 [===========>.....] - ETA: 0s - loss: 0.5719 - accuracy:
676/750 [============>...] - ETA: 0s - loss: 0.5695 - accuracy:
0.8869
0.8864 - val_loss: 0.6147 - val_accuracy: 0.8712
Epoch 144/220
 1/750 [.....] - ETA: 0s - loss: 0.3888 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5788 - accuracy:
0.8878
166/750 [====>...... - ETA: 0s - loss: 0.5767 - accuracy:
0.8866
250/750 [=======>.....] - ETA: 0s - loss: 0.5752 - accuracy:
338/750 [=======>.....] - ETA: 0s - loss: 0.5726 - accuracy:
0.8884
```

```
423/750 [========>...... - ETA: 0s - loss: 0.5712 - accuracy:
0.8877
510/750 [===========>.....] - ETA: 0s - loss: 0.5691 - accuracy:
595/750 [=============>.....] - ETA: 0s - loss: 0.5714 - accuracy:
0.8873
0.8871
750/750 [============= ] - 1s 724us/step - loss: 0.5695 - accuracy:
0.8871 - val loss: 0.6130 - val accuracy: 0.8713
Epoch 145/220
 1/750 [.....] - ETA: 0s - loss: 0.3989 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5699 - accuracy:
0.8877
167/750 [====>.....] - ETA: 0s - loss: 0.5658 - accuracy:
252/750 [=======>.....] - ETA: 0s - loss: 0.5642 - accuracy:
0.8893
335/750 [=======>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8893
416/750 [========>.....] - ETA: 0s - loss: 0.5659 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.5674 - accuracy:
0.8874
587/750 [============>.....] - ETA: 0s - loss: 0.5654 - accuracy:
0.8877
669/750 [================>....] - ETA: 0s - loss: 0.5669 - accuracy:
0.8877
750/750 [=============== ] - 1s 733us/step - loss: 0.5682 - accuracy:
0.8874 - val_loss: 0.6124 - val_accuracy: 0.8721
Epoch 146/220
 1/750 [.....] - ETA: 0s - loss: 0.5371 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5854 - accuracy:
0.8810
173/750 [====>.....] - ETA: 0s - loss: 0.5709 - accuracy:
0.8883
257/750 [=======>.....] - ETA: 0s - loss: 0.5704 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.5684 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.5668 - accuracy:
0.8891
519/750 [===========>.....] - ETA: 0s - loss: 0.5659 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.5662 - accuracy:
```

```
691/750 [============>...] - ETA: 0s - loss: 0.5665 - accuracy:
0.8884
750/750 [=============== ] - 1s 713us/step - loss: 0.5671 - accuracy:
0.8880 - val loss: 0.6105 - val accuracy: 0.8717
Epoch 147/220
 1/750 [.....] - ETA: 0s - loss: 0.5612 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5672 - accuracy:
0.8859
173/750 [====>.....] - ETA: 0s - loss: 0.5629 - accuracy:
258/750 [======>.....] - ETA: 0s - loss: 0.5631 - accuracy:
0.8897
346/750 [=======>.....] - ETA: 0s - loss: 0.5635 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.5676 - accuracy:
0.8884
519/750 [===========>.....] - ETA: 0s - loss: 0.5669 - accuracy:
0.8885
607/750 [===========>.....] - ETA: 0s - loss: 0.5667 - accuracy:
0.8884
750/750 [================ ] - 1s 714us/step - loss: 0.5661 - accuracy:
0.8888 - val loss: 0.6144 - val accuracy: 0.8693
Epoch 148/220
 1/750 [.................] - ETA: 0s - loss: 0.6762 - accuracy:
0.8281
87/750 [==>.....] - ETA: 0s - loss: 0.5529 - accuracy:
0.8886
174/750 [====>.....] - ETA: 0s - loss: 0.5563 - accuracy:
0.8916
258/750 [=======>.....] - ETA: 0s - loss: 0.5543 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.5543 - accuracy:
0.8911
424/750 [========>....] - ETA: 0s - loss: 0.5564 - accuracy:
0.8907
506/750 [=========>.....] - ETA: 0s - loss: 0.5600 - accuracy:
0.8891
589/750 [===========>.....] - ETA: 0s - loss: 0.5622 - accuracy:
0.8881
750/750 [================ ] - 1s 730us/step - loss: 0.5649 - accuracy:
0.8876 - val_loss: 0.6101 - val_accuracy: 0.8714
Epoch 149/220
```

```
1/750 [...... - ETA: 0s - loss: 0.5306 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5655 - accuracy:
0.8882
168/750 [====>.....] - ETA: 0s - loss: 0.5754 - accuracy:
0.8829
250/750 [======>.....] - ETA: 0s - loss: 0.5690 - accuracy:
0.8857
337/750 [========>.....] - ETA: 0s - loss: 0.5639 - accuracy:
0.8881
419/750 [========>..... - ETA: 0s - loss: 0.5645 - accuracy:
502/750 [==========>.....] - ETA: 0s - loss: 0.5623 - accuracy:
588/750 [============>.....] - ETA: 0s - loss: 0.5633 - accuracy:
0.8891
0.8884 - val loss: 0.6103 - val accuracy: 0.8723
Epoch 150/220
1/750 [.....] - ETA: 0s - loss: 0.5333 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.5631 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5605 - accuracy:
257/750 [=======>.....] - ETA: 0s - loss: 0.5654 - accuracy:
0.8870
336/750 [========>.....] - ETA: 0s - loss: 0.5665 - accuracy:
422/750 [========>..... - ETA: 0s - loss: 0.5674 - accuracy:
0.8873
509/750 [=========>.....] - ETA: 0s - loss: 0.5669 - accuracy:
0.8874
595/750 [===========>.....] - ETA: 0s - loss: 0.5630 - accuracy:
0.8882
682/750 [============>...] - ETA: 0s - loss: 0.5627 - accuracy:
0.8880
750/750 [================ ] - 1s 725us/step - loss: 0.5631 - accuracy:
0.8883 - val loss: 0.6107 - val accuracy: 0.8712
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.5235 - accuracy:
0.8906
84/750 [==>.....] - ETA: 0s - loss: 0.5496 - accuracy:
0.8943
167/750 [====>...... - ETA: 0s - loss: 0.5491 - accuracy:
0.8961
```

```
255/750 [=======>.....] - ETA: 0s - loss: 0.5603 - accuracy:
0.8904
342/750 [========>.....] - ETA: 0s - loss: 0.5575 - accuracy:
0.8921
428/750 [=========>..... - ETA: 0s - loss: 0.5583 - accuracy:
0.8920
514/750 [=========>.....] - ETA: 0s - loss: 0.5590 - accuracy:
0.8909
603/750 [===========>.....] - ETA: 0s - loss: 0.5601 - accuracy:
0.8901
686/750 [===========>...] - ETA: 0s - loss: 0.5605 - accuracy:
0.8901
0.8895 - val_loss: 0.6139 - val_accuracy: 0.8677
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.6083 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5586 - accuracy:
171/750 [====>...... - ETA: 0s - loss: 0.5627 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.5615 - accuracy:
0.8887
346/750 [========>......] - ETA: 0s - loss: 0.5597 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5602 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.5598 - accuracy:
606/750 [============>.....] - ETA: 0s - loss: 0.5606 - accuracy:
690/750 [===========>...] - ETA: 0s - loss: 0.5619 - accuracy:
0.8895 - val_loss: 0.6074 - val_accuracy: 0.8716
Epoch 153/220
 0.8438
89/750 [==>.....] - ETA: 0s - loss: 0.5629 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5654 - accuracy:
0.8867
257/750 [======>..... - ETA: 0s - loss: 0.5625 - accuracy:
0.8878
342/750 [=======>.....] - ETA: 0s - loss: 0.5632 - accuracy:
0.8868
431/750 [=========>..... - ETA: 0s - loss: 0.5606 - accuracy:
0.8877
```

```
517/750 [===========>.....] - ETA: 0s - loss: 0.5600 - accuracy:
0.8885
0.8889 - val_loss: 0.6070 - val_accuracy: 0.8731
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.5357 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5485 - accuracy:
0.8923
174/750 [====>...... - ETA: 0s - loss: 0.5511 - accuracy:
0.8927
259/750 [=======>.....] - ETA: 0s - loss: 0.5552 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.5573 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5566 - accuracy:
519/750 [==========>.....] - ETA: 0s - loss: 0.5573 - accuracy:
0.8891
608/750 [===========>.....] - ETA: 0s - loss: 0.5590 - accuracy:
0.8885
0.8886
0.8885 - val_loss: 0.6054 - val_accuracy: 0.8708
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.5858 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8884
174/750 [====>...... - ETA: 0s - loss: 0.5563 - accuracy:
0.8910
259/750 [======>.....] - ETA: 0s - loss: 0.5543 - accuracy:
0.8913
345/750 [========>.....] - ETA: 0s - loss: 0.5538 - accuracy:
0.8921
432/750 [==========>.....] - ETA: 0s - loss: 0.5537 - accuracy:
0.8911
516/750 [===========>.....] - ETA: 0s - loss: 0.5595 - accuracy:
0.8893
604/750 [===========>.....] - ETA: 0s - loss: 0.5572 - accuracy:
0.8897
0.8895
```

```
0.8901 - val loss: 0.6060 - val accuracy: 0.8723
Epoch 156/220
1/750 [.....] - ETA: 0s - loss: 0.5470 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5486 - accuracy:
0.8932
173/750 [====>...... - ETA: 0s - loss: 0.5554 - accuracy:
0.8883
259/750 [=======>.....] - ETA: 0s - loss: 0.5537 - accuracy:
0.8895
345/750 [========>.....] - ETA: 0s - loss: 0.5530 - accuracy:
0.8896
432/750 [==========>.....] - ETA: 0s - loss: 0.5562 - accuracy:
518/750 [===========>.....] - ETA: 0s - loss: 0.5566 - accuracy:
0.8892 - val_loss: 0.6057 - val_accuracy: 0.8707
Epoch 157/220
1/750 [.....] - ETA: 0s - loss: 0.4901 - accuracy:
0.9219
84/750 [==>...... - ETA: 0s - loss: 0.5610 - accuracy:
0.8906
173/750 [====>...... - ETA: 0s - loss: 0.5643 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.5646 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.5602 - accuracy:
433/750 [========>.....] - ETA: 0s - loss: 0.5605 - accuracy:
0.8890
520/750 [=========>....] - ETA: 0s - loss: 0.5586 - accuracy:
0.8892
605/750 [===============>.....] - ETA: 0s - loss: 0.5548 - accuracy:
693/750 [===============>...] - ETA: 0s - loss: 0.5547 - accuracy:
750/750 [=============== ] - 1s 712us/step - loss: 0.5553 - accuracy:
0.8903 - val loss: 0.6052 - val accuracy: 0.8707
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.5911 - accuracy:
0.8594
```

```
84/750 [==>...... - ETA: 0s - loss: 0.5691 - accuracy:
0.8828
172/750 [====>.....] - ETA: 0s - loss: 0.5656 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.5564 - accuracy:
0.8879
344/750 [========>.....] - ETA: 0s - loss: 0.5581 - accuracy:
0.8865
432/750 [=========>..... - ETA: 0s - loss: 0.5593 - accuracy:
0.8870
521/750 [=========>.....] - ETA: 0s - loss: 0.5560 - accuracy:
0.8891
750/750 [=============== ] - 1s 717us/step - loss: 0.5544 - accuracy:
0.8903 - val loss: 0.6043 - val_accuracy: 0.8728
Epoch 159/220
1/750 [...... - ETA: 0s - loss: 0.4539 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.5437 - accuracy:
0.8917
170/750 [=====>.....] - ETA: 0s - loss: 0.5485 - accuracy:
0.8931
257/750 [======>.....] - ETA: 0s - loss: 0.5485 - accuracy:
0.8939
339/750 [========>.....] - ETA: 0s - loss: 0.5514 - accuracy:
0.8924
425/750 [=========>.....] - ETA: 0s - loss: 0.5517 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.5522 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.5558 - accuracy:
0.8896
681/750 [============>...] - ETA: 0s - loss: 0.5539 - accuracy:
750/750 [============= ] - 1s 722us/step - loss: 0.5537 - accuracy:
0.8899 - val loss: 0.6024 - val accuracy: 0.8713
Epoch 160/220
1/750 [...... 0.4476 - accuracy:
0.8906
87/750 [==>.....] - ETA: 0s - loss: 0.5500 - accuracy:
0.8899
171/750 [=====>.....] - ETA: 0s - loss: 0.5495 - accuracy:
255/750 [=======>..... - ETA: 0s - loss: 0.5448 - accuracy:
```

```
340/750 [========>.....] - ETA: 0s - loss: 0.5480 - accuracy:
0.8923
423/750 [========>.....] - ETA: 0s - loss: 0.5504 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.5521 - accuracy:
0.8914
587/750 [===========>.....] - ETA: 0s - loss: 0.5533 - accuracy:
666/750 [============>....] - ETA: 0s - loss: 0.5538 - accuracy:
0.8913
750/750 [============= ] - 1s 740us/step - loss: 0.5527 - accuracy:
0.8911 - val_loss: 0.6006 - val_accuracy: 0.8731
Epoch 161/220
 1/750 [.....] - ETA: 0s - loss: 0.5004 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5624 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5511 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.5473 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.5485 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5490 - accuracy:
0.8926
521/750 [=========>.....] - ETA: 0s - loss: 0.5501 - accuracy:
0.8915
0.8906
750/750 [=============== ] - 1s 712us/step - loss: 0.5513 - accuracy:
0.8915 - val loss: 0.6062 - val accuracy: 0.8701
Epoch 162/220
 1/750 [.....] - ETA: 0s - loss: 0.5211 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5460 - accuracy:
0.8936
172/750 [=====>.....] - ETA: 0s - loss: 0.5468 - accuracy:
0.8927
255/750 [======>..... - ETA: 0s - loss: 0.5466 - accuracy:
341/750 [=======>.....] - ETA: 0s - loss: 0.5474 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.5443 - accuracy:
512/750 [=========>.....] - ETA: 0s - loss: 0.5470 - accuracy:
```

```
600/750 [===========>.....] - ETA: 0s - loss: 0.5509 - accuracy:
0.8908
0.8908
750/750 [================ ] - 1s 717us/step - loss: 0.5505 - accuracy:
0.8911 - val_loss: 0.6126 - val_accuracy: 0.8670
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.4591 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5454 - accuracy:
0.8928
173/750 [====>.....] - ETA: 0s - loss: 0.5486 - accuracy:
0.8924
258/750 [======>..... - ETA: 0s - loss: 0.5497 - accuracy:
0.8914
346/750 [========>.....] - ETA: 0s - loss: 0.5500 - accuracy:
435/750 [==========>.....] - ETA: 0s - loss: 0.5491 - accuracy:
522/750 [=========>.....] - ETA: 0s - loss: 0.5485 - accuracy:
0.8919
0.8916
697/750 [============>...] - ETA: 0s - loss: 0.5482 - accuracy:
0.8923 - val loss: 0.6079 - val accuracy: 0.8673
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.4480 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5409 - accuracy:
0.8951
174/750 [====>...... - ETA: 0s - loss: 0.5472 - accuracy:
0.8918
257/750 [======>..... - ETA: 0s - loss: 0.5518 - accuracy:
0.8898
344/750 [========>.....] - ETA: 0s - loss: 0.5500 - accuracy:
0.8909
433/750 [=========>..... - ETA: 0s - loss: 0.5545 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.5508 - accuracy:
605/750 [============>.....] - ETA: 0s - loss: 0.5503 - accuracy:
0.8917
692/750 [============>...] - ETA: 0s - loss: 0.5499 - accuracy:
0.8920 - val_loss: 0.6042 - val_accuracy: 0.8711
```

```
1/750 [.....] - ETA: 0s - loss: 0.5744 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5490 - accuracy:
173/750 [=====>.....] - ETA: 0s - loss: 0.5501 - accuracy:
257/750 [======>..... - ETA: 0s - loss: 0.5557 - accuracy:
0.8902
343/750 [========>.....] - ETA: 0s - loss: 0.5531 - accuracy:
0.8916
432/750 [=========>.....] - ETA: 0s - loss: 0.5516 - accuracy:
0.8917
517/750 [============>.....] - ETA: 0s - loss: 0.5517 - accuracy:
0.8915
750/750 [================ ] - 1s 713us/step - loss: 0.5472 - accuracy:
0.8919 - val_loss: 0.5977 - val_accuracy: 0.8736
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.6615 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.5543 - accuracy:
170/750 [=====>.....] - ETA: 0s - loss: 0.5477 - accuracy:
0.8934
254/750 [=======>.....] - ETA: 0s - loss: 0.5514 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.5547 - accuracy:
0.8904
428/750 [=========>.....] - ETA: 0s - loss: 0.5541 - accuracy:
514/750 [=========>.....] - ETA: 0s - loss: 0.5530 - accuracy:
0.8901
596/750 [===========>.....] - ETA: 0s - loss: 0.5526 - accuracy:
0.8903
0.8917
0.8923 - val loss: 0.5983 - val accuracy: 0.8718
Epoch 167/220
1/750 [...... 0.5527 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.5527 - accuracy:
0.8888
```

```
170/750 [====>...... - ETA: 0s - loss: 0.5410 - accuracy:
0.8938
259/750 [=======>.....] - ETA: 0s - loss: 0.5436 - accuracy:
344/750 [========>.....] - ETA: 0s - loss: 0.5428 - accuracy:
0.8928
430/750 [=========>.....] - ETA: 0s - loss: 0.5444 - accuracy:
0.8924
517/750 [=========>.....] - ETA: 0s - loss: 0.5424 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.5409 - accuracy:
691/750 [============>...] - ETA: 0s - loss: 0.5429 - accuracy:
0.8925 - val loss: 0.6009 - val accuracy: 0.8699
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.5548 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.5415 - accuracy:
0.8931
172/750 [====>.....] - ETA: 0s - loss: 0.5438 - accuracy:
0.8926
258/750 [=======>.....] - ETA: 0s - loss: 0.5434 - accuracy:
0.8917
344/750 [=======>.....] - ETA: 0s - loss: 0.5457 - accuracy:
0.8918
429/750 [=========>.....] - ETA: 0s - loss: 0.5450 - accuracy:
515/750 [===========>.....] - ETA: 0s - loss: 0.5447 - accuracy:
0.8915
688/750 [============>...] - ETA: 0s - loss: 0.5450 - accuracy:
0.8916
0.8923 - val_loss: 0.5974 - val_accuracy: 0.8730
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.6809 - accuracy:
90/750 [==>.....] - ETA: 0s - loss: 0.5625 - accuracy:
0.8863
175/750 [=====>...... - ETA: 0s - loss: 0.5482 - accuracy:
261/750 [=======>.....] - ETA: 0s - loss: 0.5502 - accuracy:
0.8891
348/750 [=======>.....] - ETA: 0s - loss: 0.5513 - accuracy:
0.8879
```

```
435/750 [=========>.....] - ETA: 0s - loss: 0.5455 - accuracy:
0.8908
522/750 [===========>.....] - ETA: 0s - loss: 0.5460 - accuracy:
0.8916
0.8920
0.8923
0.8932 - val loss: 0.6013 - val accuracy: 0.8701
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.5821 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5364 - accuracy:
0.8923
171/750 [=====>.....] - ETA: 0s - loss: 0.5385 - accuracy:
259/750 [======>.....] - ETA: 0s - loss: 0.5412 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.5404 - accuracy:
0.8951
431/750 [=========>.....] - ETA: 0s - loss: 0.5416 - accuracy:
0.8947
517/750 [=========>.....] - ETA: 0s - loss: 0.5415 - accuracy:
0.8941
0.8933 - val_loss: 0.5993 - val_accuracy: 0.8723
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.6439 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5343 - accuracy:
0.8960
175/750 [=====>.....] - ETA: 0s - loss: 0.5364 - accuracy:
0.8969
261/750 [=======>.....] - ETA: 0s - loss: 0.5423 - accuracy:
0.8927
351/750 [=======>.....] - ETA: 0s - loss: 0.5432 - accuracy:
0.8927
436/750 [=========>..... - ETA: 0s - loss: 0.5431 - accuracy:
0.8923
520/750 [==========>.....] - ETA: 0s - loss: 0.5422 - accuracy:
608/750 [===========>.....] - ETA: 0s - loss: 0.5436 - accuracy:
0.8926
```

```
0.8936
0.8931 - val loss: 0.5954 - val accuracy: 0.8726
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.6934 - accuracy:
0.8125
85/750 [==>.....] - ETA: 0s - loss: 0.5292 - accuracy:
0.8974
166/750 [====>.....] - ETA: 0s - loss: 0.5315 - accuracy:
0.8964
253/750 [======>.....] - ETA: 0s - loss: 0.5350 - accuracy:
0.8965
341/750 [=======>.....] - ETA: 0s - loss: 0.5402 - accuracy:
0.8951
426/750 [=========>.....] - ETA: 0s - loss: 0.5429 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.5421 - accuracy:
600/750 [===========>.....] - ETA: 0s - loss: 0.5427 - accuracy:
750/750 [============= ] - 1s 718us/step - loss: 0.5412 - accuracy:
0.8939 - val loss: 0.5951 - val accuracy: 0.8730
Epoch 173/220
1/750 [.................] - ETA: 0s - loss: 0.6125 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5266 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.5315 - accuracy:
0.8990
257/750 [======>.....] - ETA: 0s - loss: 0.5378 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.5395 - accuracy:
0.8951
431/750 [=========>.....] - ETA: 0s - loss: 0.5378 - accuracy:
0.8951
514/750 [=========>.....] - ETA: 0s - loss: 0.5384 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.5408 - accuracy:
685/750 [===========>...] - ETA: 0s - loss: 0.5406 - accuracy:
0.8937
0.8937 - val_loss: 0.5953 - val_accuracy: 0.8745
Epoch 174/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5790 - accuracy:
0.8594
85/750 [==>.....] - ETA: 0s - loss: 0.5414 - accuracy:
0.8923
174/750 [====>.....] - ETA: 0s - loss: 0.5351 - accuracy:
0.8963
0.8939
345/750 [=======>.....] - ETA: 0s - loss: 0.5382 - accuracy:
0.8941
431/750 [=========>.....] - ETA: 0s - loss: 0.5403 - accuracy:
0.8937
518/750 [===========>.....] - ETA: 0s - loss: 0.5366 - accuracy:
0.8956
691/750 [============>...] - ETA: 0s - loss: 0.5386 - accuracy:
0.8946 - val loss: 0.5981 - val accuracy: 0.8736
Epoch 175/220
1/750 [.....] - ETA: 0s - loss: 0.4966 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.5206 - accuracy:
0.8967
174/750 [====>.....] - ETA: 0s - loss: 0.5297 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.5278 - accuracy:
0.8963
343/750 [========>.....] - ETA: 0s - loss: 0.5286 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.5299 - accuracy:
513/750 [=========>.....] - ETA: 0s - loss: 0.5337 - accuracy:
599/750 [===========>.....] - ETA: 0s - loss: 0.5359 - accuracy:
0.8942
688/750 [============>...] - ETA: 0s - loss: 0.5376 - accuracy:
0.8939
750/750 [================ ] - 1s 716us/step - loss: 0.5381 - accuracy:
0.8940 - val loss: 0.5937 - val accuracy: 0.8717
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.6099 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.5357 - accuracy:
173/750 [====>...... - ETA: 0s - loss: 0.5338 - accuracy:
0.8951
```

```
263/750 [=======>.....] - ETA: 0s - loss: 0.5316 - accuracy:
0.8967
349/750 [========>.....] - ETA: 0s - loss: 0.5335 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.5348 - accuracy:
524/750 [=========>.....] - ETA: 0s - loss: 0.5350 - accuracy:
610/750 [===========>.....] - ETA: 0s - loss: 0.5350 - accuracy:
0.8959
696/750 [===========>...] - ETA: 0s - loss: 0.5364 - accuracy:
0.8956
0.8953 - val loss: 0.5934 - val accuracy: 0.8724
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.4464 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5388 - accuracy:
170/750 [====>...... - ETA: 0s - loss: 0.5368 - accuracy:
0.8926
256/750 [=======>.....] - ETA: 0s - loss: 0.5373 - accuracy:
0.8947
0.8945
425/750 [=========>.....] - ETA: 0s - loss: 0.5348 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.5365 - accuracy:
595/750 [===========>.....] - ETA: 0s - loss: 0.5373 - accuracy:
0.8945
679/750 [===========>...] - ETA: 0s - loss: 0.5362 - accuracy:
0.8948 - val_loss: 0.5926 - val_accuracy: 0.8730
Epoch 178/220
1/750 [...... 0.3675 - accuracy:
0.9688
89/750 [==>.....] - ETA: 0s - loss: 0.5247 - accuracy:
0.8987
173/750 [====>.....] - ETA: 0s - loss: 0.5289 - accuracy:
262/750 [======>..... - ETA: 0s - loss: 0.5306 - accuracy:
0.8969
345/750 [========>.....] - ETA: 0s - loss: 0.5349 - accuracy:
0.8957
434/750 [=========>..... - ETA: 0s - loss: 0.5335 - accuracy:
0.8962
```

```
520/750 [===========>.....] - ETA: 0s - loss: 0.5341 - accuracy:
605/750 [=============>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.8953 - val_loss: 0.5946 - val_accuracy: 0.8730
Epoch 179/220
1/750 [.....] - ETA: 0s - loss: 0.4572 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.5344 - accuracy:
0.8965
172/750 [====>...... - ETA: 0s - loss: 0.5351 - accuracy:
258/750 [=======>.....] - ETA: 0s - loss: 0.5343 - accuracy:
341/750 [========>.....] - ETA: 0s - loss: 0.5390 - accuracy:
419/750 [========>..... - ETA: 0s - loss: 0.5355 - accuracy:
507/750 [==========>.....] - ETA: 0s - loss: 0.5349 - accuracy:
589/750 [===========>.....] - ETA: 0s - loss: 0.5353 - accuracy:
0.8941
676/750 [=============>...] - ETA: 0s - loss: 0.5359 - accuracy:
0.8942 - val_loss: 0.5930 - val_accuracy: 0.8733
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.4780 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5192 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.5286 - accuracy:
0.8966
259/750 [======>.....] - ETA: 0s - loss: 0.5315 - accuracy:
0.8958
349/750 [=======>.....] - ETA: 0s - loss: 0.5327 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.5304 - accuracy:
0.8963
521/750 [===========>.....] - ETA: 0s - loss: 0.5324 - accuracy:
0.8954
608/750 [===========>.....] - ETA: 0s - loss: 0.5312 - accuracy:
0.8966
```

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750/750 [================ ] - 1s 714us/step - loss: 0.5334 - accuracy:
0.8962 - val loss: 0.5908 - val accuracy: 0.8732
Epoch 181/220
 1/750 [.....] - ETA: 0s - loss: 0.6177 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5252 - accuracy:
0.8972
169/750 [====>...... - ETA: 0s - loss: 0.5239 - accuracy:
0.8972
255/750 [=======>.....] - ETA: 0s - loss: 0.5226 - accuracy:
0.8990
340/750 [========>.....] - ETA: 0s - loss: 0.5269 - accuracy:
0.8979
424/750 [=========>.....] - ETA: 0s - loss: 0.5285 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.5286 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.5320 - accuracy:
683/750 [============>...] - ETA: 0s - loss: 0.5321 - accuracy:
0.8961 - val_loss: 0.5899 - val_accuracy: 0.8743
Epoch 182/220
 1/750 [.....] - ETA: 0s - loss: 0.5055 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5319 - accuracy:
174/750 [=====>.....] - ETA: 0s - loss: 0.5338 - accuracy:
262/750 [=======>.....] - ETA: 0s - loss: 0.5325 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.5319 - accuracy:
0.8947
432/750 [========>.....] - ETA: 0s - loss: 0.5333 - accuracy:
0.8939
518/750 [=========>.......] - ETA: 0s - loss: 0.5321 - accuracy:
0.8951
606/750 [===========>.....] - ETA: 0s - loss: 0.5313 - accuracy:
0.8961
691/750 [===========>...] - ETA: 0s - loss: 0.5303 - accuracy:
750/750 [=============== ] - 1s 717us/step - loss: 0.5317 - accuracy:
0.8963 - val loss: 0.5928 - val accuracy: 0.8720
Epoch 183/220
 1/750 [.....] - ETA: 0s - loss: 0.5293 - accuracy:
```

```
85/750 [==>...... - ETA: 0s - loss: 0.5166 - accuracy:
0.9035
171/750 [====>.....] - ETA: 0s - loss: 0.5206 - accuracy:
0.8991
256/750 [======>..... - ETA: 0s - loss: 0.5220 - accuracy:
0.8986
342/750 [========>.....] - ETA: 0s - loss: 0.5217 - accuracy:
0.8984
428/750 [=========>...... - ETA: 0s - loss: 0.5249 - accuracy:
0.8975
515/750 [=========>.....] - ETA: 0s - loss: 0.5257 - accuracy:
0.8975
0.8977
750/750 [================ ] - 1s 721us/step - loss: 0.5308 - accuracy:
0.8957 - val_loss: 0.5877 - val_accuracy: 0.8736
Epoch 184/220
1/750 [...... - ETA: 0s - loss: 0.4723 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.5211 - accuracy:
0.8994
176/750 [=====>.....] - ETA: 0s - loss: 0.5200 - accuracy:
0.8989
260/750 [======>.....] - ETA: 0s - loss: 0.5220 - accuracy:
0.8984
346/750 [========>.....] - ETA: 0s - loss: 0.5256 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5270 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.5266 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.5265 - accuracy:
692/750 [============>...] - ETA: 0s - loss: 0.5287 - accuracy:
750/750 [============= ] - 1s 718us/step - loss: 0.5300 - accuracy:
0.8965 - val_loss: 0.5907 - val_accuracy: 0.8725
Epoch 185/220
1/750 [...... 0.6848 - accuracy:
85/750 [==>.....] - ETA: 0s - loss: 0.5221 - accuracy:
0.8996
175/750 [=====>.....] - ETA: 0s - loss: 0.5226 - accuracy:
0.9013
260/750 [======>.....] - ETA: 0s - loss: 0.5231 - accuracy:
0.8997
```

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347/750 [========>.....] - ETA: 0s - loss: 0.5247 - accuracy:
0.8985
436/750 [=========>.....] - ETA: 0s - loss: 0.5232 - accuracy:
521/750 [=========>.....] - ETA: 0s - loss: 0.5271 - accuracy:
0.8979
610/750 [===========>.....] - ETA: 0s - loss: 0.5271 - accuracy:
0.8972
697/750 [============>...] - ETA: 0s - loss: 0.5272 - accuracy:
0.8973
750/750 [============= ] - 1s 709us/step - loss: 0.5291 - accuracy:
0.8966 - val_loss: 0.5895 - val_accuracy: 0.8741
Epoch 186/220
 1/750 [.....] - ETA: 0s - loss: 0.4531 - accuracy:
86/750 [==>...... - ETA: 0s - loss: 0.5340 - accuracy:
0.8961
173/750 [====>.....] - ETA: 0s - loss: 0.5272 - accuracy:
0.8983
261/750 [======>..... - ETA: 0s - loss: 0.5274 - accuracy:
0.8994
347/750 [========>.....] - ETA: 0s - loss: 0.5288 - accuracy:
0.8983
435/750 [=========>.....] - ETA: 0s - loss: 0.5286 - accuracy:
0.8981
521/750 [=========>.....] - ETA: 0s - loss: 0.5287 - accuracy:
0.8975
605/750 [===============>.....] - ETA: 0s - loss: 0.5296 - accuracy:
0.8966 - val loss: 0.5860 - val accuracy: 0.8754
Epoch 187/220
 1/750 [.....] - ETA: 0s - loss: 0.3324 - accuracy:
88/750 [==>...... - ETA: 0s - loss: 0.5335 - accuracy:
0.8961
171/750 [=====>.....] - ETA: 0s - loss: 0.5307 - accuracy:
0.8957
259/750 [======>..... - ETA: 0s - loss: 0.5269 - accuracy:
0.8970
343/750 [=======>.....] - ETA: 0s - loss: 0.5272 - accuracy:
0.8960
431/750 [=========>..... - ETA: 0s - loss: 0.5277 - accuracy:
0.8964
519/750 [=========>.....] - ETA: 0s - loss: 0.5267 - accuracy:
```

```
0.8962
0.8968
0.8968 - val_loss: 0.5844 - val_accuracy: 0.8755
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.4315 - accuracy:
0.9531
85/750 [==>.....] - ETA: 0s - loss: 0.5223 - accuracy:
0.8985
170/750 [====>.....] - ETA: 0s - loss: 0.5222 - accuracy:
0.8995
257/750 [======>..... - ETA: 0s - loss: 0.5236 - accuracy:
0.8994
343/750 [========>.....] - ETA: 0s - loss: 0.5254 - accuracy:
0.8981
428/750 [==========>.....] - ETA: 0s - loss: 0.5273 - accuracy:
0.8981
514/750 [=========>.....] - ETA: 0s - loss: 0.5281 - accuracy:
598/750 [============>.....] - ETA: 0s - loss: 0.5269 - accuracy:
686/750 [============>...] - ETA: 0s - loss: 0.5256 - accuracy:
0.8979 - val loss: 0.5924 - val accuracy: 0.8712
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.5704 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5169 - accuracy:
0.8983
171/750 [====>...... - ETA: 0s - loss: 0.5157 - accuracy:
0.8995
258/750 [======>..... - ETA: 0s - loss: 0.5192 - accuracy:
0.8990
343/750 [========>.....] - ETA: 0s - loss: 0.5225 - accuracy:
0.8978
427/750 [=========>..... - ETA: 0s - loss: 0.5224 - accuracy:
516/750 [=========>.....] - ETA: 0s - loss: 0.5226 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 0.5257 - accuracy:
0.8971
0.8974 - val_loss: 0.5856 - val_accuracy: 0.8736
```

```
1/750 [.....] - ETA: 0s - loss: 0.4740 - accuracy:
0.8906
85/750 [==>.....] - ETA: 0s - loss: 0.5218 - accuracy:
0.8949
168/750 [=====>.....] - ETA: 0s - loss: 0.5266 - accuracy:
0.8936
255/750 [======>...... - ETA: 0s - loss: 0.5290 - accuracy:
0.8941
341/750 [========>......] - ETA: 0s - loss: 0.5297 - accuracy:
0.8943
425/750 [=========>.....] - ETA: 0s - loss: 0.5286 - accuracy:
510/750 [============>.....] - ETA: 0s - loss: 0.5277 - accuracy:
597/750 [============>.....] - ETA: 0s - loss: 0.5256 - accuracy:
0.8967
0.8973
750/750 [================ ] - 1s 718us/step - loss: 0.5243 - accuracy:
0.8976 - val_loss: 0.5881 - val_accuracy: 0.8708
Epoch 191/220
1/750 [.....] - ETA: 0s - loss: 0.5491 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.5115 - accuracy:
171/750 [=====>.....] - ETA: 0s - loss: 0.5187 - accuracy:
0.8988
258/750 [=======>.....] - ETA: 0s - loss: 0.5195 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.5209 - accuracy:
0.8983
433/750 [=========>.....] - ETA: 0s - loss: 0.5216 - accuracy:
0.8987
517/750 [=========>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.8983
606/750 [===========>.....] - ETA: 0s - loss: 0.5244 - accuracy:
0.8977
0.8972 - val loss: 0.5887 - val accuracy: 0.8739
Epoch 192/220
1/750 [.....] - ETA: 0s - loss: 0.4533 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5229 - accuracy:
```

```
177/750 [=====>...... - ETA: 0s - loss: 0.5192 - accuracy:
0.8977
260/750 [=======>.....] - ETA: 0s - loss: 0.5235 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 0.5254 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.5282 - accuracy:
0.8957
516/750 [=========>.....] - ETA: 0s - loss: 0.5255 - accuracy:
0.8973
601/750 [===========>.....] - ETA: 0s - loss: 0.5228 - accuracy:
0.8983
686/750 [============>...] - ETA: 0s - loss: 0.5225 - accuracy:
750/750 [================ ] - 1s 718us/step - loss: 0.5230 - accuracy:
0.8987 - val loss: 0.5879 - val accuracy: 0.8712
Epoch 193/220
 1/750 [.....] - ETA: 0s - loss: 0.5254 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5379 - accuracy:
0.8954
176/750 [=====>.....] - ETA: 0s - loss: 0.5275 - accuracy:
0.8971
261/750 [=======>.....] - ETA: 0s - loss: 0.5263 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.5221 - accuracy:
0.8994
439/750 [==========>.....] - ETA: 0s - loss: 0.5224 - accuracy:
0.8988
525/750 [=========>.....] - ETA: 0s - loss: 0.5220 - accuracy:
611/750 [===========>.....] - ETA: 0s - loss: 0.5225 - accuracy:
697/750 [============>...] - ETA: 0s - loss: 0.5219 - accuracy:
0.8982 - val_loss: 0.5885 - val_accuracy: 0.8733
Epoch 194/220
 1/750 [.....] - ETA: 0s - loss: 0.5781 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5210 - accuracy:
0.8986
170/750 [====>...... - ETA: 0s - loss: 0.5229 - accuracy:
0.8971
253/750 [=======>.....] - ETA: 0s - loss: 0.5244 - accuracy:
0.8963
338/750 [=======>.....] - ETA: 0s - loss: 0.5235 - accuracy:
```

```
424/750 [========>...... - ETA: 0s - loss: 0.5243 - accuracy:
0.8965
509/750 [===========>.....] - ETA: 0s - loss: 0.5241 - accuracy:
0.8967
595/750 [=============>.....] - ETA: 0s - loss: 0.5211 - accuracy:
0.8977
0.8981
750/750 [============= ] - 1s 718us/step - loss: 0.5212 - accuracy:
0.8978 - val loss: 0.5885 - val accuracy: 0.8724
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.4655 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5111 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.5123 - accuracy:
0.9006
262/750 [======>.....] - ETA: 0s - loss: 0.5154 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.5170 - accuracy:
0.9001
436/750 [=========>.....] - ETA: 0s - loss: 0.5184 - accuracy:
0.8999
524/750 [=========>.....] - ETA: 0s - loss: 0.5185 - accuracy:
0.8998
750/750 [=============== ] - 1s 712us/step - loss: 0.5202 - accuracy:
0.8989 - val_loss: 0.5830 - val_accuracy: 0.8731
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.4665 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5093 - accuracy:
0.8983
168/750 [====>.....] - ETA: 0s - loss: 0.5191 - accuracy:
0.8978
257/750 [=======>.....] - ETA: 0s - loss: 0.5160 - accuracy:
0.8996
341/750 [=======>.....] - ETA: 0s - loss: 0.5150 - accuracy:
428/750 [=========>..... - ETA: 0s - loss: 0.5176 - accuracy:
0.8999
516/750 [=========>.....] - ETA: 0s - loss: 0.5189 - accuracy:
0.8997
602/750 [===========>.....] - ETA: 0s - loss: 0.5189 - accuracy:
```

```
0.8986
750/750 [=============== ] - 1s 713us/step - loss: 0.5194 - accuracy:
0.8990 - val loss: 0.5854 - val accuracy: 0.8752
Epoch 197/220
 1/750 [.....] - ETA: 0s - loss: 0.5680 - accuracy:
0.8438
88/750 [==>.....] - ETA: 0s - loss: 0.5243 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.5211 - accuracy:
0.8976
261/750 [======>.....] - ETA: 0s - loss: 0.5165 - accuracy:
0.9001
346/750 [=======>.....] - ETA: 0s - loss: 0.5115 - accuracy:
0.9018
432/750 [=========>.....] - ETA: 0s - loss: 0.5117 - accuracy:
519/750 [===========>.....] - ETA: 0s - loss: 0.5160 - accuracy:
606/750 [===========>.....] - ETA: 0s - loss: 0.5159 - accuracy:
750/750 [============= ] - 1s 717us/step - loss: 0.5187 - accuracy:
0.8992 - val loss: 0.5853 - val accuracy: 0.8737
Epoch 198/220
 1/750 [................] - ETA: 0s - loss: 0.4306 - accuracy:
0.9531
87/750 [==>.....] - ETA: 0s - loss: 0.5209 - accuracy:
0.9041
171/750 [====>.....] - ETA: 0s - loss: 0.5183 - accuracy:
0.9013
257/750 [======>.....] - ETA: 0s - loss: 0.5139 - accuracy:
340/750 [=======>.....] - ETA: 0s - loss: 0.5149 - accuracy:
0.8994
426/750 [=========>.....] - ETA: 0s - loss: 0.5185 - accuracy:
0.8988
514/750 [=========>......] - ETA: 0s - loss: 0.5178 - accuracy:
0.8987
600/750 [===========>.....] - ETA: 0s - loss: 0.5186 - accuracy:
685/750 [===========>...] - ETA: 0s - loss: 0.5185 - accuracy:
0.8982
750/750 [================ ] - 1s 720us/step - loss: 0.5183 - accuracy:
0.8983 - val_loss: 0.5845 - val_accuracy: 0.8748
Epoch 199/220
```

```
1/750 [...... - ETA: 0s - loss: 0.4074 - accuracy:
0.9219
90/750 [==>.....] - ETA: 0s - loss: 0.5122 - accuracy:
0.9009
177/750 [=====>.....] - ETA: 0s - loss: 0.5179 - accuracy:
0.8966
245/750 [======>.....] - ETA: 0s - loss: 0.5163 - accuracy:
0.8994
333/750 [========>.....] - ETA: 0s - loss: 0.5162 - accuracy:
0.8993
421/750 [========>..... - ETA: 0s - loss: 0.5191 - accuracy:
0.8986
509/750 [==========>.....] - ETA: 0s - loss: 0.5183 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.5183 - accuracy:
0.8981
0.8990 - val loss: 0.5805 - val accuracy: 0.8751
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.5182 - accuracy:
0.9375
86/750 [==>.....] - ETA: 0s - loss: 0.5219 - accuracy:
0.8946
171/750 [====>.....] - ETA: 0s - loss: 0.5181 - accuracy:
0.8981
256/750 [=======>.....] - ETA: 0s - loss: 0.5176 - accuracy:
0.8979
343/750 [========>.....] - ETA: 0s - loss: 0.5146 - accuracy:
427/750 [=========>.....] - ETA: 0s - loss: 0.5150 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.5175 - accuracy:
0.8981
598/750 [===========>.....] - ETA: 0s - loss: 0.5160 - accuracy:
0.8987
683/750 [============>...] - ETA: 0s - loss: 0.5175 - accuracy:
0.8986
0.8991 - val loss: 0.5784 - val accuracy: 0.8756
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.3823 - accuracy:
0.9844
85/750 [==>.....] - ETA: 0s - loss: 0.5100 - accuracy:
168/750 [====>.....] - ETA: 0s - loss: 0.5181 - accuracy:
0.8987
```

```
253/750 [=======>..... - ETA: 0s - loss: 0.5205 - accuracy:
0.8972
341/750 [========>.....] - ETA: 0s - loss: 0.5169 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.5149 - accuracy:
0.9007
511/750 [=========>.....] - ETA: 0s - loss: 0.5141 - accuracy:
0.9009
596/750 [===========>.....] - ETA: 0s - loss: 0.5145 - accuracy:
0.9003
682/750 [============>...] - ETA: 0s - loss: 0.5150 - accuracy:
0.9001
0.8995 - val loss: 0.5795 - val accuracy: 0.8769
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.5881 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5160 - accuracy:
171/750 [====>...... - ETA: 0s - loss: 0.5153 - accuracy:
0.9024
256/750 [=======>.....] - ETA: 0s - loss: 0.5114 - accuracy:
0.9036
432/750 [=========>.....] - ETA: 0s - loss: 0.5146 - accuracy:
0.8997
520/750 [===========>.....] - ETA: 0s - loss: 0.5159 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.5152 - accuracy:
0.8991
0.8994 - val_loss: 0.5771 - val_accuracy: 0.8749
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.4665 - accuracy:
0.9219
88/750 [==>.....] - ETA: 0s - loss: 0.5093 - accuracy:
0.9011
174/750 [====>.....] - ETA: 0s - loss: 0.5136 - accuracy:
260/750 [======>..... - ETA: 0s - loss: 0.5101 - accuracy:
0.9011
341/750 [========>.....] - ETA: 0s - loss: 0.5097 - accuracy:
0.9011
428/750 [=========>..... - ETA: 0s - loss: 0.5126 - accuracy:
```

```
518/750 [=========>.....] - ETA: 0s - loss: 0.5131 - accuracy:
0.8999
0.8995
0.8999 - val_loss: 0.5798 - val_accuracy: 0.8750
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.4124 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5135 - accuracy:
0.8970
173/750 [====>...... - ETA: 0s - loss: 0.5064 - accuracy:
0.9017
258/750 [=======>.....] - ETA: 0s - loss: 0.5079 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.5068 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5112 - accuracy:
521/750 [==========>.....] - ETA: 0s - loss: 0.5135 - accuracy:
610/750 [============>.....] - ETA: 0s - loss: 0.5140 - accuracy:
697/750 [============>...] - ETA: 0s - loss: 0.5124 - accuracy:
750/750 [=============== ] - 1s 713us/step - loss: 0.5130 - accuracy:
0.8999 - val_loss: 0.5828 - val_accuracy: 0.8753
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.5957 - accuracy:
88/750 [==>.....] - ETA: 0s - loss: 0.4937 - accuracy:
171/750 [====>.....] - ETA: 0s - loss: 0.5060 - accuracy:
251/750 [======>..... - ETA: 0s - loss: 0.5034 - accuracy:
0.9036
331/750 [========>.....] - ETA: 0s - loss: 0.5046 - accuracy:
416/750 [========>..... - ETA: 0s - loss: 0.5070 - accuracy:
499/750 [==========>.....] - ETA: 0s - loss: 0.5092 - accuracy:
581/750 [============>.....] - ETA: 0s - loss: 0.5090 - accuracy:
```

```
750/750 [=============== ] - 1s 734us/step - loss: 0.5121 - accuracy:
0.9012 - val loss: 0.5772 - val accuracy: 0.8763
Epoch 206/220
 1/750 [.....] - ETA: 0s - loss: 0.6441 - accuracy:
0.8906
88/750 [==>.....] - ETA: 0s - loss: 0.5093 - accuracy:
0.9023
177/750 [=====>.....] - ETA: 0s - loss: 0.5142 - accuracy:
261/750 [======>.....] - ETA: 0s - loss: 0.5166 - accuracy:
0.8973
347/750 [=======>.....] - ETA: 0s - loss: 0.5187 - accuracy:
0.8972
436/750 [=========>.....] - ETA: 0s - loss: 0.5161 - accuracy:
0.8981
523/750 [===========>.....] - ETA: 0s - loss: 0.5137 - accuracy:
0.8994
611/750 [============>.....] - ETA: 0s - loss: 0.5119 - accuracy:
750/750 [============= ] - 1s 710us/step - loss: 0.5112 - accuracy:
0.9009 - val loss: 0.5785 - val accuracy: 0.8750
Epoch 207/220
 1/750 [.......................] - ETA: 0s - loss: 0.7772 - accuracy:
0.8281
90/750 [==>.....] - ETA: 0s - loss: 0.5169 - accuracy:
176/750 [=====>.....] - ETA: 0s - loss: 0.5103 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.5093 - accuracy:
0.9011
347/750 [=======>.....] - ETA: 0s - loss: 0.5092 - accuracy:
0.9008
434/750 [=========>.....] - ETA: 0s - loss: 0.5114 - accuracy:
0.8998
520/750 [=========>.....] - ETA: 0s - loss: 0.5097 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.5074 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.5090 - accuracy:
750/750 [================ ] - 1s 710us/step - loss: 0.5106 - accuracy:
0.9010 - val_loss: 0.5818 - val_accuracy: 0.8731
Epoch 208/220
```

```
1/750 [...... - ETA: 0s - loss: 0.3725 - accuracy:
0.9688
88/750 [==>.....] - ETA: 0s - loss: 0.5043 - accuracy:
178/750 [=====>.....] - ETA: 0s - loss: 0.5037 - accuracy:
0.9034
267/750 [======>.....] - ETA: 0s - loss: 0.5062 - accuracy:
0.9016
352/750 [========>.....] - ETA: 0s - loss: 0.5076 - accuracy:
0.8999
441/750 [=========>.....] - ETA: 0s - loss: 0.5048 - accuracy:
0.9014
525/750 [==========>.....] - ETA: 0s - loss: 0.5081 - accuracy:
0.8997
700/750 [==============>..] - ETA: 0s - loss: 0.5101 - accuracy:
0.9004 - val loss: 0.5743 - val accuracy: 0.8762
Epoch 209/220
1/750 [.....] - ETA: 0s - loss: 0.4601 - accuracy:
0.9219
86/750 [==>.....] - ETA: 0s - loss: 0.5103 - accuracy:
0.9026
172/750 [====>.....] - ETA: 0s - loss: 0.5060 - accuracy:
260/750 [=======>.....] - ETA: 0s - loss: 0.5051 - accuracy:
0.9031
344/750 [========>.....] - ETA: 0s - loss: 0.5050 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.5060 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.5050 - accuracy:
604/750 [===========>.....] - ETA: 0s - loss: 0.5088 - accuracy:
0.9018
691/750 [============>...] - ETA: 0s - loss: 0.5085 - accuracy:
0.9016
750/750 [================ ] - 1s 712us/step - loss: 0.5090 - accuracy:
0.9013 - val loss: 0.5764 - val accuracy: 0.8752
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.5092 - accuracy:
0.8906
86/750 [==>.....] - ETA: 0s - loss: 0.5089 - accuracy:
174/750 [====>...... - ETA: 0s - loss: 0.5096 - accuracy:
```

```
262/750 [=======>..... - ETA: 0s - loss: 0.5096 - accuracy:
0.9006
348/750 [========>.....] - ETA: 0s - loss: 0.5101 - accuracy:
0.8998
434/750 [=========>..... - ETA: 0s - loss: 0.5106 - accuracy:
518/750 [=========>.....] - ETA: 0s - loss: 0.5092 - accuracy:
0.9016
605/750 [===========>.....] - ETA: 0s - loss: 0.5089 - accuracy:
0.9018
693/750 [============>...] - ETA: 0s - loss: 0.5081 - accuracy:
0.9021 - val loss: 0.5773 - val accuracy: 0.8762
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.5888 - accuracy:
0.9062
84/750 [==>.....] - ETA: 0s - loss: 0.5127 - accuracy:
171/750 [====>...... - ETA: 0s - loss: 0.5093 - accuracy:
0.8988
255/750 [=======>.....] - ETA: 0s - loss: 0.5077 - accuracy:
0.8999
339/750 [=======>.....] - ETA: 0s - loss: 0.5039 - accuracy:
0.9016
425/750 [=========>.....] - ETA: 0s - loss: 0.5035 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.5040 - accuracy:
595/750 [============>.....] - ETA: 0s - loss: 0.5047 - accuracy:
683/750 [============>...] - ETA: 0s - loss: 0.5072 - accuracy:
0.9007 - val_loss: 0.5795 - val_accuracy: 0.8742
Epoch 212/220
 1/750 [...... 0.6846 - accuracy:
0.8438
87/750 [==>.....] - ETA: 0s - loss: 0.5130 - accuracy:
172/750 [====>.....] - ETA: 0s - loss: 0.5082 - accuracy:
0.9011
262/750 [======>..... - ETA: 0s - loss: 0.5109 - accuracy:
345/750 [=======>.....] - ETA: 0s - loss: 0.5111 - accuracy:
0.9006
430/750 [=========>..... - ETA: 0s - loss: 0.5098 - accuracy:
```

```
519/750 [=========>.....] - ETA: 0s - loss: 0.5065 - accuracy:
0.9021
605/750 [=============>.....] - ETA: 0s - loss: 0.5061 - accuracy:
0.9022 - val_loss: 0.5737 - val_accuracy: 0.8762
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.4772 - accuracy:
0.9219
82/750 [==>.....] - ETA: 0s - loss: 0.5111 - accuracy:
0.8996
170/750 [====>...... - ETA: 0s - loss: 0.5051 - accuracy:
257/750 [=======>.....] - ETA: 0s - loss: 0.5046 - accuracy:
342/750 [========>.....] - ETA: 0s - loss: 0.5065 - accuracy:
429/750 [=========>....] - ETA: 0s - loss: 0.5073 - accuracy:
0.8999
519/750 [==========>.....] - ETA: 0s - loss: 0.5066 - accuracy:
603/750 [===========>.....] - ETA: 0s - loss: 0.5048 - accuracy:
0.9013
0.9017 - val_loss: 0.5745 - val_accuracy: 0.8752
Epoch 214/220
1/750 [.....] - ETA: 0s - loss: 0.3745 - accuracy:
87/750 [==>.....] - ETA: 0s - loss: 0.5130 - accuracy:
0.8989
172/750 [====>.....] - ETA: 0s - loss: 0.5062 - accuracy:
260/750 [======>.....] - ETA: 0s - loss: 0.5074 - accuracy:
0.9006
331/750 [========>.....] - ETA: 0s - loss: 0.5071 - accuracy:
417/750 [========>..... - ETA: 0s - loss: 0.5072 - accuracy:
503/750 [===========>.....] - ETA: 0s - loss: 0.5071 - accuracy:
589/750 [============>.....] - ETA: 0s - loss: 0.5055 - accuracy:
0.9014
```

```
750/750 [=============== ] - 1s 737us/step - loss: 0.5049 - accuracy:
0.9012 - val loss: 0.5763 - val accuracy: 0.8747
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.5873 - accuracy:
86/750 [==>.....] - ETA: 0s - loss: 0.5058 - accuracy:
0.9037
169/750 [====>...... - ETA: 0s - loss: 0.5073 - accuracy:
0.9016
254/750 [=======>.....] - ETA: 0s - loss: 0.5101 - accuracy:
339/750 [========>.....] - ETA: 0s - loss: 0.5085 - accuracy:
0.9021
424/750 [=========>.....] - ETA: 0s - loss: 0.5070 - accuracy:
492/750 [==========>.....] - ETA: 0s - loss: 0.5054 - accuracy:
579/750 [============>.....] - ETA: 0s - loss: 0.5053 - accuracy:
664/750 [=============>....] - ETA: 0s - loss: 0.5051 - accuracy:
0.9029 - val_loss: 0.5738 - val_accuracy: 0.8740
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.4353 - accuracy:
0.9531
85/750 [==>.....] - ETA: 0s - loss: 0.4870 - accuracy:
0.9068
168/750 [=====>.....] - ETA: 0s - loss: 0.4958 - accuracy:
250/750 [=======>.....] - ETA: 0s - loss: 0.4989 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.5034 - accuracy:
0.9017
421/750 [========>..... - ETA: 0s - loss: 0.5044 - accuracy:
0.9011
504/750 [=========>....] - ETA: 0s - loss: 0.5057 - accuracy:
0.9006
573/750 [==========>.....] - ETA: 0s - loss: 0.5058 - accuracy:
655/750 [============>....] - ETA: 0s - loss: 0.5026 - accuracy:
0.9020 - val_loss: 0.5734 - val_accuracy: 0.8763
Epoch 217/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4925 - accuracy:
0.9531
88/750 [==>.....] - ETA: 0s - loss: 0.4869 - accuracy:
174/750 [====>.....] - ETA: 0s - loss: 0.4878 - accuracy:
0.9074
260/750 [=======>.....] - ETA: 0s - loss: 0.4917 - accuracy:
0.9058
348/750 [========>.....] - ETA: 0s - loss: 0.4976 - accuracy:
0.9039
434/750 [=========>.....] - ETA: 0s - loss: 0.4974 - accuracy:
0.9041
523/750 [==========>.....] - ETA: 0s - loss: 0.5015 - accuracy:
694/750 [============>...] - ETA: 0s - loss: 0.5032 - accuracy:
0.9028 - val loss: 0.5703 - val accuracy: 0.8774
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.4859 - accuracy:
0.9219
87/750 [==>.....] - ETA: 0s - loss: 0.4954 - accuracy:
173/750 [====>.....] - ETA: 0s - loss: 0.4916 - accuracy:
259/750 [=======>.....] - ETA: 0s - loss: 0.4936 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.4961 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.4970 - accuracy:
519/750 [=========>.....] - ETA: 0s - loss: 0.4994 - accuracy:
601/750 [===========>.....] - ETA: 0s - loss: 0.4998 - accuracy:
686/750 [===========>...] - ETA: 0s - loss: 0.5015 - accuracy:
0.9021
750/750 [=============== ] - 1s 717us/step - loss: 0.5018 - accuracy:
0.9020 - val loss: 0.5722 - val accuracy: 0.8756
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.5234 - accuracy:
89/750 [==>.....] - ETA: 0s - loss: 0.5132 - accuracy:
172/750 [====>...... - ETA: 0s - loss: 0.5120 - accuracy:
0.9004
```

```
260/750 [======>..... - ETA: 0s - loss: 0.5072 - accuracy:
0.9013
347/750 [========>.....] - ETA: 0s - loss: 0.5103 - accuracy:
0.9003
434/750 [=========>.....] - ETA: 0s - loss: 0.5064 - accuracy:
523/750 [=========>.....] - ETA: 0s - loss: 0.5051 - accuracy:
0.9017
609/750 [===========>.....] - ETA: 0s - loss: 0.5026 - accuracy:
0.9031
693/750 [============>...] - ETA: 0s - loss: 0.5020 - accuracy:
750/750 [================ ] - 1s 716us/step - loss: 0.5013 - accuracy:
0.9036 - val_loss: 0.5719 - val_accuracy: 0.8757
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.4089 - accuracy:
84/750 [==>.....] - ETA: 0s - loss: 0.5071 - accuracy:
169/750 [====>..... - ETA: 0s - loss: 0.4972 - accuracy:
253/750 [=======>.....] - ETA: 0s - loss: 0.4973 - accuracy:
0.9054
339/750 [========>.....] - ETA: 0s - loss: 0.5013 - accuracy:
421/750 [========>.....] - ETA: 0s - loss: 0.4985 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.4996 - accuracy:
0.9039
589/750 [===========>.....] - ETA: 0s - loss: 0.4993 - accuracy:
0.9041
0.9035 - val_loss: 0.5720 - val_accuracy: 0.8767
1/313 [...... - ETA: 3s - loss: 0.6615 - accuracy:
114/313 [=======>.....] - ETA: 0s - loss: 0.6060 - accuracy:
230/313 [==========>.....] - ETA: 0s - loss: 0.6117 - accuracy:
0.8708
Testing loss: 0.6031553149223328
Testing accuracy: 87.08000183105469%
```

Running for Model 12/12

Model: "sequential 12"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 50)	39250
hidden1 (Dense)	(None, 50)	2550
hidden2 (Dense)	(None, 50)	2550
hidden3 (Dense)	(None, 50)	2550
hidden4 (Dense)	(None, 50)	2550
hidden5 (Dense)	(None, 50)	2550
output_layer (Dense)	(None, 10)	510

Non-trainable params: 0

```
Training NN with EPOCHS=220, BATCH SIZE=64, LEARNING RATE=0.001 and
L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 50,
'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size':
50, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden5', 'size': 50,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation function': 'softmax'}]
Epoch 1/220
 1/750 [.....] - ETA: 2:19 - loss: 2.6505 - accuracy:
0.1719
64/750 [=>.....] - ETA: 0s - loss: 2.6654 - accuracy: 0.1128
132/750 [====>.....] - ETA: 0s - loss: 2.6632 - accuracy:
0.1127
197/750 [=====>.....] - ETA: 0s - loss: 2.6613 - accuracy:
0.1141
263/750 [=======>.....] - ETA: 0s - loss: 2.6598 - accuracy:
0.1161
329/750 [=========>.....] - ETA: 0s - loss: 2.6587 - accuracy:
398/750 [=======>..... - ETA: 0s - loss: 2.6572 - accuracy:
466/750 [==========>.....] - ETA: 0s - loss: 2.6556 - accuracy:
```

```
0.1204
535/750 [==========>.....] - ETA: 0s - loss: 2.6541 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 2.6523 - accuracy:
0.1244
750/750 [=============== ] - 1s 1ms/step - loss: 2.6490 - accuracy:
0.1303 - val_loss: 2.6308 - val_accuracy: 0.1576
Epoch 2/220
1/750 [.....] - ETA: 0s - loss: 2.6223 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 2.6267 - accuracy:
0.1634
138/750 [====>.....] - ETA: 0s - loss: 2.6251 - accuracy:
0.1584
206/750 [=====>.....] - ETA: 0s - loss: 2.6236 - accuracy:
0.1599
273/750 [======>..... - ETA: 0s - loss: 2.6219 - accuracy:
342/750 [=======>.....] - ETA: 0s - loss: 2.6191 - accuracy:
0.1716
411/750 [=========>.....] - ETA: 0s - loss: 2.6168 - accuracy:
0.1763
480/750 [==========>.....] - ETA: 0s - loss: 2.6144 - accuracy:
0.1834
548/750 [==========>.....] - ETA: 0s - loss: 2.6115 - accuracy:
0.1934
0.2170 - val loss: 2.5641 - val accuracy: 0.2876
Epoch 3/220
1/750 [...... - ETA: 0s - loss: 2.5649 - accuracy:
0.2656
69/750 [=>.....] - ETA: 0s - loss: 2.5603 - accuracy:
0.2871
138/750 [====>.....] - ETA: 0s - loss: 2.5548 - accuracy:
207/750 [======>.....] - ETA: 0s - loss: 2.5483 - accuracy:
0.2943
276/750 [=======>..... - ETA: 0s - loss: 2.5432 - accuracy:
345/750 [========>.....] - ETA: 0s - loss: 2.5386 - accuracy:
```

```
0.2961
415/750 [========>.....] - ETA: 0s - loss: 2.5325 - accuracy:
0.2985
483/750 [=========>.....] - ETA: 0s - loss: 2.5260 - accuracy:
551/750 [===============>.....] - ETA: 0s - loss: 2.5197 - accuracy:
621/750 [============>.....] - ETA: 0s - loss: 2.5123 - accuracy:
750/750 [============== ] - 1s 892us/step - loss: 2.4980 - accuracy:
0.3110 - val loss: 2.4099 - val accuracy: 0.3438
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 2.4303 - accuracy:
0.3125
70/750 [=>.....] - ETA: 0s - loss: 2.4088 - accuracy:
138/750 [====>...... - ETA: 0s - loss: 2.3961 - accuracy:
207/750 [=====>.....] - ETA: 0s - loss: 2.3807 - accuracy:
275/750 [=======>..... - ETA: 0s - loss: 2.3673 - accuracy:
341/750 [========>.....] - ETA: 0s - loss: 2.3529 - accuracy:
0.3567
410/750 [========>..... - ETA: 0s - loss: 2.3396 - accuracy:
478/750 [=========>.....] - ETA: 0s - loss: 2.3261 - accuracy:
547/750 [==========>.....] - ETA: 0s - loss: 2.3088 - accuracy:
0.3709
0.3769 - val_loss: 2.0782 - val_accuracy: 0.4385
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 2.0238 - accuracy:
0.4531
71/750 [=>.....] - ETA: 0s - loss: 2.0544 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 2.0378 - accuracy:
207/750 [=====>...... - ETA: 0s - loss: 2.0230 - accuracy:
277/750 [======>..... - ETA: 0s - loss: 2.0051 - accuracy:
```

```
346/750 [=========>.....] - ETA: 0s - loss: 1.9842 - accuracy:
416/750 [========>.....] - ETA: 0s - loss: 1.9630 - accuracy:
0.4944
485/750 [=========>.....] - ETA: 0s - loss: 1.9433 - accuracy:
554/750 [==========>.....] - ETA: 0s - loss: 1.9241 - accuracy:
687/750 [============>...] - ETA: 0s - loss: 1.8878 - accuracy:
750/750 [============= ] - 1s 896us/step - loss: 1.8708 - accuracy:
0.5250 - val_loss: 1.6811 - val_accuracy: 0.5748
Epoch 6/220
1/750 [...... - ETA: 0s - loss: 1.7801 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 1.6692 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 1.6580 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 1.6352 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 1.6217 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 1.6063 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 1.5916 - accuracy:
506/750 [==========>.....] - ETA: 0s - loss: 1.5783 - accuracy:
576/750 [============>.....] - ETA: 0s - loss: 1.5658 - accuracy:
0.6063
0.6109
0.6159 - val_loss: 1.4207 - val_accuracy: 0.6566
Epoch 7/220
1/750 [...... 1.3326 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 1.4052 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 1.3916 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 1.3897 - accuracy:
```

```
0.6671
283/750 [=======>.....] - ETA: 0s - loss: 1.3814 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 1.3749 - accuracy:
0.6687
424/750 [=======>..... - ETA: 0s - loss: 1.3671 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 1.3635 - accuracy:
0.6711
568/750 [============>.....] - ETA: 0s - loss: 1.3569 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 1.3491 - accuracy:
0.6746
0.6771
750/750 [============== ] - 1s 856us/step - loss: 1.3390 - accuracy:
0.6780 - val_loss: 1.2675 - val_accuracy: 0.6997
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 1.4172 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 1.2627 - accuracy:
0.7066
144/750 [====>...... - ETA: 0s - loss: 1.2575 - accuracy:
0.7070
218/750 [======>.....] - ETA: 0s - loss: 1.2473 - accuracy:
0.7069
288/750 [=======>..... - ETA: 0s - loss: 1.2394 - accuracy:
0.7075
362/750 [=========>.....] - ETA: 0s - loss: 1.2347 - accuracy:
0.7084
433/750 [=========>.....] - ETA: 0s - loss: 1.2311 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 1.2285 - accuracy:
0.7099
579/750 [===========>.....] - ETA: 0s - loss: 1.2256 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 1.2220 - accuracy:
0.7121
0.7135
0.7143 - val loss: 1.1702 - val_accuracy: 0.7233
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 1.0645 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 1.1842 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 1.1673 - accuracy:
```

```
215/750 [======>.....] - ETA: 0s - loss: 1.1605 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 1.1555 - accuracy:
0.7285
362/750 [=======>.....] - ETA: 0s - loss: 1.1537 - accuracy:
0.7294
435/750 [=========>..... - ETA: 0s - loss: 1.1485 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 1.1435 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 1.1393 - accuracy:
0.7331
654/750 [==============>....] - ETA: 0s - loss: 1.1367 - accuracy:
0.7347
750/750 [============= ] - 1s 845us/step - loss: 1.1341 - accuracy:
0.7348 - val loss: 1.1072 - val accuracy: 0.7447
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 1.3569 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 1.1029 - accuracy:
0.7496
147/750 [====>.....] - ETA: 0s - loss: 1.0950 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 1.0970 - accuracy:
0.7481
291/750 [=======>.....] - ETA: 0s - loss: 1.0926 - accuracy:
0.7501
364/750 [=======>.....] - ETA: 0s - loss: 1.0944 - accuracy:
0.7484
435/750 [=========>.....] - ETA: 0s - loss: 1.0893 - accuracy:
0.7496
508/750 [=========>.....] - ETA: 0s - loss: 1.0862 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 1.0856 - accuracy:
0.7489
645/750 [============>....] - ETA: 0s - loss: 1.0813 - accuracy:
0.7501 - val_loss: 1.0638 - val_accuracy: 0.7514
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 1.2057 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 1.0773 - accuracy:
```

```
0.7506
145/750 [====>.....] - ETA: 0s - loss: 1.0586 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 1.0616 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 1.0579 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 1.0501 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 1.0481 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 1.0467 - accuracy:
0.7589
581/750 [============>.....] - ETA: 0s - loss: 1.0465 - accuracy:
652/750 [==============>....] - ETA: 0s - loss: 1.0437 - accuracy:
0.7609
0.7617
0.7619 - val_loss: 1.0278 - val_accuracy: 0.7634
Epoch 12/220
1/750 [...... - ETA: 0s - loss: 1.0646 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 1.0034 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 1.0152 - accuracy:
0.7718
212/750 [======>...... - ETA: 0s - loss: 1.0209 - accuracy:
0.7669
280/750 [=======>.....] - ETA: 0s - loss: 1.0251 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 1.0223 - accuracy:
0.7666
422/750 [========>..... - ETA: 0s - loss: 1.0200 - accuracy:
0.7678
496/750 [==========>.....] - ETA: 0s - loss: 1.0171 - accuracy:
0.7689
567/750 [==========>.....] - ETA: 0s - loss: 1.0139 - accuracy:
0.7713
0.7714 - val_loss: 1.0011 - val_accuracy: 0.7752
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 1.0832 - accuracy:
```

```
73/750 [=>.....] - ETA: 0s - loss: 1.0139 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 1.0098 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 1.0062 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 1.0002 - accuracy:
0.7761
363/750 [=======>..... - ETA: 0s - loss: 1.0011 - accuracy:
0.7751
436/750 [=========>...... - ETA: 0s - loss: 0.9947 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.9925 - accuracy:
0.7789
580/750 [============>.....] - ETA: 0s - loss: 0.9906 - accuracy:
0.7787
0.7790
0.7789 - val loss: 0.9831 - val accuracy: 0.7762
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 1.0742 - accuracy:
0.7188
74/750 [=>.....] - ETA: 0s - loss: 0.9802 - accuracy:
0.7819
146/750 [====>.....] - ETA: 0s - loss: 0.9801 - accuracy:
222/750 [======>.....] - ETA: 0s - loss: 0.9798 - accuracy:
0.7823
293/750 [=======>.....] - ETA: 0s - loss: 0.9790 - accuracy:
0.7821
364/750 [=======>.....] - ETA: 0s - loss: 0.9795 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.9763 - accuracy:
0.7826
509/750 [=========>.....] - ETA: 0s - loss: 0.9760 - accuracy:
0.7834
582/750 [============>.....] - ETA: 0s - loss: 0.9740 - accuracy:
0.7848
726/750 [===============>.] - ETA: 0s - loss: 0.9710 - accuracy:
0.7862 - val loss: 0.9638 - val accuracy: 0.7853
Epoch 15/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.9390 - accuracy:
0.8281
74/750 [=>.....] - ETA: 0s - loss: 0.9592 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.9545 - accuracy:
0.7901
220/750 [=====>>.....] - ETA: 0s - loss: 0.9621 - accuracy:
0.7871
291/750 [=======>..... - ETA: 0s - loss: 0.9589 - accuracy:
0.7877
363/750 [=======>.....] - ETA: 0s - loss: 0.9574 - accuracy:
0.7899
433/750 [==========>.....] - ETA: 0s - loss: 0.9584 - accuracy:
0.7906
504/750 [==========>.....] - ETA: 0s - loss: 0.9587 - accuracy:
0.7907
576/750 [===========>.....] - ETA: 0s - loss: 0.9574 - accuracy:
723/750 [==============>..] - ETA: 0s - loss: 0.9543 - accuracy:
0.7919
0.7918 - val loss: 0.9507 - val accuracy: 0.7935
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 0.7228 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.9335 - accuracy:
0.8027
146/750 [====>.....] - ETA: 0s - loss: 0.9448 - accuracy:
0.7966
218/750 [======>.....] - ETA: 0s - loss: 0.9451 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 0.9424 - accuracy:
0.7969
362/750 [========>.....] - ETA: 0s - loss: 0.9401 - accuracy:
0.7979
433/750 [=========>..... - ETA: 0s - loss: 0.9391 - accuracy:
0.7976
506/750 [===========>.....] - ETA: 0s - loss: 0.9393 - accuracy:
580/750 [=============>.....] - ETA: 0s - loss: 0.9391 - accuracy:
653/750 [=============>....] - ETA: 0s - loss: 0.9385 - accuracy:
0.7973
750/750 [============= ] - 1s 850us/step - loss: 0.9400 - accuracy:
```

```
0.7971 - val_loss: 0.9362 - val_accuracy: 0.7972 Epoch 17/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.9935 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.9397 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.9499 - accuracy:
0.7977
217/750 [=====>.....] - ETA: 0s - loss: 0.9339 - accuracy:
0.8026
290/750 [=======>..... - ETA: 0s - loss: 0.9340 - accuracy:
0.8011
362/750 [=========>.....] - ETA: 0s - loss: 0.9350 - accuracy:
0.7998
435/750 [=========>.....] - ETA: 0s - loss: 0.9320 - accuracy:
507/750 [=========>.....] - ETA: 0s - loss: 0.9326 - accuracy:
580/750 [=============>.....] - ETA: 0s - loss: 0.9301 - accuracy:
653/750 [=============>....] - ETA: 0s - loss: 0.9288 - accuracy:
0.8024
750/750 [============= ] - 1s 846us/step - loss: 0.9279 - accuracy:
0.8024 - val_loss: 0.9259 - val_accuracy: 0.8027
Epoch 18/220
 1/750 [...... 0.9631 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.9216 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.9217 - accuracy:
0.8014
218/750 [======>.....] - ETA: 0s - loss: 0.9126 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.9204 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.9202 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.9189 - accuracy:
505/750 [=========>.....] - ETA: 0s - loss: 0.9193 - accuracy:
575/750 [============>.....] - ETA: 0s - loss: 0.9191 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.9168 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.9163 - accuracy:
```

```
0.8056
750/750 [================ ] - 1s 848us/step - loss: 0.9172 - accuracy:
0.8053 - val_loss: 0.9153 - val_accuracy: 0.8060
Epoch 19/220
 1/750 [.....] - ETA: 0s - loss: 0.9557 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.9336 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.9174 - accuracy:
0.7998
218/750 [======>...... - ETA: 0s - loss: 0.9081 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.9084 - accuracy:
0.8057
364/750 [=========>.....] - ETA: 0s - loss: 0.9064 - accuracy:
0.8084
435/750 [=========>...... - ETA: 0s - loss: 0.9085 - accuracy:
0.8076
507/750 [===========>.....] - ETA: 0s - loss: 0.9102 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 0.9116 - accuracy:
0.8083
653/750 [============>....] - ETA: 0s - loss: 0.9084 - accuracy:
0.8096
727/750 [===============>.] - ETA: 0s - loss: 0.9078 - accuracy:
750/750 [============= ] - 1s 848us/step - loss: 0.9081 - accuracy:
0.8093 - val_loss: 0.9069 - val_accuracy: 0.8080
Epoch 20/220
 1/750 [.....] - ETA: 0s - loss: 1.0938 - accuracy:
0.7812
74/750 [=>.....] - ETA: 0s - loss: 0.8810 - accuracy:
0.8207
146/750 [====>.....] - ETA: 0s - loss: 0.8922 - accuracy:
0.8184
218/750 [======>.....] - ETA: 0s - loss: 0.8928 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.8944 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.9003 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.8983 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.8967 - accuracy:
0.8126
578/750 [===========>.....] - ETA: 0s - loss: 0.8967 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 0.8985 - accuracy:
```

```
0.8122 - val loss: 0.8995 - val accuracy: 0.8091
Epoch 21/220
1/750 [.....] - ETA: 0s - loss: 1.1481 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.8784 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.8932 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.8917 - accuracy:
0.8136
288/750 [=======>.....] - ETA: 0s - loss: 0.8946 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.8962 - accuracy:
0.8121
430/750 [==========>.....] - ETA: 0s - loss: 0.8932 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 0.8939 - accuracy:
0.8121
575/750 [============>.....] - ETA: 0s - loss: 0.8916 - accuracy:
0.8128
0.8140 - val loss: 0.8894 - val accuracy: 0.8161
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.9975 - accuracy:
0.7969
74/750 [=>.....] - ETA: 0s - loss: 0.9001 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.8930 - accuracy:
0.8144
219/750 [======>.....] - ETA: 0s - loss: 0.8861 - accuracy:
0.8161
293/750 [=======>.....] - ETA: 0s - loss: 0.8798 - accuracy:
367/750 [========>.....] - ETA: 0s - loss: 0.8807 - accuracy:
438/750 [=========>..... - ETA: 0s - loss: 0.8844 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.8840 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.8837 - accuracy:
```

```
0.8156
0.8166 - val loss: 0.8853 - val accuracy: 0.8183
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.7300 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.8612 - accuracy:
0.8217
146/750 [====>.....] - ETA: 0s - loss: 0.8705 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.8730 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 0.8717 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.8749 - accuracy:
0.8196
434/750 [=========>.....] - ETA: 0s - loss: 0.8756 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.8758 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.8781 - accuracy:
722/750 [===============>..] - ETA: 0s - loss: 0.8760 - accuracy:
0.8183
0.8189 - val_loss: 0.8765 - val_accuracy: 0.8181
Epoch 24/220
1/750 [.....] - ETA: 0s - loss: 0.8529 - accuracy:
0.8281
75/750 [==>.....] - ETA: 0s - loss: 0.8837 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.8734 - accuracy:
220/750 [=====>.....] - ETA: 0s - loss: 0.8773 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.8754 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.8744 - accuracy:
0.8214
435/750 [=========>..... - ETA: 0s - loss: 0.8712 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.8699 - accuracy:
```

```
580/750 [=============>.....] - ETA: 0s - loss: 0.8706 - accuracy:
653/750 [=============>....] - ETA: 0s - loss: 0.8682 - accuracy:
0.8226 - val loss: 0.8684 - val accuracy: 0.8215
Epoch 25/220
1/750 [.....] - ETA: 0s - loss: 0.7708 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.8530 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.8676 - accuracy:
0.8253
215/750 [======>...... - ETA: 0s - loss: 0.8569 - accuracy:
0.8276
289/750 [=======>...... - ETA: 0s - loss: 0.8581 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.8585 - accuracy:
0.8259
434/750 [=========>.....] - ETA: 0s - loss: 0.8609 - accuracy:
0.8249
507/750 [===========>.....] - ETA: 0s - loss: 0.8600 - accuracy:
580/750 [=============>.....] - ETA: 0s - loss: 0.8581 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.8587 - accuracy:
0.8257
750/750 [================ ] - 1s 849us/step - loss: 0.8613 - accuracy:
0.8248 - val loss: 0.8643 - val accuracy: 0.8216
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.7486 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.8656 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.8531 - accuracy:
0.8291
218/750 [======>.....] - ETA: 0s - loss: 0.8503 - accuracy:
0.8289
291/750 [=======>.....] - ETA: 0s - loss: 0.8493 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.8487 - accuracy:
435/750 [==========>.....] - ETA: 0s - loss: 0.8496 - accuracy:
```

```
0.8297
507/750 [===========>.....] - ETA: 0s - loss: 0.8506 - accuracy:
0.8294
578/750 [============>.....] - ETA: 0s - loss: 0.8525 - accuracy:
0.8272 - val_loss: 0.8553 - val_accuracy: 0.8263
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.8204 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8631 - accuracy:
0.8249
147/750 [====>.....] - ETA: 0s - loss: 0.8609 - accuracy:
220/750 [=====>...... - ETA: 0s - loss: 0.8577 - accuracy:
290/750 [======>..... - ETA: 0s - loss: 0.8502 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.8508 - accuracy:
0.8282
435/750 [=========>.....] - ETA: 0s - loss: 0.8482 - accuracy:
0.8296
510/750 [=========>.....] - ETA: 0s - loss: 0.8495 - accuracy:
0.8296
581/750 [===========>.....] - ETA: 0s - loss: 0.8482 - accuracy:
654/750 [===============>....] - ETA: 0s - loss: 0.8491 - accuracy:
0.8287
0.8290 - val loss: 0.8536 - val accuracy: 0.8273
Epoch 28/220
1/750 [.....] - ETA: 0s - loss: 0.8175 - accuracy:
0.8594
70/750 [=>.....] - ETA: 0s - loss: 0.8264 - accuracy:
0.8391
138/750 [====>....... - accuracy:
0.8317
210/750 [======>.....] - ETA: 0s - loss: 0.8332 - accuracy:
0.8336
282/750 [=======>..... - ETA: 0s - loss: 0.8369 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.8399 - accuracy:
```

```
428/750 [=========>.....] - ETA: 0s - loss: 0.8402 - accuracy:
501/750 [==========>.....] - ETA: 0s - loss: 0.8413 - accuracy:
0.8304
573/750 [=============>.....] - ETA: 0s - loss: 0.8420 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.8421 - accuracy:
750/750 [============= ] - 1s 848us/step - loss: 0.8432 - accuracy:
0.8305 - val loss: 0.8472 - val accuracy: 0.8287
Epoch 29/220
1/750 [.....] - ETA: 0s - loss: 0.7777 - accuracy:
0.8438
72/750 [=>.....] - ETA: 0s - loss: 0.8331 - accuracy:
0.8346
144/750 [====>...... - ETA: 0s - loss: 0.8362 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.8443 - accuracy:
0.8341
289/750 [=======>..... - ETA: 0s - loss: 0.8433 - accuracy:
0.8327
360/750 [========>.....] - ETA: 0s - loss: 0.8412 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.8408 - accuracy:
0.8327
506/750 [=========>.....] - ETA: 0s - loss: 0.8407 - accuracy:
575/750 [============>.....] - ETA: 0s - loss: 0.8422 - accuracy:
0.8331
0.8340 - val_loss: 0.8468 - val_accuracy: 0.8268
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.8249 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.8456 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.8407 - accuracy:
0.8291
216/750 [======>.....] - ETA: 0s - loss: 0.8357 - accuracy:
0.8325
288/750 [=======>.....] - ETA: 0s - loss: 0.8382 - accuracy:
```

```
362/750 [=========>.....] - ETA: 0s - loss: 0.8341 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.8336 - accuracy:
0.8341
506/750 [=========>.....] - ETA: 0s - loss: 0.8315 - accuracy:
580/750 [==========>.....] - ETA: 0s - loss: 0.8323 - accuracy:
725/750 [==============>.] - ETA: 0s - loss: 0.8325 - accuracy:
750/750 [============= ] - 1s 842us/step - loss: 0.8331 - accuracy:
0.8343 - val_loss: 0.8386 - val_accuracy: 0.8325
Epoch 31/220
1/750 [...... - ETA: 0s - loss: 0.7776 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.8288 - accuracy:
0.8361
144/750 [====>.....] - ETA: 0s - loss: 0.8306 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.8295 - accuracy:
0.8380
287/750 [=======>.....] - ETA: 0s - loss: 0.8287 - accuracy:
0.8377
360/750 [=======>.....] - ETA: 0s - loss: 0.8297 - accuracy:
0.8369
431/750 [=========>.....] - ETA: 0s - loss: 0.8309 - accuracy:
0.8356
504/750 [===========>.....] - ETA: 0s - loss: 0.8315 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.8284 - accuracy:
0.8356
651/750 [=============>....] - ETA: 0s - loss: 0.8284 - accuracy:
0.8367
0.8360 - val_loss: 0.8350 - val_accuracy: 0.8330
Epoch 32/220
1/750 [...... 0.8227 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.8309 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.8266 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.8296 - accuracy:
```

```
0.8361
288/750 [=======>.....] - ETA: 0s - loss: 0.8261 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.8323 - accuracy:
434/750 [========>.....] - ETA: 0s - loss: 0.8279 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.8260 - accuracy:
0.8361
580/750 [=============>.....] - ETA: 0s - loss: 0.8251 - accuracy:
651/750 [=============>....] - ETA: 0s - loss: 0.8267 - accuracy:
0.8364
750/750 [============= ] - 1s 850us/step - loss: 0.8240 - accuracy:
0.8369 - val_loss: 0.8297 - val_accuracy: 0.8355
Epoch 33/220
1/750 [...... 0.8369 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.8355 - accuracy:
0.8256
146/750 [====>...... - ETA: 0s - loss: 0.8342 - accuracy:
0.8311
220/750 [======>.....] - ETA: 0s - loss: 0.8286 - accuracy:
290/750 [======>..... - ETA: 0s - loss: 0.8257 - accuracy:
363/750 [=========>.....] - ETA: 0s - loss: 0.8204 - accuracy:
0.8373
437/750 [=========>.....] - ETA: 0s - loss: 0.8187 - accuracy:
0.8387
508/750 [===========>.....] - ETA: 0s - loss: 0.8214 - accuracy:
0.8373
580/750 [===========>.....] - ETA: 0s - loss: 0.8201 - accuracy:
654/750 [==============>....] - ETA: 0s - loss: 0.8207 - accuracy:
0.8384
0.8389 - val loss: 0.8250 - val accuracy: 0.8361
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.8672 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.8095 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.8170 - accuracy:
```

```
215/750 [======>.....] - ETA: 0s - loss: 0.8109 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.8136 - accuracy:
0.8419
358/750 [=======>.....] - ETA: 0s - loss: 0.8163 - accuracy:
430/750 [========>.....] - ETA: 0s - loss: 0.8186 - accuracy:
502/750 [===========>.....] - ETA: 0s - loss: 0.8182 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.8174 - accuracy:
0.8399
0.8399
750/750 [============= ] - 1s 848us/step - loss: 0.8154 - accuracy:
0.8401 - val loss: 0.8236 - val accuracy: 0.8356
Epoch 35/220
1/750 [.....] - ETA: 0s - loss: 0.8537 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.8004 - accuracy:
0.8451
144/750 [====>.....] - ETA: 0s - loss: 0.8059 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.8050 - accuracy:
0.8444
286/750 [=======>.....] - ETA: 0s - loss: 0.8067 - accuracy:
0.8439
358/750 [=======>.....] - ETA: 0s - loss: 0.8099 - accuracy:
0.8417
431/750 [=========>.....] - ETA: 0s - loss: 0.8080 - accuracy:
0.8426
503/750 [=========>.....] - ETA: 0s - loss: 0.8096 - accuracy:
0.8424
575/750 [============>.....] - ETA: 0s - loss: 0.8099 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.8094 - accuracy:
0.8419 - val_loss: 0.8272 - val_accuracy: 0.8342
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.6594 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.8156 - accuracy:
```

```
143/750 [====>.....] - ETA: 0s - loss: 0.8069 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.8059 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.8096 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.8089 - accuracy:
433/750 [==========>.....] - ETA: 0s - loss: 0.8108 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.8121 - accuracy:
575/750 [============>.....] - ETA: 0s - loss: 0.8108 - accuracy:
0.8409
0.8409
0.8418 - val_loss: 0.8182 - val_accuracy: 0.8381
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.9447 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.8095 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.8083 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.8089 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.8049 - accuracy:
0.8428
363/750 [========>.....] - ETA: 0s - loss: 0.8062 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.8045 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.8040 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.8037 - accuracy:
0.8440 - val_loss: 0.8117 - val_accuracy: 0.8381
Epoch 38/220
1/750 [.....] - ETA: 0s - loss: 0.9048 - accuracy:
```

```
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.8012 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.7949 - accuracy:
219/750 [=====>.....] - ETA: 0s - loss: 0.7958 - accuracy:
290/750 [======>.....] - ETA: 0s - loss: 0.7992 - accuracy:
0.8457
362/750 [=======>.....] - ETA: 0s - loss: 0.7956 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.7959 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.7946 - accuracy:
0.8479
580/750 [============>.....] - ETA: 0s - loss: 0.7960 - accuracy:
0.8468
0.8469
0.8455 - val loss: 0.8085 - val accuracy: 0.8412
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.8131 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7962 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7905 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.7915 - accuracy:
0.8470
292/750 [=======>.....] - ETA: 0s - loss: 0.7931 - accuracy:
0.8473
363/750 [=======>.....] - ETA: 0s - loss: 0.7919 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.7926 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.7958 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.7962 - accuracy:
0.8463
727/750 [==============>.] - ETA: 0s - loss: 0.7982 - accuracy:
0.8456 - val loss: 0.8080 - val accuracy: 0.8416
Epoch 40/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.9022 - accuracy:
0.8281
71/750 [=>...... - accuracy:
0.8367
144/750 [====>...... - ETA: 0s - loss: 0.8142 - accuracy:
0.8397
217/750 [=====>.....] - ETA: 0s - loss: 0.7994 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.8009 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.7945 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.7974 - accuracy:
0.8447
508/750 [==========>.....] - ETA: 0s - loss: 0.7955 - accuracy:
0.8461
579/750 [============>.....] - ETA: 0s - loss: 0.7953 - accuracy:
724/750 [==============>..] - ETA: 0s - loss: 0.7934 - accuracy:
0.8471
750/750 [================ ] - 1s 846us/step - loss: 0.7942 - accuracy:
0.8467 - val loss: 0.8086 - val accuracy: 0.8414
Epoch 41/220
1/750 [...... os - loss: 0.9180 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.7923 - accuracy:
0.8451
145/750 [====>.....] - ETA: 0s - loss: 0.7917 - accuracy:
0.8447
218/750 [======>.....] - ETA: 0s - loss: 0.7935 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.7903 - accuracy:
364/750 [========>.....] - ETA: 0s - loss: 0.7915 - accuracy:
0.8451
437/750 [=========>.....] - ETA: 0s - loss: 0.7922 - accuracy:
0.8446
510/750 [===========>.....] - ETA: 0s - loss: 0.7913 - accuracy:
584/750 [=============>.....] - ETA: 0s - loss: 0.7905 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.7908 - accuracy:
750/750 [============= ] - 1s 854us/step - loss: 0.7906 - accuracy:
```

```
0.8469 - val_loss: 0.8005 - val_accuracy: 0.8445 
Epoch 42/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.8132 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7786 - accuracy:
0.8479
144/750 [====>...... - ETA: 0s - loss: 0.7723 - accuracy:
0.8517
215/750 [======>.....] - ETA: 0s - loss: 0.7769 - accuracy:
286/750 [=======>..... - ETA: 0s - loss: 0.7830 - accuracy:
0.8481
355/750 [========>.....] - ETA: 0s - loss: 0.7900 - accuracy:
0.8463
427/750 [========>.....] - ETA: 0s - loss: 0.7890 - accuracy:
0.8463
498/750 [=========>.....] - ETA: 0s - loss: 0.7887 - accuracy:
569/750 [==============>.....] - ETA: 0s - loss: 0.7896 - accuracy:
0.8491
750/750 [============= ] - 1s 858us/step - loss: 0.7873 - accuracy:
0.8489 - val_loss: 0.7985 - val_accuracy: 0.8441
Epoch 43/220
1/750 [...... 1.0260 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.7979 - accuracy:
0.8473
144/750 [====>.....] - ETA: 0s - loss: 0.7836 - accuracy:
214/750 [=====>.....] - ETA: 0s - loss: 0.7804 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.7818 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.7793 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.7801 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 0.7806 - accuracy:
572/750 [===========>.....] - ETA: 0s - loss: 0.7820 - accuracy:
644/750 [============>....] - ETA: 0s - loss: 0.7847 - accuracy:
```

```
0.8491
750/750 [=============== ] - 1s 865us/step - loss: 0.7841 - accuracy:
0.8493 - val_loss: 0.8089 - val_accuracy: 0.8382
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.7330 - accuracy:
0.8594
69/750 [=>.....] - ETA: 0s - loss: 0.7910 - accuracy:
142/750 [====>...... - ETA: 0s - loss: 0.7837 - accuracy:
0.8479
213/750 [======>...... - ETA: 0s - loss: 0.7829 - accuracy:
0.8494
285/750 [=======>.....] - ETA: 0s - loss: 0.7797 - accuracy:
358/750 [=========>.....] - ETA: 0s - loss: 0.7798 - accuracy:
428/750 [=========>...... - ETA: 0s - loss: 0.7780 - accuracy:
500/750 [===========>.....] - ETA: 0s - loss: 0.7789 - accuracy:
572/750 [==========>.....] - ETA: 0s - loss: 0.7788 - accuracy:
0.8496
750/750 [============= ] - 1s 858us/step - loss: 0.7817 - accuracy:
0.8498 - val_loss: 0.7971 - val_accuracy: 0.8435
Epoch 45/220
1/750 [.....] - ETA: 0s - loss: 0.7286 - accuracy:
0.8594
72/750 [=>.....] - ETA: 0s - loss: 0.7903 - accuracy:
0.8496
144/750 [====>.....] - ETA: 0s - loss: 0.7760 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7798 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.7832 - accuracy:
0.8501
357/750 [=======>.....] - ETA: 0s - loss: 0.7840 - accuracy:
429/750 [========>.....] - ETA: 0s - loss: 0.7819 - accuracy:
0.8496
498/750 [=========>.....] - ETA: 0s - loss: 0.7813 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.7819 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.7809 - accuracy:
```

```
0.8513 - val loss: 0.7914 - val accuracy: 0.8457
Epoch 46/220
1/750 [.....] - ETA: 0s - loss: 0.6457 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7707 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.7698 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7659 - accuracy:
0.8531
287/750 [=======>.....] - ETA: 0s - loss: 0.7690 - accuracy:
0.8521
360/750 [=======>.....] - ETA: 0s - loss: 0.7743 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.7744 - accuracy:
503/750 [=========>.....] - ETA: 0s - loss: 0.7741 - accuracy:
574/750 [==========>.....] - ETA: 0s - loss: 0.7733 - accuracy:
0.8514 - val loss: 0.7898 - val accuracy: 0.8457
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.7454 - accuracy:
0.8594
69/750 [=>.....] - ETA: 0s - loss: 0.7573 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.7563 - accuracy:
0.8579
210/750 [======>.....] - ETA: 0s - loss: 0.7599 - accuracy:
0.8569
281/750 [=======>.....] - ETA: 0s - loss: 0.7633 - accuracy:
0.8573
353/750 [========>.....] - ETA: 0s - loss: 0.7696 - accuracy:
424/750 [========>..... - ETA: 0s - loss: 0.7721 - accuracy:
0.8526
495/750 [=========>.....] - ETA: 0s - loss: 0.7732 - accuracy:
568/750 [============>.....] - ETA: 0s - loss: 0.7747 - accuracy:
```

```
750/750 [================ ] - 1s 860us/step - loss: 0.7732 - accuracy:
0.8520 - val loss: 0.7858 - val accuracy: 0.8470
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.6509 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.7771 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.7745 - accuracy:
0.8516
213/750 [======>.....] - ETA: 0s - loss: 0.7772 - accuracy:
0.8504
281/750 [=======>..... - ETA: 0s - loss: 0.7773 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.7737 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.7709 - accuracy:
0.8524
496/750 [==========>.....] - ETA: 0s - loss: 0.7725 - accuracy:
565/750 [============>.....] - ETA: 0s - loss: 0.7728 - accuracy:
0.8511
708/750 [===============>..] - ETA: 0s - loss: 0.7703 - accuracy:
0.8528 - val loss: 0.7847 - val accuracy: 0.8466
Epoch 49/220
1/750 [.....] - ETA: 0s - loss: 0.8587 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7765 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7689 - accuracy:
0.8546
215/750 [======>.....] - ETA: 0s - loss: 0.7641 - accuracy:
0.8561
290/750 [=======>.....] - ETA: 0s - loss: 0.7697 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.7673 - accuracy:
429/750 [=========>...... - ETA: 0s - loss: 0.7664 - accuracy:
502/750 [===========>.....] - ETA: 0s - loss: 0.7697 - accuracy:
```

```
0.8508
573/750 [===========>.....] - ETA: 0s - loss: 0.7672 - accuracy:
0.8528 - val loss: 0.7823 - val accuracy: 0.8467
Epoch 50/220
1/750 [...... - ETA: 0s - loss: 0.6488 - accuracy:
72/750 [=>...... - accuracy:
0.8596
143/750 [====>.....] - ETA: 0s - loss: 0.7486 - accuracy:
212/750 [======>...... - ETA: 0s - loss: 0.7566 - accuracy:
285/750 [=======>...... - ETA: 0s - loss: 0.7638 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7669 - accuracy:
427/750 [========>.....] - ETA: 0s - loss: 0.7628 - accuracy:
499/750 [=========>.....] - ETA: 0s - loss: 0.7623 - accuracy:
571/750 [============>.....] - ETA: 0s - loss: 0.7632 - accuracy:
0.8531
642/750 [============>....] - ETA: 0s - loss: 0.7645 - accuracy:
750/750 [================ ] - 1s 858us/step - loss: 0.7648 - accuracy:
0.8530 - val loss: 0.7818 - val accuracy: 0.8469
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.8271 - accuracy:
0.7969
73/750 [=>...... - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.7543 - accuracy:
0.8571
217/750 [======>.....] - ETA: 0s - loss: 0.7628 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.7637 - accuracy:
0.8531
359/750 [=======>.....] - ETA: 0s - loss: 0.7649 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.7661 - accuracy:
```

```
0.8514
502/750 [===========>.....] - ETA: 0s - loss: 0.7637 - accuracy:
571/750 [===========>.....] - ETA: 0s - loss: 0.7632 - accuracy:
0.8536 - val_loss: 0.7791 - val_accuracy: 0.8480
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.7336 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.7748 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.7654 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.7662 - accuracy:
0.8529
288/750 [=======>..... - ETA: 0s - loss: 0.7576 - accuracy:
0.8566
359/750 [=======>.....] - ETA: 0s - loss: 0.7604 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.7619 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 0.7614 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.7596 - accuracy:
0.8561
0.8555 - val loss: 0.7766 - val accuracy: 0.8503
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.6969 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7340 - accuracy:
143/750 [====>....... - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.7502 - accuracy:
0.8580
285/750 [=======>..... - ETA: 0s - loss: 0.7496 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.7544 - accuracy:
```

```
0.8584
427/750 [=========>.....] - ETA: 0s - loss: 0.7533 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.7547 - accuracy:
570/750 [===============>.....] - ETA: 0s - loss: 0.7569 - accuracy:
640/750 [============>....] - ETA: 0s - loss: 0.7557 - accuracy:
750/750 [============= ] - 1s 860us/step - loss: 0.7576 - accuracy:
0.8559 - val loss: 0.7745 - val accuracy: 0.8496
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.6287 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.7558 - accuracy:
0.8611
141/750 [====>...... - ETA: 0s - loss: 0.7589 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.7586 - accuracy:
0.8586
283/750 [=======>..... - ETA: 0s - loss: 0.7578 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7579 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.7566 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 0.7585 - accuracy:
568/750 [============>.....] - ETA: 0s - loss: 0.7576 - accuracy:
0.8561
0.8551
0.8565 - val_loss: 0.7686 - val_accuracy: 0.8512
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.8162 - accuracy:
0.8594
75/750 [==>.....] - ETA: 0s - loss: 0.7533 - accuracy:
0.8621
145/750 [====>.....] - ETA: 0s - loss: 0.7607 - accuracy:
218/750 [======>...... - ETA: 0s - loss: 0.7529 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.7502 - accuracy:
```

```
0.8581
362/750 [=========>.....] - ETA: 0s - loss: 0.7518 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.7506 - accuracy:
506/750 [========>.....] - ETA: 0s - loss: 0.7539 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.7536 - accuracy:
719/750 [==============>..] - ETA: 0s - loss: 0.7515 - accuracy:
0.8577
750/750 [============ ] - 1s 853us/step - loss: 0.7527 - accuracy:
0.8570 - val_loss: 0.7764 - val_accuracy: 0.8489
Epoch 56/220
1/750 [...... - ETA: 0s - loss: 0.6282 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.7413 - accuracy:
0.8669
144/750 [====>.....] - ETA: 0s - loss: 0.7438 - accuracy:
0.8637
215/750 [======>.....] - ETA: 0s - loss: 0.7450 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.7485 - accuracy:
0.8598
357/750 [=======>.....] - ETA: 0s - loss: 0.7493 - accuracy:
0.8583
426/750 [=========>.....] - ETA: 0s - loss: 0.7525 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.7499 - accuracy:
569/750 [============>.....] - ETA: 0s - loss: 0.7486 - accuracy:
0.8584
0.8574 - val_loss: 0.7737 - val_accuracy: 0.8494
Epoch 57/220
1/750 [...... 0.7837 - accuracy:
72/750 [=>...... - accuracy:
0.8626
141/750 [====>.....] - ETA: 0s - loss: 0.7437 - accuracy:
0.8609
213/750 [======>.....] - ETA: 0s - loss: 0.7502 - accuracy:
```

```
285/750 [=======>.....] - ETA: 0s - loss: 0.7428 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7477 - accuracy:
0.8594
426/750 [========>.....] - ETA: 0s - loss: 0.7485 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.7493 - accuracy:
570/750 [============>.....] - ETA: 0s - loss: 0.7485 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 0.7494 - accuracy:
0.8574
750/750 [============== ] - 1s 860us/step - loss: 0.7481 - accuracy:
0.8574 - val loss: 0.7670 - val accuracy: 0.8504
Epoch 58/220
1/750 [...... 0.7003 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.7454 - accuracy:
140/750 [====>...... - ETA: 0s - loss: 0.7438 - accuracy:
0.8580
212/750 [======>.....] - ETA: 0s - loss: 0.7442 - accuracy:
0.8584
282/750 [=======>.....] - ETA: 0s - loss: 0.7445 - accuracy:
0.8597
354/750 [=========>.....] - ETA: 0s - loss: 0.7484 - accuracy:
0.8586
426/750 [=========>.....] - ETA: 0s - loss: 0.7467 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.7496 - accuracy:
567/750 [==========>.....] - ETA: 0s - loss: 0.7468 - accuracy:
0.8594
712/750 [===============>..] - ETA: 0s - loss: 0.7468 - accuracy:
0.8587 - val loss: 0.7638 - val accuracy: 0.8523
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.7606 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.7594 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.7464 - accuracy:
```

```
0.8605
216/750 [======>.....] - ETA: 0s - loss: 0.7406 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.7421 - accuracy:
0.8596
355/750 [=======>.....] - ETA: 0s - loss: 0.7393 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.7401 - accuracy:
490/750 [=========>.....] - ETA: 0s - loss: 0.7399 - accuracy:
562/750 [==========>.....] - ETA: 0s - loss: 0.7397 - accuracy:
0.8599
0.8599
0.8593 - val loss: 0.7584 - val accuracy: 0.8549
Epoch 60/220
1/750 [.....] - ETA: 0s - loss: 0.7035 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7712 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7472 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7395 - accuracy:
0.8584
286/750 [=======>.....] - ETA: 0s - loss: 0.7416 - accuracy:
0.8579
358/750 [========>.....] - ETA: 0s - loss: 0.7419 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.7425 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.7420 - accuracy:
0.8598
573/750 [===========>.....] - ETA: 0s - loss: 0.7422 - accuracy:
0.8593
644/750 [============>....] - ETA: 0s - loss: 0.7419 - accuracy:
0.8596 - val_loss: 0.7677 - val_accuracy: 0.8469
Epoch 61/220
1/750 [.....] - ETA: 0s - loss: 0.8691 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.7264 - accuracy:
```

```
0.8688
141/750 [====>.....] - ETA: 0s - loss: 0.7509 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.7437 - accuracy:
283/750 [=======>..... - ETA: 0s - loss: 0.7408 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.7409 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.7373 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 0.7369 - accuracy:
566/750 [===========>.....] - ETA: 0s - loss: 0.7391 - accuracy:
0.8599
0.8596
0.8597
0.8590 - val_loss: 0.7593 - val_accuracy: 0.8525
Epoch 62/220
1/750 [.....] - ETA: 0s - loss: 0.7075 - accuracy:
0.8750
73/750 [=>.....] - ETA: 0s - loss: 0.7498 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.7429 - accuracy:
0.8577
215/750 [======>.....] - ETA: 0s - loss: 0.7394 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.7363 - accuracy:
0.8699
358/750 [========>.....] - ETA: 0s - loss: 0.7366 - accuracy:
0.8601
429/750 [=========>..... - ETA: 0s - loss: 0.7351 - accuracy:
0.8696
499/750 [==========>.....] - ETA: 0s - loss: 0.7354 - accuracy:
0.8607
570/750 [==========>.....] - ETA: 0s - loss: 0.7344 - accuracy:
0.8602 - val_loss: 0.7536 - val_accuracy: 0.8541
Epoch 63/220
1/750 [.....] - ETA: 0s - loss: 0.6777 - accuracy:
```

```
0.8125
73/750 [=>.....] - ETA: 0s - loss: 0.7296 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7287 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7334 - accuracy:
0.8609
285/750 [=======>..... - ETA: 0s - loss: 0.7354 - accuracy:
0.8596
357/750 [=======>.....] - ETA: 0s - loss: 0.7355 - accuracy:
426/750 [=========>...... - ETA: 0s - loss: 0.7368 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.7344 - accuracy:
0.8611
569/750 [===========>.....] - ETA: 0s - loss: 0.7350 - accuracy:
0.8696
640/750 [============>....] - ETA: 0s - loss: 0.7358 - accuracy:
0.8612 - val loss: 0.7561 - val accuracy: 0.8540
Epoch 64/220
1/750 [.....] - ETA: 0s - loss: 0.6849 - accuracy:
0.8996
73/750 [=>.....] - ETA: 0s - loss: 0.7314 - accuracy:
143/750 [====>...... - accuracy:
0.8637
213/750 [======>.....] - ETA: 0s - loss: 0.7283 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.7335 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.7354 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.7334 - accuracy:
0.8609
500/750 [=========>.....] - ETA: 0s - loss: 0.7347 - accuracy:
572/750 [==========>.....] - ETA: 0s - loss: 0.7346 - accuracy:
0.8611
0.8614
0.8613 - val loss: 0.7518 - val accuracy: 0.8542
Epoch 65/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6151 - accuracy:
71/750 [=>...... - accuracy:
0.8581
141/750 [====>...... - ETA: 0s - loss: 0.7295 - accuracy:
0.8634
212/750 [======>.....] - ETA: 0s - loss: 0.7315 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.7264 - accuracy:
0.8661
355/750 [=======>.....] - ETA: 0s - loss: 0.7298 - accuracy:
425/750 [=========>.....] - ETA: 0s - loss: 0.7317 - accuracy:
0.8639
496/750 [=========>.....] - ETA: 0s - loss: 0.7316 - accuracy:
565/750 [===========>.....] - ETA: 0s - loss: 0.7333 - accuracy:
705/750 [=============>..] - ETA: 0s - loss: 0.7310 - accuracy:
0.8619
0.8622 - val loss: 0.7521 - val accuracy: 0.8547
Epoch 66/220
1/750 [...... os. 6.6192 - accuracy:
0.8906
70/750 [=>.....] - ETA: 0s - loss: 0.7355 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.7367 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.7387 - accuracy:
0.8603
285/750 [=======>..... - ETA: 0s - loss: 0.7382 - accuracy:
0.8596
356/750 [=======>.....] - ETA: 0s - loss: 0.7335 - accuracy:
0.8616
428/750 [=========>.....] - ETA: 0s - loss: 0.7316 - accuracy:
498/750 [==========>.....] - ETA: 0s - loss: 0.7303 - accuracy:
570/750 [==============>.....] - ETA: 0s - loss: 0.7288 - accuracy:
0.8644
750/750 [============= ] - 1s 860us/step - loss: 0.7280 - accuracy:
```

```
0.8635 - val_loss: 0.7474 - val_accuracy: 0.8554 Epoch 67/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.8550 - accuracy:
0.7969
72/750 [=>.....] - ETA: 0s - loss: 0.7333 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.7351 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.7331 - accuracy:
283/750 [=======>..... - ETA: 0s - loss: 0.7300 - accuracy:
0.8616
352/750 [========>.....] - ETA: 0s - loss: 0.7306 - accuracy:
0.8616
423/750 [========>..... - ETA: 0s - loss: 0.7279 - accuracy:
0.8616
494/750 [=========>.....] - ETA: 0s - loss: 0.7277 - accuracy:
0.8615
564/750 [===============>.....] - ETA: 0s - loss: 0.7248 - accuracy:
0.8617
0.8626
750/750 [============= ] - 1s 862us/step - loss: 0.7261 - accuracy:
0.8624 - val_loss: 0.7481 - val_accuracy: 0.8559
Epoch 68/220
 1/750 [...... 0.8766 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7348 - accuracy:
0.8598
142/750 [====>.....] - ETA: 0s - loss: 0.7180 - accuracy:
0.8670
212/750 [======>.....] - ETA: 0s - loss: 0.7225 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.7230 - accuracy:
0.8649
355/750 [========>.....] - ETA: 0s - loss: 0.7247 - accuracy:
0.8629
428/750 [=========>.....] - ETA: 0s - loss: 0.7246 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.7262 - accuracy:
570/750 [============>.....] - ETA: 0s - loss: 0.7273 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 0.7253 - accuracy:
712/750 [===============>..] - ETA: 0s - loss: 0.7231 - accuracy:
```

```
0.8631
750/750 [================ ] - 1s 860us/step - loss: 0.7242 - accuracy:
0.8630 - val_loss: 0.7460 - val_accuracy: 0.8567
Epoch 69/220
 1/750 [.....] - ETA: 0s - loss: 0.7639 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.7275 - accuracy:
142/750 [====>...... - ETA: 0s - loss: 0.7209 - accuracy:
214/750 [======>...... - ETA: 0s - loss: 0.7230 - accuracy:
0.8621
285/750 [=======>.....] - ETA: 0s - loss: 0.7261 - accuracy:
0.8604
357/750 [=========>.....] - ETA: 0s - loss: 0.7224 - accuracy:
428/750 [=========>...... - ETA: 0s - loss: 0.7252 - accuracy:
0.8631
497/750 [==========>.....] - ETA: 0s - loss: 0.7235 - accuracy:
569/750 [==========>.....] - ETA: 0s - loss: 0.7226 - accuracy:
0.8642
0.8649
710/750 [===============>..] - ETA: 0s - loss: 0.7224 - accuracy:
750/750 [============= ] - 1s 864us/step - loss: 0.7222 - accuracy:
0.8642 - val_loss: 0.7443 - val_accuracy: 0.8560
Epoch 70/220
 1/750 [.....] - ETA: 0s - loss: 0.7556 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7030 - accuracy:
0.8709
143/750 [====>.....] - ETA: 0s - loss: 0.7053 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7123 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.7164 - accuracy:
353/750 [=======>.....] - ETA: 0s - loss: 0.7171 - accuracy:
0.8667
424/750 [========>.....] - ETA: 0s - loss: 0.7209 - accuracy:
494/750 [=========>.....] - ETA: 0s - loss: 0.7222 - accuracy:
0.8646
564/750 [==========>.....] - ETA: 0s - loss: 0.7224 - accuracy:
634/750 [============>....] - ETA: 0s - loss: 0.7200 - accuracy:
```

```
0.8643 - val loss: 0.7419 - val accuracy: 0.8568
Epoch 71/220
1/750 [.....] - ETA: 0s - loss: 0.6012 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.7220 - accuracy:
0.8647
144/750 [====>...... - ETA: 0s - loss: 0.7199 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7217 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.7242 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.7228 - accuracy:
429/750 [==========>.....] - ETA: 0s - loss: 0.7230 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 0.7221 - accuracy:
0.8633
572/750 [==============>.....] - ETA: 0s - loss: 0.7183 - accuracy:
0.8644
0.8643
0.8644 - val loss: 0.7407 - val accuracy: 0.8583
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.5361 - accuracy:
0.9219
69/750 [=>.....] - ETA: 0s - loss: 0.7136 - accuracy:
0.8673
142/750 [====>.....] - ETA: 0s - loss: 0.7163 - accuracy:
0.8643
213/750 [======>.....] - ETA: 0s - loss: 0.7106 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.7110 - accuracy:
358/750 [=========>......] - ETA: 0s - loss: 0.7104 - accuracy:
429/750 [========>..... - ETA: 0s - loss: 0.7127 - accuracy:
0.8677
501/750 [=========>.....] - ETA: 0s - loss: 0.7147 - accuracy:
572/750 [============>.....] - ETA: 0s - loss: 0.7168 - accuracy:
```

```
0.8654
750/750 [================ ] - 1s 856us/step - loss: 0.7166 - accuracy:
0.8649 - val loss: 0.7410 - val accuracy: 0.8564
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.5779 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.7075 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.7121 - accuracy:
0.8681
213/750 [======>.....] - ETA: 0s - loss: 0.7143 - accuracy:
0.8668
284/750 [=======>..... - ETA: 0s - loss: 0.7097 - accuracy:
0.8667
356/750 [=======>..... - ETA: 0s - loss: 0.7111 - accuracy:
426/750 [=========>..... - ETA: 0s - loss: 0.7134 - accuracy:
0.8654
497/750 [==========>.....] - ETA: 0s - loss: 0.7144 - accuracy:
566/750 [============>.....] - ETA: 0s - loss: 0.7148 - accuracy:
0.8651
708/750 [==============>..] - ETA: 0s - loss: 0.7151 - accuracy:
0.8651 - val_loss: 0.7378 - val_accuracy: 0.8583
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.6239 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.6928 - accuracy:
0.8721
146/750 [====>.....] - ETA: 0s - loss: 0.7050 - accuracy:
0.8691
218/750 [======>.....] - ETA: 0s - loss: 0.7159 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.7181 - accuracy:
0.8641
434/750 [=========>..... - ETA: 0s - loss: 0.7162 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.7148 - accuracy:
```

```
575/750 [=============>.....] - ETA: 0s - loss: 0.7127 - accuracy:
750/750 [=============== ] - 1s 861us/step - loss: 0.7127 - accuracy:
0.8659 - val loss: 0.7371 - val accuracy: 0.8565
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.7520 - accuracy:
71/750 [=>...... - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.7196 - accuracy:
0.8649
213/750 [======>...... - ETA: 0s - loss: 0.7096 - accuracy:
283/750 [=======>.....] - ETA: 0s - loss: 0.7092 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7080 - accuracy:
0.8671
425/750 [==========>.....] - ETA: 0s - loss: 0.7107 - accuracy:
0.8662
498/750 [==========>.....] - ETA: 0s - loss: 0.7133 - accuracy:
569/750 [============>.....] - ETA: 0s - loss: 0.7140 - accuracy:
0.8648
639/750 [============>....] - ETA: 0s - loss: 0.7129 - accuracy:
0.8657
750/750 [=============== ] - 1s 861us/step - loss: 0.7110 - accuracy:
0.8663 - val loss: 0.7326 - val accuracy: 0.8594
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.8855 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6904 - accuracy:
0.8796
145/750 [====>.....] - ETA: 0s - loss: 0.6956 - accuracy:
0.8770
216/750 [======>.....] - ETA: 0s - loss: 0.7026 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.7056 - accuracy:
360/750 [=======>..... - ETA: 0s - loss: 0.7100 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.7074 - accuracy:
```

```
0.8684
501/750 [===========>.....] - ETA: 0s - loss: 0.7087 - accuracy:
571/750 [===========>.....] - ETA: 0s - loss: 0.7100 - accuracy:
0.8679
0.8676
750/750 [=============== ] - 1s 861us/step - loss: 0.7090 - accuracy:
0.8678 - val_loss: 0.7393 - val_accuracy: 0.8562
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.7490 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.7035 - accuracy:
0.8690
143/750 [====>...... - ETA: 0s - loss: 0.7128 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.7074 - accuracy:
0.8667
287/750 [=======>.....] - ETA: 0s - loss: 0.7092 - accuracy:
358/750 [========>...... - ETA: 0s - loss: 0.7093 - accuracy:
0.8664
430/750 [=========>.....] - ETA: 0s - loss: 0.7107 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.7075 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.7086 - accuracy:
0.8673 - val loss: 0.7320 - val accuracy: 0.8577
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.6998 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.7115 - accuracy:
0.8641
143/750 [====>....... - accuracy:
0.8667
215/750 [======>.....] - ETA: 0s - loss: 0.7098 - accuracy:
0.8677
286/750 [=======>..... - ETA: 0s - loss: 0.7068 - accuracy:
0.8676
358/750 [========>.....] - ETA: 0s - loss: 0.7101 - accuracy:
```

```
0.8668
428/750 [=========>.....] - ETA: 0s - loss: 0.7127 - accuracy:
0.8663
502/750 [==========>.....] - ETA: 0s - loss: 0.7114 - accuracy:
0.8659
572/750 [===============>.....] - ETA: 0s - loss: 0.7091 - accuracy:
750/750 [============= ] - 1s 857us/step - loss: 0.7051 - accuracy:
0.8677 - val loss: 0.7276 - val accuracy: 0.8610
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.7196 - accuracy:
0.8438
72/750 [=>.....] - ETA: 0s - loss: 0.7147 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.7115 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7047 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 0.7067 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 0.7056 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.7053 - accuracy:
0.8663
504/750 [===========>.....] - ETA: 0s - loss: 0.7045 - accuracy:
0.8671
576/750 [============>.....] - ETA: 0s - loss: 0.7037 - accuracy:
0.8684
0.8687 - val_loss: 0.7363 - val_accuracy: 0.8559
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.7290 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.6958 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.6932 - accuracy:
215/750 [======>...... - ETA: 0s - loss: 0.7020 - accuracy:
275/750 [=======>..... - ETA: 0s - loss: 0.7041 - accuracy:
```

```
0.8668
336/750 [=========>.....] - ETA: 0s - loss: 0.6990 - accuracy:
403/750 [========>.....] - ETA: 0s - loss: 0.7015 - accuracy:
0.8683
469/750 [=========>.....] - ETA: 0s - loss: 0.7008 - accuracy:
536/750 [=========>.....] - ETA: 0s - loss: 0.7012 - accuracy:
0.8684
679/750 [============>...] - ETA: 0s - loss: 0.7004 - accuracy:
750/750 [============= ] - 1s 889us/step - loss: 0.7011 - accuracy:
0.8681 - val_loss: 0.7250 - val_accuracy: 0.8614
Epoch 81/220
1/750 [...... - ETA: 0s - loss: 0.8361 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7214 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.7091 - accuracy:
0.8686
217/750 [======>.....] - ETA: 0s - loss: 0.7036 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.6992 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.6995 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.6981 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.6981 - accuracy:
579/750 [============>.....] - ETA: 0s - loss: 0.6967 - accuracy:
0.8704
0.8699
0.8699 - val_loss: 0.7254 - val_accuracy: 0.8619
Epoch 82/220
72/750 [=>.....] - ETA: 0s - loss: 0.7025 - accuracy:
0.8678
146/750 [====>.....] - ETA: 0s - loss: 0.6951 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6947 - accuracy:
```

```
0.8693
292/750 [=======>.....] - ETA: 0s - loss: 0.6914 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.6963 - accuracy:
0.8691
438/750 [========>.....] - ETA: 0s - loss: 0.6984 - accuracy:
509/750 [========>>.....] - ETA: 0s - loss: 0.6989 - accuracy:
580/750 [=============>.....] - ETA: 0s - loss: 0.6974 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.6975 - accuracy:
0.8698
0.8694
750/750 [============= ] - 1s 849us/step - loss: 0.6978 - accuracy:
0.8696 - val loss: 0.7238 - val accuracy: 0.8599
Epoch 83/220
1/750 [...... 0.6774 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7103 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.7005 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.6980 - accuracy:
0.8717
287/750 [=======>.....] - ETA: 0s - loss: 0.7005 - accuracy:
0.8703
360/750 [=========>.....] - ETA: 0s - loss: 0.6978 - accuracy:
0.8709
431/750 [=========>.....] - ETA: 0s - loss: 0.6974 - accuracy:
504/750 [===========>.....] - ETA: 0s - loss: 0.6969 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.6967 - accuracy:
0.8707
723/750 [==============>..] - ETA: 0s - loss: 0.6957 - accuracy:
0.8713
0.8712 - val loss: 0.7203 - val accuracy: 0.8631
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.6797 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6920 - accuracy:
0.8715
147/750 [====>.....] - ETA: 0s - loss: 0.6908 - accuracy:
```

```
0.8697
219/750 [======>.....] - ETA: 0s - loss: 0.6923 - accuracy:
0.8706
291/750 [=======>.....] - ETA: 0s - loss: 0.6946 - accuracy:
0.8689
363/750 [=======>.....] - ETA: 0s - loss: 0.6973 - accuracy:
0.8673
436/750 [=========>.....] - ETA: 0s - loss: 0.6947 - accuracy:
0.8687
506/750 [===========>.....] - ETA: 0s - loss: 0.6959 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.6949 - accuracy:
651/750 [==============>....] - ETA: 0s - loss: 0.6931 - accuracy:
0.8709
750/750 [============== ] - 1s 846us/step - loss: 0.6943 - accuracy:
0.8705 - val loss: 0.7198 - val accuracy: 0.8619
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.7644 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6987 - accuracy:
0.8646
146/750 [====>.....] - ETA: 0s - loss: 0.6905 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.6939 - accuracy:
0.8698
290/750 [=======>.....] - ETA: 0s - loss: 0.6933 - accuracy:
0.8709
363/750 [=======>.....] - ETA: 0s - loss: 0.6900 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.6935 - accuracy:
0.8796
506/750 [=========>.....] - ETA: 0s - loss: 0.6944 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.6931 - accuracy:
0.8718
651/750 [==============>....] - ETA: 0s - loss: 0.6931 - accuracy:
0.8717 - val_loss: 0.7219 - val_accuracy: 0.8588
Epoch 86/220
1/750 [.....] - ETA: 0s - loss: 0.7733 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.6788 - accuracy:
```

```
0.8743
143/750 [====>.....] - ETA: 0s - loss: 0.6724 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.6763 - accuracy:
287/750 [=======>..... - ETA: 0s - loss: 0.6826 - accuracy:
0.8741
359/750 [=======>.....] - ETA: 0s - loss: 0.6875 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.6877 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.6896 - accuracy:
0.8711
576/750 [============>.....] - ETA: 0s - loss: 0.6908 - accuracy:
0.8697
0.8704 - val_loss: 0.7176 - val_accuracy: 0.8623
Epoch 87/220
1/750 [...... - ETA: 0s - loss: 0.6486 - accuracy:
0.8996
74/750 [=>...... - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6926 - accuracy:
0.8726
219/750 [======>.....] - ETA: 0s - loss: 0.6965 - accuracy:
291/750 [=======>.....] - ETA: 0s - loss: 0.6940 - accuracy:
0.8707
364/750 [========>.....] - ETA: 0s - loss: 0.6960 - accuracy:
0.8696
438/750 [=========>..... - ETA: 0s - loss: 0.6949 - accuracy:
0.8694
509/750 [==========>.....] - ETA: 0s - loss: 0.6910 - accuracy:
0.8714
580/750 [===========>.....] - ETA: 0s - loss: 0.6916 - accuracy:
0.8714
651/750 [============>....] - ETA: 0s - loss: 0.6900 - accuracy:
0.8724 - val_loss: 0.7183 - val_accuracy: 0.8608
Epoch 88/220
1/750 [.....] - ETA: 0s - loss: 0.8790 - accuracy:
```

```
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.6698 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6780 - accuracy:
217/750 [=====>.....] - ETA: 0s - loss: 0.6819 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.6845 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.6849 - accuracy:
0.8726
435/750 [=========>...... - ETA: 0s - loss: 0.6873 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.6887 - accuracy:
0.8704
580/750 [============>.....] - ETA: 0s - loss: 0.6875 - accuracy:
0.8704
0.8716 - val loss: 0.7159 - val accuracy: 0.8630
Epoch 89/220
1/750 [.....] - ETA: 0s - loss: 0.7216 - accuracy:
0.8996
74/750 [=>.....] - ETA: 0s - loss: 0.6892 - accuracy:
0.8731
143/750 [====>.....] - ETA: 0s - loss: 0.6809 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6815 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.6825 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.6865 - accuracy:
0.8719
431/750 [=========>.....] - ETA: 0s - loss: 0.6893 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 0.6874 - accuracy:
0.8716
575/750 [===========>.....] - ETA: 0s - loss: 0.6871 - accuracy:
0.8716
647/750 [===============>.....] - ETA: 0s - loss: 0.6862 - accuracy:
0.8721 - val_loss: 0.7167 - val_accuracy: 0.8619
Epoch 90/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6114 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6825 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.6852 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6836 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.6783 - accuracy:
0.8764
361/750 [=======>.....] - ETA: 0s - loss: 0.6790 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.6795 - accuracy:
0.8753
507/750 [==========>.....] - ETA: 0s - loss: 0.6803 - accuracy:
0.8741
575/750 [=============>.....] - ETA: 0s - loss: 0.6825 - accuracy:
0.8731
0.8721
0.8721 - val loss: 0.7123 - val accuracy: 0.8650
Epoch 91/220
1/750 [...... 0.6689 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.6819 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.6820 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6832 - accuracy:
0.8703
288/750 [=======>..... - ETA: 0s - loss: 0.6841 - accuracy:
0.8724
361/750 [========>.....] - ETA: 0s - loss: 0.6859 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.6858 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.6853 - accuracy:
0.8716
579/750 [============>.....] - ETA: 0s - loss: 0.6855 - accuracy:
651/750 [==============>....] - ETA: 0s - loss: 0.6852 - accuracy:
0.8724
0.8726
750/750 [============= ] - 1s 852us/step - loss: 0.6829 - accuracy:
```

```
0.8730 - val_loss: 0.7101 - val_accuracy: 0.8661 Epoch 92/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.8977 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.6989 - accuracy:
0.8641
145/750 [====>...... - ETA: 0s - loss: 0.6956 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6911 - accuracy:
0.8696
288/750 [=======>..... - ETA: 0s - loss: 0.6888 - accuracy:
361/750 [=========>.....] - ETA: 0s - loss: 0.6844 - accuracy:
0.8723
431/750 [=========>..... - ETA: 0s - loss: 0.6833 - accuracy:
0.8734
502/750 [=========>.....] - ETA: 0s - loss: 0.6807 - accuracy:
574/750 [===============>.....] - ETA: 0s - loss: 0.6827 - accuracy:
0.8739
0.8736
0.8734 - val_loss: 0.7131 - val_accuracy: 0.8631
Epoch 93/220
1/750 [...... 0.5430 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.6836 - accuracy:
0.8716
145/750 [====>.....] - ETA: 0s - loss: 0.6786 - accuracy:
0.8762
218/750 [======>.....] - ETA: 0s - loss: 0.6775 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.6747 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.6747 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.6744 - accuracy:
0.8751
509/750 [========>>.....] - ETA: 0s - loss: 0.6733 - accuracy:
581/750 [============>.....] - ETA: 0s - loss: 0.6762 - accuracy:
654/750 [============>....] - ETA: 0s - loss: 0.6765 - accuracy:
727/750 [===============>.] - ETA: 0s - loss: 0.6785 - accuracy:
```

```
0.8742
0.8738 - val_loss: 0.7080 - val_accuracy: 0.8646
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.5814 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.6787 - accuracy:
0.8717
146/750 [====>...... - ETA: 0s - loss: 0.6706 - accuracy:
0.8764
215/750 [======>...... - ETA: 0s - loss: 0.6733 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.6733 - accuracy:
0.8754
361/750 [=========>.....] - ETA: 0s - loss: 0.6753 - accuracy:
0.8741
434/750 [=========>...... - ETA: 0s - loss: 0.6752 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.6755 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.6752 - accuracy:
0.8748
724/750 [===============>..] - ETA: 0s - loss: 0.6791 - accuracy:
750/750 [============= ] - 1s 856us/step - loss: 0.6779 - accuracy:
0.8742 - val_loss: 0.7058 - val_accuracy: 0.8658
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.6341 - accuracy:
0.8906
70/750 [=>.....] - ETA: 0s - loss: 0.6725 - accuracy:
0.8741
138/750 [====>.....] - ETA: 0s - loss: 0.6813 - accuracy:
207/750 [======>.....] - ETA: 0s - loss: 0.6799 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.6795 - accuracy:
0.8734
344/750 [=======>.....] - ETA: 0s - loss: 0.6788 - accuracy:
412/750 [========>.....] - ETA: 0s - loss: 0.6785 - accuracy:
481/750 [==========>.....] - ETA: 0s - loss: 0.6808 - accuracy:
0.8736
550/750 [==========>.....] - ETA: 0s - loss: 0.6787 - accuracy:
618/750 [===========>.....] - ETA: 0s - loss: 0.6771 - accuracy:
```

```
0.8751
0.8751 - val loss: 0.7116 - val accuracy: 0.8626
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.6929 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6609 - accuracy:
136/750 [====>...... - ETA: 0s - loss: 0.6671 - accuracy:
205/750 [======>.....] - ETA: 0s - loss: 0.6667 - accuracy:
0.8778
275/750 [=======>.....] - ETA: 0s - loss: 0.6650 - accuracy:
0.8785
343/750 [=======>.....] - ETA: 0s - loss: 0.6702 - accuracy:
0.8769
413/750 [=========>...... - ETA: 0s - loss: 0.6719 - accuracy:
483/750 [=========>.....] - ETA: 0s - loss: 0.6726 - accuracy:
0.8766
552/750 [===============>.....] - ETA: 0s - loss: 0.6730 - accuracy:
0.8749
0.8744 - val loss: 0.7047 - val accuracy: 0.8661
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.7678 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.6714 - accuracy:
0.8741
135/750 [====>...... - ETA: 0s - loss: 0.6698 - accuracy:
206/750 [======>.....] - ETA: 0s - loss: 0.6731 - accuracy:
0.8742
277/750 [=======>.....] - ETA: 0s - loss: 0.6765 - accuracy:
346/750 [=========>.....] - ETA: 0s - loss: 0.6765 - accuracy:
416/750 [========>..... - ETA: 0s - loss: 0.6732 - accuracy:
486/750 [=========>.....] - ETA: 0s - loss: 0.6742 - accuracy:
0.8751
557/750 [============>.....] - ETA: 0s - loss: 0.6736 - accuracy:
```

```
697/750 [============>...] - ETA: 0s - loss: 0.6739 - accuracy:
0.8756
0.8756 - val loss: 0.7038 - val accuracy: 0.8652
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.6527 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6718 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.6772 - accuracy:
0.8719
212/750 [======>.....] - ETA: 0s - loss: 0.6786 - accuracy:
0.8711
283/750 [=======>..... - ETA: 0s - loss: 0.6759 - accuracy:
0.8731
0.8744
424/750 [========>..... - ETA: 0s - loss: 0.6728 - accuracy:
493/750 [==========>.....] - ETA: 0s - loss: 0.6724 - accuracy:
0.8745
563/750 [============>.....] - ETA: 0s - loss: 0.6702 - accuracy:
702/750 [==============>..] - ETA: 0s - loss: 0.6705 - accuracy:
0.8763
0.8759 - val loss: 0.7037 - val accuracy: 0.8650
Epoch 99/220
1/750 [.....] - ETA: 0s - loss: 0.7425 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6709 - accuracy:
0.8761
144/750 [====>.....] - ETA: 0s - loss: 0.6687 - accuracy:
0.8773
216/750 [======>.....] - ETA: 0s - loss: 0.6677 - accuracy:
0.8770
289/750 [=======>.....] - ETA: 0s - loss: 0.6699 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6668 - accuracy:
0.8781
429/750 [=========>..... - ETA: 0s - loss: 0.6666 - accuracy:
502/750 [===========>.....] - ETA: 0s - loss: 0.6703 - accuracy:
```

```
0.8766
574/750 [============>.....] - ETA: 0s - loss: 0.6705 - accuracy:
0.8769
0.8767
750/750 [=============== ] - 1s 852us/step - loss: 0.6701 - accuracy:
0.8760 - val loss: 0.7052 - val accuracy: 0.8645
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.5417 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6603 - accuracy:
0.8794
145/750 [====>.....] - ETA: 0s - loss: 0.6768 - accuracy:
0.8738
216/750 [======>.....] - ETA: 0s - loss: 0.6728 - accuracy:
0.8754
286/750 [=======>.....] - ETA: 0s - loss: 0.6745 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.6714 - accuracy:
0.8763
433/750 [==========>.....] - ETA: 0s - loss: 0.6701 - accuracy:
0.8767
505/750 [===========>.....] - ETA: 0s - loss: 0.6679 - accuracy:
0.8771
580/750 [=============>.....] - ETA: 0s - loss: 0.6660 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.6669 - accuracy:
0.8770
0.8764 - val loss: 0.7006 - val accuracy: 0.8662
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.6857 - accuracy:
0.8594
71/750 [=>...... - accuracy:
0.8796
143/750 [====>.....] - ETA: 0s - loss: 0.6740 - accuracy:
0.8780
219/750 [======>.....] - ETA: 0s - loss: 0.6702 - accuracy:
0.8771
288/750 [=======>.....] - ETA: 0s - loss: 0.6708 - accuracy:
0.8766
360/750 [=======>.....] - ETA: 0s - loss: 0.6689 - accuracy:
0.8763
435/750 [=========>.....] - ETA: 0s - loss: 0.6691 - accuracy:
```

```
0.8760
506/750 [===========>.....] - ETA: 0s - loss: 0.6706 - accuracy:
0.8754
576/750 [===========>.....] - ETA: 0s - loss: 0.6700 - accuracy:
0.8754
0.8764
0.8765 - val loss: 0.7000 - val accuracy: 0.8662
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.8301 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6740 - accuracy:
0.8734
140/750 [====>.....] - ETA: 0s - loss: 0.6662 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.6650 - accuracy:
0.8766
284/750 [=======>..... - ETA: 0s - loss: 0.6659 - accuracy:
0.8756
355/750 [=======>.....] - ETA: 0s - loss: 0.6647 - accuracy:
0.8764
428/750 [=========>.....] - ETA: 0s - loss: 0.6624 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.6606 - accuracy:
0.8777
572/750 [==========>.....] - ETA: 0s - loss: 0.6616 - accuracy:
0.8770
0.8769 - val loss: 0.6991 - val accuracy: 0.8663
Epoch 103/220
1/750 [.....] - ETA: 0s - loss: 0.7389 - accuracy:
0.8125
71/750 [=>.....] - ETA: 0s - loss: 0.6809 - accuracy:
141/750 [====>....... - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.6683 - accuracy:
0.8760
280/750 [=======>..... - ETA: 0s - loss: 0.6697 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.6672 - accuracy:
```

```
0.8777
418/750 [=========>.....] - ETA: 0s - loss: 0.6659 - accuracy:
489/750 [=========>.....] - ETA: 0s - loss: 0.6664 - accuracy:
0.8766
556/750 [==============>.....] - ETA: 0s - loss: 0.6646 - accuracy:
0.8774
626/750 [============>....] - ETA: 0s - loss: 0.6660 - accuracy:
750/750 [============= ] - 1s 877us/step - loss: 0.6640 - accuracy:
0.8770 - val loss: 0.7069 - val accuracy: 0.8616
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.6956 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6666 - accuracy:
0.8788
140/750 [====>...... - ETA: 0s - loss: 0.6658 - accuracy:
0.8781
210/750 [=====>>.....] - ETA: 0s - loss: 0.6650 - accuracy:
0.8773
281/750 [=======>..... - ETA: 0s - loss: 0.6635 - accuracy:
0.8786
353/750 [========>.....] - ETA: 0s - loss: 0.6670 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.6659 - accuracy:
0.8771
494/750 [=========>.....] - ETA: 0s - loss: 0.6640 - accuracy:
0.8779
566/750 [===========>.....] - ETA: 0s - loss: 0.6622 - accuracy:
0.8781
0.8776
0.8783 - val_loss: 0.6967 - val_accuracy: 0.8679
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.5653 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.6644 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.6525 - accuracy:
0.8770
210/750 [======>...... - ETA: 0s - loss: 0.6536 - accuracy:
0.8781
277/750 [=======>.....] - ETA: 0s - loss: 0.6541 - accuracy:
```

```
0.8779
347/750 [=========>.....] - ETA: 0s - loss: 0.6564 - accuracy:
418/750 [========>.....] - ETA: 0s - loss: 0.6577 - accuracy:
0.8774
487/750 [=========>.....] - ETA: 0s - loss: 0.6595 - accuracy:
559/750 [==========>.....] - ETA: 0s - loss: 0.6578 - accuracy:
0.8784
699/750 [============>...] - ETA: 0s - loss: 0.6596 - accuracy:
750/750 [============= ] - 1s 877us/step - loss: 0.6605 - accuracy:
0.8779 - val_loss: 0.6941 - val_accuracy: 0.8662
Epoch 106/220
1/750 [...... - ETA: 0s - loss: 0.5248 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6629 - accuracy:
0.8784
136/750 [====>.....] - ETA: 0s - loss: 0.6632 - accuracy:
0.8799
206/750 [=====>>.....] - ETA: 0s - loss: 0.6617 - accuracy:
274/750 [=======>.....] - ETA: 0s - loss: 0.6639 - accuracy:
0.8784
345/750 [=======>.....] - ETA: 0s - loss: 0.6620 - accuracy:
0.8785
414/750 [========>.....] - ETA: 0s - loss: 0.6606 - accuracy:
0.8789
485/750 [==========>.....] - ETA: 0s - loss: 0.6606 - accuracy:
556/750 [===============>.....] - ETA: 0s - loss: 0.6597 - accuracy:
0.8789
0.8783
0.8791
0.8784 - val_loss: 0.6978 - val_accuracy: 0.8649
Epoch 107/220
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.6690 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6565 - accuracy:
0.8838
218/750 [======>.....] - ETA: 0s - loss: 0.6550 - accuracy:
```

```
0.8831
292/750 [=======>.....] - ETA: 0s - loss: 0.6636 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.6592 - accuracy:
0.8780
434/750 [========>.....] - ETA: 0s - loss: 0.6583 - accuracy:
507/750 [========>>.....] - ETA: 0s - loss: 0.6592 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.6581 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.6589 - accuracy:
0.8784
0.8790
750/750 [============= ] - 1s 861us/step - loss: 0.6581 - accuracy:
0.8790 - val loss: 0.6916 - val accuracy: 0.8672
Epoch 108/220
1/750 [...... os - loss: 0.9358 - accuracy:
65/750 [=>.....] - ETA: 0s - loss: 0.6669 - accuracy:
0.8776
138/750 [====>...... - ETA: 0s - loss: 0.6610 - accuracy:
0.8788
207/750 [======>.....] - ETA: 0s - loss: 0.6590 - accuracy:
0.8782
278/750 [=======>.....] - ETA: 0s - loss: 0.6582 - accuracy:
0.8784
351/750 [========>.....] - ETA: 0s - loss: 0.6570 - accuracy:
0.8793
422/750 [========>.....] - ETA: 0s - loss: 0.6571 - accuracy:
494/750 [==========>.....] - ETA: 0s - loss: 0.6567 - accuracy:
0.8789
567/750 [==========>.....] - ETA: 0s - loss: 0.6572 - accuracy:
0.8791
712/750 [===============>..] - ETA: 0s - loss: 0.6562 - accuracy:
0.8793
0.8788 - val loss: 0.6971 - val accuracy: 0.8645
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.8887 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.6507 - accuracy:
135/750 [====>...... - ETA: 0s - loss: 0.6442 - accuracy:
```

```
0.8814
205/750 [======>.....] - ETA: 0s - loss: 0.6459 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.6511 - accuracy:
0.8799
350/750 [=======>.....] - ETA: 0s - loss: 0.6517 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 0.6507 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 0.6513 - accuracy:
566/750 [==========>.....] - ETA: 0s - loss: 0.6514 - accuracy:
0.8803
0.8796
0.8796 - val loss: 0.6916 - val accuracy: 0.8670
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.7318 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6589 - accuracy:
0.8796
144/750 [====>.....] - ETA: 0s - loss: 0.6612 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6579 - accuracy:
0.8786
288/750 [=======>.....] - ETA: 0s - loss: 0.6590 - accuracy:
0.8777
359/750 [=======>.....] - ETA: 0s - loss: 0.6573 - accuracy:
0.8786
433/750 [=========>.....] - ETA: 0s - loss: 0.6566 - accuracy:
505/750 [=========>.....] - ETA: 0s - loss: 0.6550 - accuracy:
0.8789
578/750 [============>.....] - ETA: 0s - loss: 0.6541 - accuracy:
651/750 [==============>....] - ETA: 0s - loss: 0.6533 - accuracy:
0.8798 - val_loss: 0.6926 - val_accuracy: 0.8652
Epoch 111/220
1/750 [.....] - ETA: 0s - loss: 0.7029 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6529 - accuracy:
```

```
0.8813
139/750 [====>.....] - ETA: 0s - loss: 0.6528 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.6537 - accuracy:
282/750 [=======>..... - ETA: 0s - loss: 0.6497 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.6496 - accuracy:
0.8821
426/750 [=========>.....] - ETA: 0s - loss: 0.6516 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.6518 - accuracy:
0.8807
573/750 [===========>.....] - ETA: 0s - loss: 0.6514 - accuracy:
0.8899
0.8797
0.8798 - val_loss: 0.6866 - val_accuracy: 0.8695
Epoch 112/220
1/750 [...... - ETA: 0s - loss: 0.5945 - accuracy:
73/750 [=>...... - accuracy:
0.8761
147/750 [====>.....] - ETA: 0s - loss: 0.6553 - accuracy:
0.8766
219/750 [======>.....] - ETA: 0s - loss: 0.6561 - accuracy:
0.8771
291/750 [=======>.....] - ETA: 0s - loss: 0.6565 - accuracy:
0.8766
364/750 [========>.....] - ETA: 0s - loss: 0.6532 - accuracy:
0.8781
436/750 [=========>..... - ETA: 0s - loss: 0.6528 - accuracy:
0.8784
509/750 [==========>.....] - ETA: 0s - loss: 0.6524 - accuracy:
0.8789
582/750 [===========>.....] - ETA: 0s - loss: 0.6519 - accuracy:
0.8791
0.8801 - val_loss: 0.6901 - val_accuracy: 0.8687
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.7136 - accuracy:
```

```
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.6696 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.6552 - accuracy:
0.8766
219/750 [======>.....] - ETA: 0s - loss: 0.6520 - accuracy:
0.8788
293/750 [=======>.....] - ETA: 0s - loss: 0.6509 - accuracy:
368/750 [=======>.....] - ETA: 0s - loss: 0.6502 - accuracy:
440/750 [=========>..... - ETA: 0s - loss: 0.6504 - accuracy:
512/750 [===========>.....] - ETA: 0s - loss: 0.6493 - accuracy:
0.8797
587/750 [===========>.....] - ETA: 0s - loss: 0.6493 - accuracy:
0.8806 - val loss: 0.6836 - val accuracy: 0.8673
Epoch 114/220
1/750 [.....] - ETA: 0s - loss: 0.6169 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6486 - accuracy:
0.8794
144/750 [====>.....] - ETA: 0s - loss: 0.6436 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6481 - accuracy:
0.8788
284/750 [=======>.....] - ETA: 0s - loss: 0.6471 - accuracy:
0.8894
356/750 [=======>.....] - ETA: 0s - loss: 0.6431 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.6455 - accuracy:
0.8814
503/750 [=========>.....] - ETA: 0s - loss: 0.6479 - accuracy:
575/750 [===========>.....] - ETA: 0s - loss: 0.6456 - accuracy:
649/750 [===============>.....] - ETA: 0s - loss: 0.6469 - accuracy:
0.8896
750/750 [============== ] - 1s 849us/step - loss: 0.6475 - accuracy:
0.8806 - val loss: 0.6841 - val accuracy: 0.8679
Epoch 115/220
```

```
1/750 [...... - 6.5857 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6378 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6457 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6448 - accuracy:
0.8797
290/750 [=======>..... - ETA: 0s - loss: 0.6458 - accuracy:
0.8816
363/750 [========>.....] - ETA: 0s - loss: 0.6459 - accuracy:
0.8814
437/750 [=========>.....] - ETA: 0s - loss: 0.6445 - accuracy:
0.8826
510/750 [=========>.....] - ETA: 0s - loss: 0.6438 - accuracy:
0.8827
581/750 [=============>.....] - ETA: 0s - loss: 0.6428 - accuracy:
0.8824
0.8817
0.8816 - val loss: 0.6844 - val accuracy: 0.8677
Epoch 116/220
1/750 [...... 0.5277 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6304 - accuracy:
0.8883
143/750 [====>.....] - ETA: 0s - loss: 0.6359 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6415 - accuracy:
0.8814
290/750 [=======>..... - ETA: 0s - loss: 0.6402 - accuracy:
0.8824
364/750 [========>.....] - ETA: 0s - loss: 0.6417 - accuracy:
0.8828
437/750 [=========>.....] - ETA: 0s - loss: 0.6435 - accuracy:
0.8826
508/750 [===========>.....] - ETA: 0s - loss: 0.6443 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.6449 - accuracy:
656/750 [=============>....] - ETA: 0s - loss: 0.6441 - accuracy:
0.8817
0.8814
750/750 [============= ] - 1s 840us/step - loss: 0.6445 - accuracy:
```

```
0.8816 - val_loss: 0.6870 - val_accuracy: 0.8679 
Epoch 117/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6218 - accuracy:
0.8906
75/750 [==>.....] - ETA: 0s - loss: 0.6480 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.6467 - accuracy:
220/750 [=====>.....] - ETA: 0s - loss: 0.6448 - accuracy:
293/750 [=======>..... - ETA: 0s - loss: 0.6461 - accuracy:
0.8817
366/750 [=========>.....] - ETA: 0s - loss: 0.6427 - accuracy:
0.8829
433/750 [=========>..... - ETA: 0s - loss: 0.6401 - accuracy:
0.8838
506/750 [=========>.....] - ETA: 0s - loss: 0.6423 - accuracy:
578/750 [=============>.....] - ETA: 0s - loss: 0.6403 - accuracy:
0.8834
653/750 [=============>....] - ETA: 0s - loss: 0.6420 - accuracy:
0.8826
0.8829 - val_loss: 0.6809 - val_accuracy: 0.8708
Epoch 118/220
1/750 [...... 0.6160 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6506 - accuracy:
0.8831
146/750 [====>.....] - ETA: 0s - loss: 0.6390 - accuracy:
0.8832
218/750 [======>.....] - ETA: 0s - loss: 0.6395 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.6408 - accuracy:
0.8843
364/750 [========>.....] - ETA: 0s - loss: 0.6406 - accuracy:
0.8841
436/750 [=========>.....] - ETA: 0s - loss: 0.6430 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.6445 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.6431 - accuracy:
0.8834
657/750 [============>....] - ETA: 0s - loss: 0.6418 - accuracy:
```

```
0.8829
750/750 [================ ] - 1s 841us/step - loss: 0.6416 - accuracy:
0.8831 - val_loss: 0.6810 - val_accuracy: 0.8698
Epoch 119/220
 1/750 [.....] - ETA: 0s - loss: 0.8131 - accuracy:
0.7969
69/750 [=>.....] - ETA: 0s - loss: 0.6431 - accuracy:
139/750 [====>...... - ETA: 0s - loss: 0.6400 - accuracy:
0.8837
213/750 [======>...... - ETA: 0s - loss: 0.6421 - accuracy:
0.8834
285/750 [=======>.....] - ETA: 0s - loss: 0.6409 - accuracy:
0.8832
357/750 [=========>.....] - ETA: 0s - loss: 0.6376 - accuracy:
0.8841
429/750 [=========>.....] - ETA: 0s - loss: 0.6360 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.6352 - accuracy:
574/750 [==========>.....] - ETA: 0s - loss: 0.6387 - accuracy:
0.8837
719/750 [===============>..] - ETA: 0s - loss: 0.6401 - accuracy:
750/750 [============= ] - 1s 846us/step - loss: 0.6406 - accuracy:
0.8834 - val_loss: 0.6797 - val_accuracy: 0.8694
Epoch 120/220
 1/750 [.....] - ETA: 0s - loss: 0.6792 - accuracy:
0.8438
75/750 [==>.....] - ETA: 0s - loss: 0.6323 - accuracy:
0.8823
146/750 [====>.....] - ETA: 0s - loss: 0.6405 - accuracy:
0.8829
218/750 [======>.....] - ETA: 0s - loss: 0.6409 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.6435 - accuracy:
0.8896
365/750 [=======>.....] - ETA: 0s - loss: 0.6420 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.6425 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.6400 - accuracy:
0.8827
577/750 [===========>.....] - ETA: 0s - loss: 0.6399 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 0.6415 - accuracy:
```

```
0.8814
750/750 [=============== ] - 1s 850us/step - loss: 0.6390 - accuracy:
0.8823 - val loss: 0.6774 - val accuracy: 0.8717
Epoch 121/220
1/750 [.....] - ETA: 0s - loss: 0.6510 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6402 - accuracy:
149/750 [====>...... - ETA: 0s - loss: 0.6342 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6373 - accuracy:
0.8834
294/750 [=======>.....] - ETA: 0s - loss: 0.6406 - accuracy:
365/750 [========>.....] - ETA: 0s - loss: 0.6400 - accuracy:
0.8836
438/750 [==========>.....] - ETA: 0s - loss: 0.6406 - accuracy:
510/750 [=========>.....] - ETA: 0s - loss: 0.6387 - accuracy:
0.8837
583/750 [============>.....] - ETA: 0s - loss: 0.6379 - accuracy:
0.8837
655/750 [=============>....] - ETA: 0s - loss: 0.6381 - accuracy:
0.8830 - val loss: 0.6809 - val accuracy: 0.8697
Epoch 122/220
1/750 [...... 0.7517 - accuracy:
0.8438
71/750 [=>.....] - ETA: 0s - loss: 0.6259 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.6358 - accuracy:
0.8849
217/750 [======>.....] - ETA: 0s - loss: 0.6281 - accuracy:
0.8858
289/750 [=======>.....] - ETA: 0s - loss: 0.6313 - accuracy:
0.8853
361/750 [=========>.....] - ETA: 0s - loss: 0.6330 - accuracy:
432/750 [=========>..... - ETA: 0s - loss: 0.6351 - accuracy:
0.8845
503/750 [=========>.....] - ETA: 0s - loss: 0.6356 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.6349 - accuracy:
```

```
0.8839
0.8837
0.8835 - val loss: 0.6786 - val accuracy: 0.8697
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.5862 - accuracy:
76/750 [==>.....] - ETA: 0s - loss: 0.6348 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.6317 - accuracy:
0.8868
218/750 [======>.....] - ETA: 0s - loss: 0.6323 - accuracy:
0.8843
291/750 [=======>..... - ETA: 0s - loss: 0.6364 - accuracy:
0.8826
364/750 [=======>.....] - ETA: 0s - loss: 0.6369 - accuracy:
0.8826
435/750 [=========>.....] - ETA: 0s - loss: 0.6347 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.6339 - accuracy:
580/750 [============>.....] - ETA: 0s - loss: 0.6346 - accuracy:
727/750 [==============>.] - ETA: 0s - loss: 0.6335 - accuracy:
0.8841 - val_loss: 0.6732 - val_accuracy: 0.8713
Epoch 124/220
1/750 [.....] - ETA: 0s - loss: 0.6262 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6494 - accuracy:
0.8824
145/750 [====>.....] - ETA: 0s - loss: 0.6405 - accuracy:
0.8842
217/750 [======>.....] - ETA: 0s - loss: 0.6378 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.6380 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 0.6397 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.6357 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.6347 - accuracy:
```

```
0.8841
578/750 [=============>.....] - ETA: 0s - loss: 0.6351 - accuracy:
0.8844
651/750 [==============>....] - ETA: 0s - loss: 0.6352 - accuracy:
0.8844 - val loss: 0.6760 - val accuracy: 0.8690
Epoch 125/220
1/750 [.....] - ETA: 0s - loss: 0.7101 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6279 - accuracy:
0.8881
143/750 [====>.....] - ETA: 0s - loss: 0.6358 - accuracy:
0.8846
217/750 [======>...... - ETA: 0s - loss: 0.6345 - accuracy:
287/750 [=======>...... - ETA: 0s - loss: 0.6311 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.6334 - accuracy:
0.8837
429/750 [=========>.....] - ETA: 0s - loss: 0.6342 - accuracy:
0.8823
501/750 [===========>.....] - ETA: 0s - loss: 0.6306 - accuracy:
574/750 [============>.....] - ETA: 0s - loss: 0.6298 - accuracy:
644/750 [============>....] - ETA: 0s - loss: 0.6320 - accuracy:
0.8841
750/750 [================ ] - 1s 864us/step - loss: 0.6318 - accuracy:
0.8844 - val loss: 0.6753 - val accuracy: 0.8706
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.6114 - accuracy:
0.8594
70/750 [=>.....] - ETA: 0s - loss: 0.6293 - accuracy:
0.8879
138/750 [====>.....] - ETA: 0s - loss: 0.6280 - accuracy:
206/750 [======>.....] - ETA: 0s - loss: 0.6293 - accuracy:
276/750 [=======>.....] - ETA: 0s - loss: 0.6277 - accuracy:
0.8845
344/750 [=======>.....] - ETA: 0s - loss: 0.6293 - accuracy:
413/750 [========>..... - ETA: 0s - loss: 0.6291 - accuracy:
```

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0.8846
482/750 [=========>.....] - ETA: 0s - loss: 0.6285 - accuracy:
552/750 [===========>.....] - ETA: 0s - loss: 0.6277 - accuracy:
0.8859
750/750 [================ ] - 1s 892us/step - loss: 0.6309 - accuracy:
0.8848 - val_loss: 0.6752 - val_accuracy: 0.8693
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.5505 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6234 - accuracy:
137/750 [====>...... - ETA: 0s - loss: 0.6314 - accuracy:
0.8839
205/750 [=====>.....] - ETA: 0s - loss: 0.6300 - accuracy:
277/750 [======>..... - ETA: 0s - loss: 0.6284 - accuracy:
347/750 [=======>.....] - ETA: 0s - loss: 0.6283 - accuracy:
0.8856
416/750 [========>.....] - ETA: 0s - loss: 0.6314 - accuracy:
487/750 [=========>.....] - ETA: 0s - loss: 0.6295 - accuracy:
558/750 [==========>.....] - ETA: 0s - loss: 0.6297 - accuracy:
0.8857
0.8855 - val loss: 0.6707 - val accuracy: 0.8721
Epoch 128/220
1/750 [.....] - ETA: 0s - loss: 0.6989 - accuracy:
0.8281
70/750 [=>.....] - ETA: 0s - loss: 0.6177 - accuracy:
0.8877
143/750 [====>......] - ETA: 0s - loss: 0.6194 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.6265 - accuracy:
0.8848
286/750 [=======>..... - ETA: 0s - loss: 0.6255 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.6230 - accuracy:
```

```
0.8865
431/750 [=========>.....] - ETA: 0s - loss: 0.6263 - accuracy:
500/750 [==========>.....] - ETA: 0s - loss: 0.6263 - accuracy:
0.8857
572/750 [===============>.....] - ETA: 0s - loss: 0.6279 - accuracy:
0.8857
646/750 [===========>....] - ETA: 0s - loss: 0.6290 - accuracy:
750/750 [============= ] - 1s 848us/step - loss: 0.6281 - accuracy:
0.8854 - val_loss: 0.6711 - val_accuracy: 0.8708
Epoch 129/220
1/750 [.....] - ETA: 0s - loss: 0.5748 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.6220 - accuracy:
0.8889
146/750 [====>...... - ETA: 0s - loss: 0.6299 - accuracy:
0.8869
221/750 [======>.....] - ETA: 0s - loss: 0.6310 - accuracy:
0.8863
294/750 [=======>..... - ETA: 0s - loss: 0.6319 - accuracy:
0.8846
366/750 [=======>.....] - ETA: 0s - loss: 0.6298 - accuracy:
0.8851
439/750 [=========>.....] - ETA: 0s - loss: 0.6294 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.6289 - accuracy:
0.8856
586/750 [============>.....] - ETA: 0s - loss: 0.6283 - accuracy:
0.8856
0.8859
0.8855 - val_loss: 0.6682 - val_accuracy: 0.8728
Epoch 130/220
1/750 [.....] - ETA: 0s - loss: 0.7218 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.6437 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.6319 - accuracy:
216/750 [======>...... - ETA: 0s - loss: 0.6276 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.6255 - accuracy:
```

```
0.8855
361/750 [=========>.....] - ETA: 0s - loss: 0.6250 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.6295 - accuracy:
0.8841
506/750 [========>>.....] - ETA: 0s - loss: 0.6254 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.6258 - accuracy:
726/750 [===============>.] - ETA: 0s - loss: 0.6253 - accuracy:
750/750 [============ ] - 1s 845us/step - loss: 0.6255 - accuracy:
0.8864 - val_loss: 0.6681 - val_accuracy: 0.8709
Epoch 131/220
1/750 [...... - ETA: 0s - loss: 0.6172 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6231 - accuracy:
0.8836
145/750 [====>.....] - ETA: 0s - loss: 0.6237 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6267 - accuracy:
0.8844
289/750 [=======>.....] - ETA: 0s - loss: 0.6194 - accuracy:
0.8879
360/750 [=======>.....] - ETA: 0s - loss: 0.6203 - accuracy:
0.8879
433/750 [=========>...... - ETA: 0s - loss: 0.6229 - accuracy:
0.8864
504/750 [===========>.....] - ETA: 0s - loss: 0.6240 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.6236 - accuracy:
0.8858 - val_loss: 0.6686 - val_accuracy: 0.8704
Epoch 132/220
1/750 [...... 0.5691 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6405 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.6340 - accuracy:
0.8801
217/750 [======>.....] - ETA: 0s - loss: 0.6314 - accuracy:
```

```
0.8813
288/750 [=======>.....] - ETA: 0s - loss: 0.6256 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.6253 - accuracy:
0.8854
435/750 [========>.....] - ETA: 0s - loss: 0.6238 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.6228 - accuracy:
581/750 [==============>.....] - ETA: 0s - loss: 0.6215 - accuracy:
655/750 [============>....] - ETA: 0s - loss: 0.6220 - accuracy:
0.8867
750/750 [============== ] - 1s 840us/step - loss: 0.6230 - accuracy:
0.8864 - val_loss: 0.6683 - val_accuracy: 0.8712
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.5722 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6094 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.6246 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.6213 - accuracy:
0.8851
291/750 [======>..... - ETA: 0s - loss: 0.6218 - accuracy:
0.8854
360/750 [========>.....] - ETA: 0s - loss: 0.6251 - accuracy:
0.8845
433/750 [=========>.....] - ETA: 0s - loss: 0.6256 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.6251 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.6224 - accuracy:
651/750 [==============>....] - ETA: 0s - loss: 0.6243 - accuracy:
0.8851
0.8864
0.8864 - val loss: 0.6647 - val accuracy: 0.8710
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.7208 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6107 - accuracy:
0.8906
144/750 [====>...... - ETA: 0s - loss: 0.6122 - accuracy:
```

```
0.8906
218/750 [======>.....] - ETA: 0s - loss: 0.6200 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.6198 - accuracy:
0.8879
362/750 [=======>.....] - ETA: 0s - loss: 0.6198 - accuracy:
0.8870
433/750 [=========>.....] - ETA: 0s - loss: 0.6209 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.6210 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.6222 - accuracy:
0.8862
651/750 [==============>....] - ETA: 0s - loss: 0.6203 - accuracy:
0.8869
750/750 [============== ] - 1s 857us/step - loss: 0.6201 - accuracy:
0.8870 - val loss: 0.6620 - val accuracy: 0.8741
Epoch 135/220
1/750 [.....] - ETA: 0s - loss: 0.7971 - accuracy:
0.8281
75/750 [==>.....] - ETA: 0s - loss: 0.6183 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.6173 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6140 - accuracy:
0.8869
292/750 [=======>.....] - ETA: 0s - loss: 0.6140 - accuracy:
0.8876
363/750 [========>.....] - ETA: 0s - loss: 0.6195 - accuracy:
0.8861
436/750 [=========>.....] - ETA: 0s - loss: 0.6174 - accuracy:
509/750 [=========>.....] - ETA: 0s - loss: 0.6192 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.6206 - accuracy:
0.8870
0.8877
0.8878
0.8878 - val_loss: 0.6636 - val_accuracy: 0.8725
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.7233 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6215 - accuracy:
```

```
0.8841
146/750 [====>.....] - ETA: 0s - loss: 0.6110 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.6118 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 0.6158 - accuracy:
0.8887
362/750 [=======>.....] - ETA: 0s - loss: 0.6156 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.6120 - accuracy:
507/750 [=========>.....] - ETA: 0s - loss: 0.6156 - accuracy:
581/750 [============>.....] - ETA: 0s - loss: 0.6176 - accuracy:
0.8878
654/750 [==============>....] - ETA: 0s - loss: 0.6182 - accuracy:
0.8879
0.8883
0.8882 - val_loss: 0.6620 - val_accuracy: 0.8734
Epoch 137/220
1/750 [...... - ETA: 0s - loss: 0.4992 - accuracy:
0.9688
75/750 [==>....... - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.6285 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.6246 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.6206 - accuracy:
0.8858
367/750 [=======>.....] - ETA: 0s - loss: 0.6176 - accuracy:
0.8875
437/750 [=========>..... - ETA: 0s - loss: 0.6166 - accuracy:
0.8880
508/750 [===========>.....] - ETA: 0s - loss: 0.6153 - accuracy:
0.8879
578/750 [===========>.....] - ETA: 0s - loss: 0.6163 - accuracy:
0.8881
651/750 [============>....] - ETA: 0s - loss: 0.6164 - accuracy:
0.8881
0.8877 - val_loss: 0.6601 - val_accuracy: 0.8747
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.4887 - accuracy:
```

```
0.9375
73/750 [=>.....] - ETA: 0s - loss: 0.6226 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6098 - accuracy:
0.8917
216/750 [======>.....] - ETA: 0s - loss: 0.6117 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.6166 - accuracy:
0.8879
365/750 [=======>.....] - ETA: 0s - loss: 0.6198 - accuracy:
437/750 [=========>..... - ETA: 0s - loss: 0.6182 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.6186 - accuracy:
0.8861
584/750 [============>.....] - ETA: 0s - loss: 0.6188 - accuracy:
0.8858
0.8870
0.8882 - val loss: 0.6594 - val accuracy: 0.8728
Epoch 139/220
1/750 [.....] - ETA: 0s - loss: 0.5622 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6072 - accuracy:
0.8915
146/750 [====>.....] - ETA: 0s - loss: 0.6044 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.6118 - accuracy:
0.8914
293/750 [=======>.....] - ETA: 0s - loss: 0.6162 - accuracy:
0.8884
366/750 [=======>.....] - ETA: 0s - loss: 0.6145 - accuracy:
0.8885
438/750 [==========>.....] - ETA: 0s - loss: 0.6144 - accuracy:
507/750 [=========>.....] - ETA: 0s - loss: 0.6140 - accuracy:
0.8884
580/750 [============>.....] - ETA: 0s - loss: 0.6157 - accuracy:
0.8877
653/750 [===============>....] - ETA: 0s - loss: 0.6140 - accuracy:
0.8886
0.8888
750/750 [============== ] - 1s 845us/step - loss: 0.6141 - accuracy:
0.8886 - val loss: 0.6577 - val accuracy: 0.8731
Epoch 140/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.4547 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5981 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6114 - accuracy:
0.8893
217/750 [=====>.....] - ETA: 0s - loss: 0.6127 - accuracy:
0.8896
291/750 [=======>..... - ETA: 0s - loss: 0.6157 - accuracy:
0.8891
364/750 [=======>...... - ETA: 0s - loss: 0.6181 - accuracy:
0.8880
436/750 [=========>.....] - ETA: 0s - loss: 0.6206 - accuracy:
0.8874
510/750 [===========>.....] - ETA: 0s - loss: 0.6177 - accuracy:
0.8881
584/750 [=============>.....] - ETA: 0s - loss: 0.6154 - accuracy:
0.8881
656/750 [===============>....] - ETA: 0s - loss: 0.6136 - accuracy:
0.8891
0.8887
750/750 [================ ] - 1s 842us/step - loss: 0.6127 - accuracy:
0.8890 - val loss: 0.6604 - val accuracy: 0.8721
Epoch 141/220
1/750 [...... 0.6503 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6025 - accuracy:
0.8983
146/750 [====>.....] - ETA: 0s - loss: 0.6129 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6125 - accuracy:
0.8894
291/750 [=======>..... - ETA: 0s - loss: 0.6122 - accuracy:
0.8889
363/750 [========>.....] - ETA: 0s - loss: 0.6099 - accuracy:
0.8898
436/750 [=========>.....] - ETA: 0s - loss: 0.6134 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.6120 - accuracy:
581/750 [=============>.....] - ETA: 0s - loss: 0.6126 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.6133 - accuracy:
0.8884
750/750 [============= ] - 1s 841us/step - loss: 0.6113 - accuracy:
```

```
0.8892 - val_loss: 0.6630 - val_accuracy: 0.8689 
Epoch 142/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6570 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6050 - accuracy:
150/750 [====>...... - ETA: 0s - loss: 0.6268 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.6153 - accuracy:
0.8890
296/750 [=======>..... - ETA: 0s - loss: 0.6120 - accuracy:
0.8890
0.8897
439/750 [========>..... - ETA: 0s - loss: 0.6112 - accuracy:
0.8897
513/750 [=========>>.....] - ETA: 0s - loss: 0.6108 - accuracy:
578/750 [=============>.....] - ETA: 0s - loss: 0.6104 - accuracy:
0.8892
650/750 [=============>....] - ETA: 0s - loss: 0.6093 - accuracy:
0.8899
0.8893
750/750 [============= ] - 1s 849us/step - loss: 0.6103 - accuracy:
0.8895 - val_loss: 0.6604 - val_accuracy: 0.8715
Epoch 143/220
 1/750 [...... 0.7640 - accuracy:
0.7969
74/750 [=>.....] - ETA: 0s - loss: 0.6127 - accuracy:
0.8891
147/750 [====>.....] - ETA: 0s - loss: 0.6024 - accuracy:
0.8897
219/750 [=====>.....] - ETA: 0s - loss: 0.6072 - accuracy:
0.8871
290/750 [=======>.....] - ETA: 0s - loss: 0.6101 - accuracy:
0.8879
364/750 [========>.....] - ETA: 0s - loss: 0.6096 - accuracy:
0.8883
436/750 [=========>.....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8880
510/750 [=========>.....] - ETA: 0s - loss: 0.6091 - accuracy:
585/750 [============>.....] - ETA: 0s - loss: 0.6089 - accuracy:
0.8897
656/750 [============>....] - ETA: 0s - loss: 0.6082 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.6085 - accuracy:
```

```
750/750 [================ ] - 1s 853us/step - loss: 0.6088 - accuracy:
0.8900 - val_loss: 0.6600 - val_accuracy: 0.8716
Epoch 144/220
 1/750 [.....] - ETA: 0s - loss: 0.5571 - accuracy:
0.9062
71/750 [=>.....] - ETA: 0s - loss: 0.5941 - accuracy:
0.8941
138/750 [====>...... - ETA: 0s - loss: 0.6015 - accuracy:
212/750 [======>...... - ETA: 0s - loss: 0.6029 - accuracy:
0.8934
284/750 [=======>.....] - ETA: 0s - loss: 0.6079 - accuracy:
0.8912
357/750 [=========>.....] - ETA: 0s - loss: 0.6052 - accuracy:
0.8919
431/750 [=========>...... - ETA: 0s - loss: 0.6043 - accuracy:
0.8914
502/750 [===========>.....] - ETA: 0s - loss: 0.6064 - accuracy:
575/750 [===========>.....] - ETA: 0s - loss: 0.6048 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.6063 - accuracy:
720/750 [===============>..] - ETA: 0s - loss: 0.6078 - accuracy:
0.8901
750/750 [============= ] - 1s 854us/step - loss: 0.6077 - accuracy:
0.8901 - val_loss: 0.6641 - val_accuracy: 0.8689
Epoch 145/220
 1/750 [.....] - ETA: 0s - loss: 0.7010 - accuracy:
0.8438
74/750 [=>.....] - ETA: 0s - loss: 0.6145 - accuracy:
0.8896
146/750 [====>.....] - ETA: 0s - loss: 0.6119 - accuracy:
0.8883
219/750 [======>.....] - ETA: 0s - loss: 0.6133 - accuracy:
0.8886
292/750 [=======>.....] - ETA: 0s - loss: 0.6123 - accuracy:
0.8891
365/750 [=======>.....] - ETA: 0s - loss: 0.6123 - accuracy:
0.8898
438/750 [=========>.....] - ETA: 0s - loss: 0.6082 - accuracy:
0.8911
509/750 [========>>.....] - ETA: 0s - loss: 0.6091 - accuracy:
0.8906
580/750 [===========>.....] - ETA: 0s - loss: 0.6075 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.6070 - accuracy:
```

```
0.8896
750/750 [=============== ] - 1s 848us/step - loss: 0.6071 - accuracy:
0.8898 - val loss: 0.6535 - val accuracy: 0.8744
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.6787 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6019 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.6047 - accuracy:
0.8890
216/750 [======>.....] - ETA: 0s - loss: 0.6073 - accuracy:
0.8882
288/750 [=======>.....] - ETA: 0s - loss: 0.6031 - accuracy:
0.8898
358/750 [=======>.....] - ETA: 0s - loss: 0.6026 - accuracy:
0.8904
427/750 [==========>.....] - ETA: 0s - loss: 0.6017 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.6057 - accuracy:
0.8893
574/750 [===============>.....] - ETA: 0s - loss: 0.6058 - accuracy:
0.8898 - val loss: 0.6539 - val accuracy: 0.8733
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.5958 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.5969 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.6028 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6099 - accuracy:
0.8898
290/750 [=======>.....] - ETA: 0s - loss: 0.6082 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 0.6080 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.6090 - accuracy:
0.8904
503/750 [=========>.....] - ETA: 0s - loss: 0.6086 - accuracy:
574/750 [===============>.....] - ETA: 0s - loss: 0.6070 - accuracy:
```

```
0.8904
0.8911
750/750 [================ ] - 1s 852us/step - loss: 0.6045 - accuracy:
0.8910 - val loss: 0.6524 - val accuracy: 0.8722
Epoch 148/220
  1/750 [.....] - ETA: 0s - loss: 0.7364 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6112 - accuracy:
0.8906
145/750 [====>.....] - ETA: 0s - loss: 0.5997 - accuracy:
0.8920
218/750 [======>.....] - ETA: 0s - loss: 0.6028 - accuracy:
0.8907
291/750 [=======>..... - ETA: 0s - loss: 0.6032 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.6042 - accuracy:
0.8917
436/750 [=========>.....] - ETA: 0s - loss: 0.6049 - accuracy:
0.8909
509/750 [===========>.....] - ETA: 0s - loss: 0.6045 - accuracy:
580/750 [============>.....] - ETA: 0s - loss: 0.6040 - accuracy:
 0.8903 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.
654/750 [==============>....] - ETA: 0s - loss: 0.6046 - accuracy:
0.8902 - val loss: 0.6573 - val accuracy: 0.8731
Epoch 149/220
  1/750 [.....] - ETA: 0s - loss: 0.6957 - accuracy:
0.8281
 75/750 [==>.....] - ETA: 0s - loss: 0.5868 - accuracy:
0.8988
148/750 [====>.....] - ETA: 0s - loss: 0.5919 - accuracy:
0.8945
218/750 [======>.....] - ETA: 0s - loss: 0.5917 - accuracy:
0.8946
291/750 [=======>.....] - ETA: 0s - loss: 0.5955 - accuracy:
0.8941
364/750 [========>.....] - ETA: 0s - loss: 0.5950 - accuracy:
437/750 [=========>...... - ETA: 0s - loss: 0.5954 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.5965 - accuracy:
```

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580/750 [=============>.....] - ETA: 0s - loss: 0.5973 - accuracy:
651/750 [==============>....] - ETA: 0s - loss: 0.6001 - accuracy:
0.8927
0.8922 - val loss: 0.6527 - val accuracy: 0.8733
Epoch 150/220
1/750 [.....] - ETA: 0s - loss: 0.7495 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6032 - accuracy:
0.8870
148/750 [====>.....] - ETA: 0s - loss: 0.6025 - accuracy:
0.8888
219/750 [======>...... - ETA: 0s - loss: 0.6001 - accuracy:
0.8909
291/750 [=======>..... - ETA: 0s - loss: 0.5989 - accuracy:
0.8914
364/750 [=======>.....] - ETA: 0s - loss: 0.6001 - accuracy:
437/750 [==========>.....] - ETA: 0s - loss: 0.5965 - accuracy:
0.8921
510/750 [===========>.....] - ETA: 0s - loss: 0.5972 - accuracy:
0.8919
580/750 [=============>.....] - ETA: 0s - loss: 0.5976 - accuracy:
0.8921
650/750 [=============>....] - ETA: 0s - loss: 0.5989 - accuracy:
0.8919
0.8910 - val loss: 0.6528 - val accuracy: 0.8729
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.4851 - accuracy:
71/750 [=>...... - accuracy:
0.8838
144/750 [====>.....] - ETA: 0s - loss: 0.6144 - accuracy:
0.8860
217/750 [======>.....] - ETA: 0s - loss: 0.6058 - accuracy:
0.8891
288/750 [=======>.....] - ETA: 0s - loss: 0.6012 - accuracy:
0.8898
361/750 [=======>.....] - ETA: 0s - loss: 0.5966 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.5986 - accuracy:
```

```
0.8919
508/750 [===========>.....] - ETA: 0s - loss: 0.5988 - accuracy:
0.8915
580/750 [============>.....] - ETA: 0s - loss: 0.6006 - accuracy:
0.8909 - val_loss: 0.6554 - val_accuracy: 0.8720
Epoch 152/220
1/750 [.....] - ETA: 0s - loss: 0.4642 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6042 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.5961 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6027 - accuracy:
290/750 [======>..... - ETA: 0s - loss: 0.6023 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.6005 - accuracy:
0.8909
426/750 [=========>.....] - ETA: 0s - loss: 0.6005 - accuracy:
498/750 [==========>.....] - ETA: 0s - loss: 0.6008 - accuracy:
569/750 [==========>.....] - ETA: 0s - loss: 0.5984 - accuracy:
0.8926
0.8924
0.8923 - val loss: 0.6465 - val accuracy: 0.8763
Epoch 153/220
1/750 [.....] - ETA: 0s - loss: 0.7054 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.5934 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.5967 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 0.6010 - accuracy:
361/750 [=========>.....] - ETA: 0s - loss: 0.6028 - accuracy:
```

```
0.8885
431/750 [=========>.....] - ETA: 0s - loss: 0.6002 - accuracy:
0.8895
501/750 [==========>.....] - ETA: 0s - loss: 0.5996 - accuracy:
0.8906
572/750 [===============>.....] - ETA: 0s - loss: 0.5976 - accuracy:
0.8911
638/750 [============>....] - ETA: 0s - loss: 0.5983 - accuracy:
750/750 [============= ] - 1s 860us/step - loss: 0.5971 - accuracy:
0.8919 - val loss: 0.6464 - val accuracy: 0.8775
Epoch 154/220
1/750 [.....] - ETA: 0s - loss: 0.5641 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.6080 - accuracy:
0.8863
146/750 [====>...... - ETA: 0s - loss: 0.6062 - accuracy:
0.8876
218/750 [======>.....] - ETA: 0s - loss: 0.6000 - accuracy:
290/750 [======>..... - ETA: 0s - loss: 0.5997 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.5987 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5992 - accuracy:
0.8899
506/750 [========>>.....] - ETA: 0s - loss: 0.5959 - accuracy:
0.8918
577/750 [============>.....] - ETA: 0s - loss: 0.5957 - accuracy:
0.8916
0.8919 - val_loss: 0.6527 - val_accuracy: 0.8712
Epoch 155/220
1/750 [.....] - ETA: 0s - loss: 0.6670 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5937 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6024 - accuracy:
0.8874
216/750 [======>...... - ETA: 0s - loss: 0.5910 - accuracy:
0.8929
290/750 [=======>.....] - ETA: 0s - loss: 0.5951 - accuracy:
```

```
0.8911
363/750 [=========>.....] - ETA: 0s - loss: 0.5982 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5976 - accuracy:
0.8905
505/750 [========>>.....] - ETA: 0s - loss: 0.5960 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.5958 - accuracy:
722/750 [==============>..] - ETA: 0s - loss: 0.5948 - accuracy:
750/750 [============= ] - 1s 848us/step - loss: 0.5946 - accuracy:
0.8926 - val_loss: 0.6460 - val_accuracy: 0.8751
Epoch 156/220
1/750 [...... - ETA: 0s - loss: 0.6644 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6020 - accuracy:
0.8919
144/750 [====>.....] - ETA: 0s - loss: 0.6002 - accuracy:
219/750 [=====>>.....] - ETA: 0s - loss: 0.5970 - accuracy:
0.8923
292/750 [=======>.....] - ETA: 0s - loss: 0.5959 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.5947 - accuracy:
0.8939
439/750 [=========>.....] - ETA: 0s - loss: 0.5963 - accuracy:
511/750 [===========>.....] - ETA: 0s - loss: 0.5956 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.5971 - accuracy:
0.8926
0.8931
0.8928
0.8929 - val_loss: 0.6473 - val_accuracy: 0.8752
Epoch 157/220
1/750 [...... 0.5493 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5849 - accuracy:
0.8991
143/750 [====>.....] - ETA: 0s - loss: 0.5968 - accuracy:
0.8943
215/750 [======>.....] - ETA: 0s - loss: 0.5994 - accuracy:
```

```
0.8925
288/750 [=======>.....] - ETA: 0s - loss: 0.5969 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.5965 - accuracy:
0.8927
433/750 [========>.....] - ETA: 0s - loss: 0.5963 - accuracy:
505/750 [========>>.....] - ETA: 0s - loss: 0.5947 - accuracy:
575/750 [=============>.....] - ETA: 0s - loss: 0.5946 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.5951 - accuracy:
0.8918
750/750 [============== ] - 1s 848us/step - loss: 0.5929 - accuracy:
0.8922 - val loss: 0.6480 - val accuracy: 0.8731
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.4818 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.5957 - accuracy:
0.8936
146/750 [====>...... - ETA: 0s - loss: 0.5868 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5857 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.5859 - accuracy:
0.8954
364/750 [=========>.....] - ETA: 0s - loss: 0.5901 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.5888 - accuracy:
0.8947
510/750 [===========>.....] - ETA: 0s - loss: 0.5883 - accuracy:
582/750 [===========>.....] - ETA: 0s - loss: 0.5898 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.5904 - accuracy:
0.8938
726/750 [==============>.] - ETA: 0s - loss: 0.5908 - accuracy:
0.8930 - val loss: 0.6483 - val accuracy: 0.8713
Epoch 159/220
1/750 [.....] - ETA: 0s - loss: 0.5690 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5733 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5794 - accuracy:
```

```
0.8984
218/750 [======>.....] - ETA: 0s - loss: 0.5773 - accuracy:
292/750 [=======>.....] - ETA: 0s - loss: 0.5863 - accuracy:
0.8946
365/750 [=======>.....] - ETA: 0s - loss: 0.5901 - accuracy:
0.8929
436/750 [=========>.....] - ETA: 0s - loss: 0.5891 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.5875 - accuracy:
582/750 [===========>.....] - ETA: 0s - loss: 0.5878 - accuracy:
0.8944
655/750 [=============>....] - ETA: 0s - loss: 0.5878 - accuracy:
0.8936 - val loss: 0.6454 - val accuracy: 0.8742
Epoch 160/220
1/750 [.....] - ETA: 0s - loss: 0.5134 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5859 - accuracy:
0.8961
143/750 [====>.....] - ETA: 0s - loss: 0.5836 - accuracy:
214/750 [=====>.....] - ETA: 0s - loss: 0.5815 - accuracy:
0.8992
287/750 [=======>.....] - ETA: 0s - loss: 0.5845 - accuracy:
0.8978
360/750 [=========>.....] - ETA: 0s - loss: 0.5868 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5903 - accuracy:
0.8956
505/750 [=========>.....] - ETA: 0s - loss: 0.5897 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.5908 - accuracy:
0.8951
648/750 [============>....] - ETA: 0s - loss: 0.5907 - accuracy:
0.8943 - val_loss: 0.6429 - val_accuracy: 0.8773
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.5846 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.5802 - accuracy:
```

```
0.8961
148/750 [====>.....] - ETA: 0s - loss: 0.5897 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.5882 - accuracy:
293/750 [=======>.....] - ETA: 0s - loss: 0.5866 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.5886 - accuracy:
0.8951
438/750 [=========>.....] - ETA: 0s - loss: 0.5893 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.5897 - accuracy:
0.8949
581/750 [============>.....] - ETA: 0s - loss: 0.5883 - accuracy:
655/750 [============>....] - ETA: 0s - loss: 0.5893 - accuracy:
0.8947
0.8947
0.8950 - val_loss: 0.6443 - val_accuracy: 0.8741
Epoch 162/220
1/750 [.....] - ETA: 0s - loss: 0.6270 - accuracy:
0.8750
72/750 [=>.....] - ETA: 0s - loss: 0.5969 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.5866 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.5855 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.5831 - accuracy:
0.8959
359/750 [========>.....] - ETA: 0s - loss: 0.5834 - accuracy:
0.8948
433/750 [=========>..... - ETA: 0s - loss: 0.5894 - accuracy:
0.8924
506/750 [===========>.....] - ETA: 0s - loss: 0.5890 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.5881 - accuracy:
0.8944
0.8943 - val_loss: 0.6439 - val_accuracy: 0.8753
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.5488 - accuracy:
```

```
73/750 [=>.....] - ETA: 0s - loss: 0.5768 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5840 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5846 - accuracy:
0.8990
291/750 [=======>..... - ETA: 0s - loss: 0.5820 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.5854 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.5876 - accuracy:
505/750 [==========>.....] - ETA: 0s - loss: 0.5890 - accuracy:
0.8946
578/750 [============>.....] - ETA: 0s - loss: 0.5871 - accuracy:
0.8945
649/750 [============>....] - ETA: 0s - loss: 0.5864 - accuracy:
0.8947
0.8951
0.8950 - val loss: 0.6401 - val accuracy: 0.8754
Epoch 164/220
1/750 [.....] - ETA: 0s - loss: 0.7560 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5856 - accuracy:
0.8934
146/750 [====>....... - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.5818 - accuracy:
0.8964
294/750 [=======>.....] - ETA: 0s - loss: 0.5825 - accuracy:
0.8965
366/750 [=======>.....] - ETA: 0s - loss: 0.5835 - accuracy:
437/750 [=========>.....] - ETA: 0s - loss: 0.5817 - accuracy:
0.8957
509/750 [=========>.....] - ETA: 0s - loss: 0.5822 - accuracy:
0.8954
581/750 [============>.....] - ETA: 0s - loss: 0.5829 - accuracy:
650/750 [===============>....] - ETA: 0s - loss: 0.5832 - accuracy:
0.8948 - val loss: 0.6444 - val accuracy: 0.8723
Epoch 165/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6232 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5899 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5863 - accuracy:
0.8949
217/750 [=====>.....] - ETA: 0s - loss: 0.5855 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 0.5834 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5852 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5834 - accuracy:
505/750 [==========>.....] - ETA: 0s - loss: 0.5840 - accuracy:
0.8948
578/750 [=============>.....] - ETA: 0s - loss: 0.5824 - accuracy:
726/750 [==============>.] - ETA: 0s - loss: 0.5838 - accuracy:
0.8949
0.8950 - val loss: 0.6388 - val accuracy: 0.8758
Epoch 166/220
1/750 [...... 0.6469 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.5907 - accuracy:
0.8926
146/750 [====>.....] - ETA: 0s - loss: 0.5836 - accuracy:
0.8942
219/750 [======>.....] - ETA: 0s - loss: 0.5868 - accuracy:
0.8941
293/750 [=======>..... - ETA: 0s - loss: 0.5893 - accuracy:
366/750 [========>.....] - ETA: 0s - loss: 0.5828 - accuracy:
0.8959
439/750 [=========>.....] - ETA: 0s - loss: 0.5816 - accuracy:
0.8961
512/750 [===========>.....] - ETA: 0s - loss: 0.5820 - accuracy:
584/750 [=============>.....] - ETA: 0s - loss: 0.5850 - accuracy:
655/750 [=============>....] - ETA: 0s - loss: 0.5847 - accuracy:
0.8942
750/750 [============= ] - 1s 845us/step - loss: 0.5828 - accuracy:
```

```
0.8950 - val_loss: 0.6356 - val_accuracy: 0.8778 
Epoch 167/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6795 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5672 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.5734 - accuracy:
219/750 [=====>.....] - ETA: 0s - loss: 0.5772 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.5812 - accuracy:
364/750 [========>.....] - ETA: 0s - loss: 0.5835 - accuracy:
0.8946
437/750 [========>..... - ETA: 0s - loss: 0.5817 - accuracy:
0.8949
509/750 [=========>.....] - ETA: 0s - loss: 0.5789 - accuracy:
583/750 [=============>.....] - ETA: 0s - loss: 0.5795 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.5795 - accuracy:
0.8964
0.8957 - val_loss: 0.6410 - val_accuracy: 0.8751
Epoch 168/220
1/750 [...... 0.6303 - accuracy:
0.8594
72/750 [=>.....] - ETA: 0s - loss: 0.5701 - accuracy:
0.9019
144/750 [====>.....] - ETA: 0s - loss: 0.5797 - accuracy:
0.8976
217/750 [======>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8974
288/750 [=======>.....] - ETA: 0s - loss: 0.5778 - accuracy:
0.8970
359/750 [=======>.....] - ETA: 0s - loss: 0.5807 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5812 - accuracy:
505/750 [=========>.....] - ETA: 0s - loss: 0.5805 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.5797 - accuracy:
0.8964
652/750 [============>....] - ETA: 0s - loss: 0.5786 - accuracy:
724/750 [===============>..] - ETA: 0s - loss: 0.5798 - accuracy:
```

```
0.8969
0.8964 - val_loss: 0.6361 - val_accuracy: 0.8752
Epoch 169/220
1/750 [.....] - ETA: 0s - loss: 0.5961 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5934 - accuracy:
0.8927
148/750 [====>...... - ETA: 0s - loss: 0.5909 - accuracy:
0.8934
217/750 [======>...... - ETA: 0s - loss: 0.5827 - accuracy:
283/750 [=======>.....] - ETA: 0s - loss: 0.5820 - accuracy:
0.8956
352/750 [=========>.....] - ETA: 0s - loss: 0.5804 - accuracy:
0.8954
424/750 [========>..... - ETA: 0s - loss: 0.5791 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.5800 - accuracy:
568/750 [==========>.....] - ETA: 0s - loss: 0.5791 - accuracy:
0.8953
0.8960
713/750 [===============>..] - ETA: 0s - loss: 0.5788 - accuracy:
750/750 [============= ] - 1s 854us/step - loss: 0.5790 - accuracy:
0.8961 - val_loss: 0.6354 - val_accuracy: 0.8761
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.6960 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5719 - accuracy:
0.8954
145/750 [====>.....] - ETA: 0s - loss: 0.5688 - accuracy:
0.8983
218/750 [======>.....] - ETA: 0s - loss: 0.5727 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.5710 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.5748 - accuracy:
0.8983
435/750 [=========>.....] - ETA: 0s - loss: 0.5732 - accuracy:
0.8994
508/750 [=========>.....] - ETA: 0s - loss: 0.5751 - accuracy:
0.8982
580/750 [===========>.....] - ETA: 0s - loss: 0.5766 - accuracy:
0.8975
653/750 [============>....] - ETA: 0s - loss: 0.5774 - accuracy:
```

```
0.8967
0.8964
0.8964 - val_loss: 0.6339 - val_accuracy: 0.8752
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.5340 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5600 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.5711 - accuracy:
0.8996
215/750 [======>.....] - ETA: 0s - loss: 0.5769 - accuracy:
0.8982
289/750 [=======>.....] - ETA: 0s - loss: 0.5789 - accuracy:
0.8970
359/750 [=======>.....] - ETA: 0s - loss: 0.5781 - accuracy:
0.8966
430/750 [==========>.....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8968
502/750 [=========>.....] - ETA: 0s - loss: 0.5764 - accuracy:
0.8977
574/750 [==========>.....] - ETA: 0s - loss: 0.5768 - accuracy:
0.8974
0.8972 - val loss: 0.6326 - val accuracy: 0.8752
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.5105 - accuracy:
0.9219
71/750 [=>.....] - ETA: 0s - loss: 0.5723 - accuracy:
0.8979
143/750 [====>.....] - ETA: 0s - loss: 0.5762 - accuracy:
0.8938
217/750 [======>.....] - ETA: 0s - loss: 0.5761 - accuracy:
0.8944
290/750 [=======>.....] - ETA: 0s - loss: 0.5765 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5757 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.5743 - accuracy:
0.8970
500/750 [=========>.....] - ETA: 0s - loss: 0.5755 - accuracy:
0.8967
573/750 [============>.....] - ETA: 0s - loss: 0.5764 - accuracy:
```

```
0.8965
0.8964 - val loss: 0.6342 - val accuracy: 0.8774
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.4762 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5759 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.5772 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.5732 - accuracy:
0.8993
289/750 [=======>..... - ETA: 0s - loss: 0.5744 - accuracy:
0.8985
363/750 [=======>.....] - ETA: 0s - loss: 0.5726 - accuracy:
437/750 [========>..... - ETA: 0s - loss: 0.5731 - accuracy:
0.8983
510/750 [===========>.....] - ETA: 0s - loss: 0.5730 - accuracy:
584/750 [============>.....] - ETA: 0s - loss: 0.5731 - accuracy:
0.8989
657/750 [==============>....] - ETA: 0s - loss: 0.5734 - accuracy:
0.8987
0.8985 - val_loss: 0.6416 - val_accuracy: 0.8732
Epoch 174/220
1/750 [.....] - ETA: 0s - loss: 0.7219 - accuracy:
0.8281
66/750 [=>.....] - ETA: 0s - loss: 0.5671 - accuracy:
0.8989
137/750 [====>.....] - ETA: 0s - loss: 0.5717 - accuracy:
0.8962
204/750 [=====>.....] - ETA: 0s - loss: 0.5683 - accuracy:
0.8981
276/750 [=======>.....] - ETA: 0s - loss: 0.5720 - accuracy:
0.8974
349/750 [========>.....] - ETA: 0s - loss: 0.5727 - accuracy:
0.8970
422/750 [========>..... - ETA: 0s - loss: 0.5727 - accuracy:
493/750 [==========>.....] - ETA: 0s - loss: 0.5746 - accuracy:
```

```
0.8966
566/750 [============>.....] - ETA: 0s - loss: 0.5731 - accuracy:
0.8974
0.8973
0.8969 - val loss: 0.6310 - val accuracy: 0.8764
Epoch 175/220
1/750 [...... - ETA: 0s - loss: 0.4617 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.5635 - accuracy:
0.9006
145/750 [====>.....] - ETA: 0s - loss: 0.5645 - accuracy:
0.8997
219/750 [======>...... - ETA: 0s - loss: 0.5678 - accuracy:
0.8988
291/750 [=======>..... - ETA: 0s - loss: 0.5729 - accuracy:
0.8974
362/750 [=======>.....] - ETA: 0s - loss: 0.5700 - accuracy:
0.8981
437/750 [=========>...... - ETA: 0s - loss: 0.5725 - accuracy:
0.8969
504/750 [===========>.....] - ETA: 0s - loss: 0.5757 - accuracy:
576/750 [=============>.....] - ETA: 0s - loss: 0.5734 - accuracy:
649/750 [============>....] - ETA: 0s - loss: 0.5735 - accuracy:
0.8973
0.8977
0.8976 - val loss: 0.6301 - val accuracy: 0.8767
Epoch 176/220
1/750 [.....] - ETA: 0s - loss: 0.5671 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5723 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.5669 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.5694 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.5695 - accuracy:
0.8995
356/750 [=======>.....] - ETA: 0s - loss: 0.5663 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.5661 - accuracy:
```

```
0.9003
500/750 [===========>.....] - ETA: 0s - loss: 0.5673 - accuracy:
572/750 [===========>.....] - ETA: 0s - loss: 0.5698 - accuracy:
0.8990
0.8991
0.8987 - val_loss: 0.6417 - val_accuracy: 0.8712
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.4683 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5730 - accuracy:
0.9047
143/750 [====>...... - ETA: 0s - loss: 0.5720 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.5738 - accuracy:
0.8987
283/750 [=======>.....] - ETA: 0s - loss: 0.5748 - accuracy:
0.8976
353/750 [=======>.....] - ETA: 0s - loss: 0.5703 - accuracy:
0.8985
424/750 [========>.....] - ETA: 0s - loss: 0.5690 - accuracy:
0.8984
494/750 [==========>.....] - ETA: 0s - loss: 0.5722 - accuracy:
0.8978
565/750 [==========>.....] - ETA: 0s - loss: 0.5710 - accuracy:
0.8980
0.8977
0.8979 - val loss: 0.6344 - val accuracy: 0.8768
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.4467 - accuracy:
0.9531
70/750 [=>.....] - ETA: 0s - loss: 0.5614 - accuracy:
142/750 [====>......] - ETA: 0s - loss: 0.5632 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.5678 - accuracy:
286/750 [=======>..... - ETA: 0s - loss: 0.5670 - accuracy:
0.8996
357/750 [=======>.....] - ETA: 0s - loss: 0.5683 - accuracy:
```

```
0.8983
430/750 [=========>.....] - ETA: 0s - loss: 0.5699 - accuracy:
0.8981
502/750 [==========>.....] - ETA: 0s - loss: 0.5675 - accuracy:
0.8994
573/750 [==============>.....] - ETA: 0s - loss: 0.5678 - accuracy:
643/750 [============>....] - ETA: 0s - loss: 0.5668 - accuracy:
750/750 [============= ] - 1s 854us/step - loss: 0.5689 - accuracy:
0.8982 - val loss: 0.6328 - val accuracy: 0.8765
Epoch 179/220
1/750 [.....] - ETA: 0s - loss: 0.6303 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5679 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.5662 - accuracy:
0.8997
213/750 [======>.....] - ETA: 0s - loss: 0.5630 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.5603 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.5628 - accuracy:
425/750 [=========>.....] - ETA: 0s - loss: 0.5640 - accuracy:
494/750 [=========>.....] - ETA: 0s - loss: 0.5645 - accuracy:
565/750 [===========>.....] - ETA: 0s - loss: 0.5632 - accuracy:
0.8994
0.8986 - val_loss: 0.6283 - val_accuracy: 0.8770
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.5800 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5694 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.5672 - accuracy:
214/750 [=====>.....] - ETA: 0s - loss: 0.5678 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.5663 - accuracy:
```

```
0.9003
354/750 [=========>.....] - ETA: 0s - loss: 0.5676 - accuracy:
0.8989
427/750 [=========>.....] - ETA: 0s - loss: 0.5692 - accuracy:
0.8982
498/750 [=========>.....] - ETA: 0s - loss: 0.5649 - accuracy:
568/750 [==========>.....] - ETA: 0s - loss: 0.5674 - accuracy:
0.8984
712/750 [===============>..] - ETA: 0s - loss: 0.5665 - accuracy:
0.8994
750/750 [============= ] - 1s 860us/step - loss: 0.5675 - accuracy:
0.8990 - val_loss: 0.6304 - val_accuracy: 0.8748
Epoch 181/220
1/750 [...... - ETA: 0s - loss: 0.6095 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5751 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.5658 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.5658 - accuracy:
0.9008
286/750 [=======>.....] - ETA: 0s - loss: 0.5630 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5624 - accuracy:
0.9009
430/750 [=========>.....] - ETA: 0s - loss: 0.5657 - accuracy:
0.8999
500/750 [===========>.....] - ETA: 0s - loss: 0.5680 - accuracy:
0.8994
572/750 [============>.....] - ETA: 0s - loss: 0.5686 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.5677 - accuracy:
0.8987
0.8993
0.8990 - val_loss: 0.6320 - val_accuracy: 0.8751
Epoch 182/220
1/750 [...... 0.5655 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5600 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.5601 - accuracy:
0.9004
218/750 [======>.....] - ETA: 0s - loss: 0.5658 - accuracy:
```

```
0.8985
289/750 [=======>.....] - ETA: 0s - loss: 0.5666 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.5681 - accuracy:
0.8966
432/750 [========>..... - ETA: 0s - loss: 0.5701 - accuracy:
503/750 [========>>.....] - ETA: 0s - loss: 0.5696 - accuracy:
575/750 [=============>.....] - ETA: 0s - loss: 0.5670 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.5664 - accuracy:
0.8988
0.8994
750/750 [============= ] - 1s 853us/step - loss: 0.5652 - accuracy:
0.8994 - val loss: 0.6284 - val accuracy: 0.8770
Epoch 183/220
1/750 [.....] - ETA: 0s - loss: 0.4711 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.5571 - accuracy:
142/750 [====>...... - ETA: 0s - loss: 0.5591 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.5647 - accuracy:
0.8997
285/750 [=======>.....] - ETA: 0s - loss: 0.5637 - accuracy:
0.8996
356/750 [=========>.....] - ETA: 0s - loss: 0.5625 - accuracy:
0.8999
429/750 [=========>.....] - ETA: 0s - loss: 0.5613 - accuracy:
498/750 [==========>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8991
569/750 [==========>.....] - ETA: 0s - loss: 0.5623 - accuracy:
0.8996
0.8990
0.8988 - val loss: 0.6331 - val accuracy: 0.8740
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.4115 - accuracy:
0.9531
71/750 [=>.....] - ETA: 0s - loss: 0.5642 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.5556 - accuracy:
```

```
0.9045
214/750 [======>.....] - ETA: 0s - loss: 0.5539 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.5597 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5642 - accuracy:
0.8997
429/750 [=========>.....] - ETA: 0s - loss: 0.5672 - accuracy:
0.8987
501/750 [===========>.....] - ETA: 0s - loss: 0.5679 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.5664 - accuracy:
0.8989
750/750 [============= ] - 1s 860us/step - loss: 0.5631 - accuracy:
0.9006 - val loss: 0.6249 - val accuracy: 0.8791
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.5014 - accuracy:
0.8906
69/750 [=>.....] - ETA: 0s - loss: 0.5503 - accuracy:
0.9026
142/750 [====>.....] - ETA: 0s - loss: 0.5583 - accuracy:
0.9011
213/750 [======>.....] - ETA: 0s - loss: 0.5618 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.5625 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5652 - accuracy:
428/750 [=========>.....] - ETA: 0s - loss: 0.5650 - accuracy:
0.9001
499/750 [=========>.....] - ETA: 0s - loss: 0.5656 - accuracy:
0.8993
571/750 [============>.....] - ETA: 0s - loss: 0.5645 - accuracy:
0.8990
643/750 [============>....] - ETA: 0s - loss: 0.5652 - accuracy:
0.8989
0.8992 - val_loss: 0.6285 - val_accuracy: 0.8752
Epoch 186/220
1/750 [.....] - ETA: 0s - loss: 0.5519 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5654 - accuracy:
```

```
0.8970
147/750 [====>.....] - ETA: 0s - loss: 0.5548 - accuracy:
220/750 [======>.....] - ETA: 0s - loss: 0.5534 - accuracy:
294/750 [=======>..... - ETA: 0s - loss: 0.5591 - accuracy:
366/750 [=======>.....] - ETA: 0s - loss: 0.5591 - accuracy:
440/750 [=========>.....] - ETA: 0s - loss: 0.5585 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.5596 - accuracy:
583/750 [============>.....] - ETA: 0s - loss: 0.5623 - accuracy:
0.8990
657/750 [=============>....] - ETA: 0s - loss: 0.5604 - accuracy:
0.8994
0.8995
0.8995 - val_loss: 0.6234 - val_accuracy: 0.8771
Epoch 187/220
1/750 [...... - ETA: 0s - loss: 0.7078 - accuracy:
0.8996
71/750 [=>...... - 6.5665 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5569 - accuracy:
0.8992
215/750 [======>.....] - ETA: 0s - loss: 0.5581 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.5556 - accuracy:
0.9014
357/750 [=======>.....] - ETA: 0s - loss: 0.5577 - accuracy:
0.9014
430/750 [=========>..... - ETA: 0s - loss: 0.5601 - accuracy:
0.9011
505/750 [==========>.....] - ETA: 0s - loss: 0.5579 - accuracy:
0.9017
577/750 [===========>.....] - ETA: 0s - loss: 0.5584 - accuracy:
0.9011
0.9003 - val_loss: 0.6345 - val_accuracy: 0.8730
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.6296 - accuracy:
```

```
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.5739 - accuracy:
0.8947
145/750 [====>.....] - ETA: 0s - loss: 0.5649 - accuracy:
0.8980
216/750 [======>.....] - ETA: 0s - loss: 0.5621 - accuracy:
0.8989
290/750 [=======>..... - ETA: 0s - loss: 0.5601 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.5616 - accuracy:
434/750 [=========>..... - ETA: 0s - loss: 0.5617 - accuracy:
0.8985
507/750 [===========>.....] - ETA: 0s - loss: 0.5608 - accuracy:
0.8994
579/750 [============>.....] - ETA: 0s - loss: 0.5606 - accuracy:
0.8992
652/750 [============>....] - ETA: 0s - loss: 0.5602 - accuracy:
0.9006
0.9001 - val loss: 0.6261 - val accuracy: 0.8785
Epoch 189/220
1/750 [.....] - ETA: 0s - loss: 0.7681 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5598 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5519 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5532 - accuracy:
0.9054
294/750 [=======>.....] - ETA: 0s - loss: 0.5571 - accuracy:
0.9024
367/750 [=======>.....] - ETA: 0s - loss: 0.5563 - accuracy:
441/750 [=========>.....] - ETA: 0s - loss: 0.5555 - accuracy:
0.9024
513/750 [=========>.....] - ETA: 0s - loss: 0.5571 - accuracy:
586/750 [============>.....] - ETA: 0s - loss: 0.5563 - accuracy:
0.9011
658/750 [============>....] - ETA: 0s - loss: 0.5561 - accuracy:
0.9011
750/750 [============== ] - 1s 841us/step - loss: 0.5586 - accuracy:
0.9003 - val loss: 0.6227 - val accuracy: 0.8772
Epoch 190/220
```

```
1/750 [...... - d.4705 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.5499 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.5540 - accuracy:
0.9007
218/750 [======>.....] - ETA: 0s - loss: 0.5565 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.5560 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.5532 - accuracy:
0.9014
433/750 [=========>.....] - ETA: 0s - loss: 0.5553 - accuracy:
507/750 [==========>.....] - ETA: 0s - loss: 0.5552 - accuracy:
0.8996
579/750 [============>.....] - ETA: 0s - loss: 0.5555 - accuracy:
0.8999
0.9000 - val loss: 0.6230 - val accuracy: 0.8766
Epoch 191/220
1/750 [...... 0.6444 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.5420 - accuracy:
0.9067
147/750 [====>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8994
221/750 [======>.....] - ETA: 0s - loss: 0.5661 - accuracy:
0.8967
293/750 [=======>..... - ETA: 0s - loss: 0.5680 - accuracy:
0.8962
366/750 [=======>.....] - ETA: 0s - loss: 0.5612 - accuracy:
0.8984
440/750 [=========>.....] - ETA: 0s - loss: 0.5606 - accuracy:
513/750 [===========>.....] - ETA: 0s - loss: 0.5589 - accuracy:
0.8994
586/750 [============>.....] - ETA: 0s - loss: 0.5592 - accuracy:
657/750 [=============>....] - ETA: 0s - loss: 0.5576 - accuracy:
0.9001
750/750 [============= ] - 1s 842us/step - loss: 0.5565 - accuracy:
```

```
0.9007 - val_loss: 0.6191 - val_accuracy: 0.8790 Epoch 192/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5894 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5542 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.5518 - accuracy:
219/750 [=====>.....] - ETA: 0s - loss: 0.5557 - accuracy:
293/750 [=======>..... - ETA: 0s - loss: 0.5541 - accuracy:
366/750 [=========>......] - ETA: 0s - loss: 0.5510 - accuracy:
437/750 [========>.....] - ETA: 0s - loss: 0.5498 - accuracy:
511/750 [=========>.....] - ETA: 0s - loss: 0.5508 - accuracy:
585/750 [=============>.....] - ETA: 0s - loss: 0.5521 - accuracy:
658/750 [=============>....] - ETA: 0s - loss: 0.5534 - accuracy:
0.9018
750/750 [============= ] - 1s 842us/step - loss: 0.5549 - accuracy:
0.9018 - val_loss: 0.6205 - val_accuracy: 0.8789
Epoch 193/220
 1/750 [...... 0.4615 - accuracy:
0.9531
71/750 [=>...... - accuracy:
0.9021
145/750 [====>.....] - ETA: 0s - loss: 0.5584 - accuracy:
0.9003
216/750 [======>.....] - ETA: 0s - loss: 0.5516 - accuracy:
0.9034
289/750 [=======>.....] - ETA: 0s - loss: 0.5544 - accuracy:
0.9021
363/750 [========>.....] - ETA: 0s - loss: 0.5504 - accuracy:
435/750 [=========>.....] - ETA: 0s - loss: 0.5497 - accuracy:
0.9031
505/750 [=========>.....] - ETA: 0s - loss: 0.5505 - accuracy:
0.9031
575/750 [===========>.....] - ETA: 0s - loss: 0.5493 - accuracy:
0.9034
646/750 [===========>.....] - ETA: 0s - loss: 0.5526 - accuracy:
717/750 [==============>..] - ETA: 0s - loss: 0.5545 - accuracy:
```

```
0.9017
0.9018 - val_loss: 0.6248 - val_accuracy: 0.8760
Epoch 194/220
1/750 [.....] - ETA: 0s - loss: 0.5220 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.5531 - accuracy:
0.9041
146/750 [====>...... - ETA: 0s - loss: 0.5612 - accuracy:
0.8999
220/750 [=====>>...... - ETA: 0s - loss: 0.5632 - accuracy:
0.8987
292/750 [=======>.....] - ETA: 0s - loss: 0.5610 - accuracy:
0.8993
365/750 [=========>.....] - ETA: 0s - loss: 0.5599 - accuracy:
0.8995
438/750 [=========>...... - ETA: 0s - loss: 0.5583 - accuracy:
508/750 [===========>.....] - ETA: 0s - loss: 0.5578 - accuracy:
581/750 [===========>.....] - ETA: 0s - loss: 0.5575 - accuracy:
726/750 [===============>.] - ETA: 0s - loss: 0.5548 - accuracy:
750/750 [============= ] - 1s 845us/step - loss: 0.5540 - accuracy:
0.9016 - val_loss: 0.6200 - val_accuracy: 0.8784
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.4885 - accuracy:
0.9375
73/750 [=>.....] - ETA: 0s - loss: 0.5442 - accuracy:
0.9048
144/750 [====>.....] - ETA: 0s - loss: 0.5419 - accuracy:
0.9064
213/750 [======>.....] - ETA: 0s - loss: 0.5470 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.5466 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5504 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5526 - accuracy:
0.9011
506/750 [=========>.....] - ETA: 0s - loss: 0.5536 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.5537 - accuracy:
651/750 [=============>....] - ETA: 0s - loss: 0.5549 - accuracy:
```

```
0.9001
0.9013 - val loss: 0.6231 - val accuracy: 0.8763
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.4817 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5585 - accuracy:
0.8957
144/750 [====>...... - ETA: 0s - loss: 0.5501 - accuracy:
0.8997
216/750 [======>.....] - ETA: 0s - loss: 0.5502 - accuracy:
0.8990
288/750 [=======>.....] - ETA: 0s - loss: 0.5514 - accuracy:
0.8993
363/750 [=======>.....] - ETA: 0s - loss: 0.5505 - accuracy:
0.9004
433/750 [==========>.....] - ETA: 0s - loss: 0.5514 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.5526 - accuracy:
579/750 [============>.....] - ETA: 0s - loss: 0.5538 - accuracy:
0.9008
0.9016 - val loss: 0.6198 - val accuracy: 0.8752
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.4886 - accuracy:
0.9219
73/750 [=>.....] - ETA: 0s - loss: 0.5510 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5504 - accuracy:
0.9031
218/750 [======>.....] - ETA: 0s - loss: 0.5493 - accuracy:
0.9034
290/750 [=======>.....] - ETA: 0s - loss: 0.5503 - accuracy:
363/750 [========>.....] - ETA: 0s - loss: 0.5495 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.5511 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.5511 - accuracy:
579/750 [============>.....] - ETA: 0s - loss: 0.5530 - accuracy:
```

```
0.9003
0.9014 - val loss: 0.6175 - val accuracy: 0.8791
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.5376 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5656 - accuracy:
0.8978
149/750 [====>.....] - ETA: 0s - loss: 0.5541 - accuracy:
221/750 [======>.....] - ETA: 0s - loss: 0.5540 - accuracy:
293/750 [=======>..... - ETA: 0s - loss: 0.5515 - accuracy:
365/750 [=======>.....] - ETA: 0s - loss: 0.5490 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.5469 - accuracy:
509/750 [===========>.....] - ETA: 0s - loss: 0.5475 - accuracy:
582/750 [============>.....] - ETA: 0s - loss: 0.5489 - accuracy:
0.9021
655/750 [==============>....] - ETA: 0s - loss: 0.5495 - accuracy:
729/750 [==============>.] - ETA: 0s - loss: 0.5495 - accuracy:
0.9021
0.9020 - val_loss: 0.6165 - val_accuracy: 0.8783
Epoch 199/220
1/750 [.....] - ETA: 0s - loss: 0.6440 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.5445 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.5484 - accuracy:
206/750 [======>.....] - ETA: 0s - loss: 0.5480 - accuracy:
272/750 [=======>.....] - ETA: 0s - loss: 0.5459 - accuracy:
343/750 [========>.....] - ETA: 0s - loss: 0.5457 - accuracy:
414/750 [========>..... - ETA: 0s - loss: 0.5448 - accuracy:
486/750 [==========>.....] - ETA: 0s - loss: 0.5442 - accuracy:
```

```
0.9044
557/750 [============>.....] - ETA: 0s - loss: 0.5455 - accuracy:
0.9028 - val loss: 0.6149 - val accuracy: 0.8788
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.5152 - accuracy:
75/750 [==>....... - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.5405 - accuracy:
0.9076
221/750 [======>...... - ETA: 0s - loss: 0.5409 - accuracy:
292/750 [=======>..... - ETA: 0s - loss: 0.5415 - accuracy:
364/750 [=======>.....] - ETA: 0s - loss: 0.5442 - accuracy:
438/750 [==========>.....] - ETA: 0s - loss: 0.5455 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.5472 - accuracy:
0.9042
582/750 [=============>.....] - ETA: 0s - loss: 0.5453 - accuracy:
652/750 [=============>....] - ETA: 0s - loss: 0.5466 - accuracy:
0.9041
0.9037 - val loss: 0.6197 - val accuracy: 0.8748
Epoch 201/220
1/750 [.....] - ETA: 0s - loss: 0.5709 - accuracy:
0.8594
71/750 [=>...... - 6.5368 - accuracy:
0.9074
143/750 [====>.....] - ETA: 0s - loss: 0.5398 - accuracy:
0.9073
215/750 [======>.....] - ETA: 0s - loss: 0.5453 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.5452 - accuracy:
0.9048
359/750 [=======>.....] - ETA: 0s - loss: 0.5434 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.5455 - accuracy:
```

```
0.9044
502/750 [===========>.....] - ETA: 0s - loss: 0.5463 - accuracy:
0.9036
574/750 [===========>.....] - ETA: 0s - loss: 0.5483 - accuracy:
0.9036 - val_loss: 0.6235 - val_accuracy: 0.8746
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.5667 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5341 - accuracy:
0.9048
146/750 [====>...... - ETA: 0s - loss: 0.5422 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.5427 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.5438 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.5424 - accuracy:
0.9043
428/750 [=========>.....] - ETA: 0s - loss: 0.5450 - accuracy:
0.9042
494/750 [==========>.....] - ETA: 0s - loss: 0.5455 - accuracy:
563/750 [==========>.....] - ETA: 0s - loss: 0.5454 - accuracy:
0.9031
0.9032 - val loss: 0.6147 - val accuracy: 0.8780
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.5075 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5491 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.5466 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.5450 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.5431 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5446 - accuracy:
```

```
0.9024
426/750 [=========>.....] - ETA: 0s - loss: 0.5438 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.5445 - accuracy:
566/750 [==============>.....] - ETA: 0s - loss: 0.5444 - accuracy:
0.9026
637/750 [============>....] - ETA: 0s - loss: 0.5450 - accuracy:
0.9031
750/750 [============= ] - 1s 865us/step - loss: 0.5445 - accuracy:
0.9034 - val loss: 0.6146 - val accuracy: 0.8770
Epoch 204/220
1/750 [.....] - ETA: 0s - loss: 0.3906 - accuracy:
0.9531
70/750 [=>.....] - ETA: 0s - loss: 0.5261 - accuracy:
138/750 [====>...... - ETA: 0s - loss: 0.5444 - accuracy:
0.9051
207/750 [=====>.....] - ETA: 0s - loss: 0.5424 - accuracy:
278/750 [=======>..... - ETA: 0s - loss: 0.5407 - accuracy:
347/750 [========>.....] - ETA: 0s - loss: 0.5410 - accuracy:
418/750 [========>..... - ETA: 0s - loss: 0.5443 - accuracy:
491/750 [=========>.....] - ETA: 0s - loss: 0.5458 - accuracy:
560/750 [============>.....] - ETA: 0s - loss: 0.5474 - accuracy:
0.9041 - val_loss: 0.6162 - val_accuracy: 0.8799
Epoch 205/220
1/750 [.....] - ETA: 0s - loss: 0.6553 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5520 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 0.5503 - accuracy:
0.9011
221/750 [======>.....] - ETA: 0s - loss: 0.5444 - accuracy:
293/750 [=======>..... - ETA: 0s - loss: 0.5447 - accuracy:
```

```
0.9019
365/750 [=========>.....] - ETA: 0s - loss: 0.5436 - accuracy:
438/750 [=========>.....] - ETA: 0s - loss: 0.5437 - accuracy:
508/750 [=========>.....] - ETA: 0s - loss: 0.5436 - accuracy:
576/750 [===========>.....] - ETA: 0s - loss: 0.5446 - accuracy:
702/750 [==============>..] - ETA: 0s - loss: 0.5443 - accuracy:
750/750 [============= ] - 1s 885us/step - loss: 0.5428 - accuracy:
0.9040 - val_loss: 0.6147 - val_accuracy: 0.8789
Epoch 206/220
1/750 [...... - ETA: 0s - loss: 0.5801 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.5236 - accuracy:
133/750 [====>...... - ETA: 0s - loss: 0.5331 - accuracy:
205/750 [=====>.....] - ETA: 0s - loss: 0.5362 - accuracy:
0.9044
275/750 [=======>.....] - ETA: 0s - loss: 0.5388 - accuracy:
343/750 [=======>.....] - ETA: 0s - loss: 0.5395 - accuracy:
0.9043
415/750 [========>.....] - ETA: 0s - loss: 0.5424 - accuracy:
0.9031
480/750 [==========>.....] - ETA: 0s - loss: 0.5435 - accuracy:
548/750 [==========>.....] - ETA: 0s - loss: 0.5446 - accuracy:
0.9021
618/750 [============>.....] - ETA: 0s - loss: 0.5440 - accuracy:
750/750 [=============== ] - 1s 931us/step - loss: 0.5421 - accuracy:
0.9041 - val loss: 0.6237 - val accuracy: 0.8747
Epoch 207/220
1/750 [.....] - ETA: 0s - loss: 0.6346 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.5324 - accuracy:
0.9087
137/750 [====>.....] - ETA: 0s - loss: 0.5382 - accuracy:
```

```
0.9067
205/750 [======>.....] - ETA: 0s - loss: 0.5398 - accuracy:
270/750 [=======>.....] - ETA: 0s - loss: 0.5403 - accuracy:
0.9054
322/750 [=======>.....] - ETA: 0s - loss: 0.5433 - accuracy:
375/750 [=======>>.....] - ETA: 0s - loss: 0.5456 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.5439 - accuracy:
460/750 [=========>.....] - ETA: 0s - loss: 0.5429 - accuracy:
504/750 [===========>.....] - ETA: 0s - loss: 0.5414 - accuracy:
0.9045
557/750 [============>.....] - ETA: 0s - loss: 0.5400 - accuracy:
0.9053
627/750 [============>....] - ETA: 0s - loss: 0.5403 - accuracy:
0.9047 - val loss: 0.6151 - val accuracy: 0.8785
Epoch 208/220
1/750 [.....] - ETA: 0s - loss: 0.4596 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5452 - accuracy:
138/750 [====>.....] - ETA: 0s - loss: 0.5420 - accuracy:
207/750 [======>.....] - ETA: 0s - loss: 0.5372 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.5363 - accuracy:
0.9059
348/750 [=======>.....] - ETA: 0s - loss: 0.5386 - accuracy:
416/750 [========>.....] - ETA: 0s - loss: 0.5391 - accuracy:
0.9054
485/750 [=========>.....] - ETA: 0s - loss: 0.5396 - accuracy:
0.9051
554/750 [===============>.....] - ETA: 0s - loss: 0.5395 - accuracy:
0.9053 - val_loss: 0.6197 - val_accuracy: 0.8757
Epoch 209/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.3758 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5349 - accuracy:
0.9016
140/750 [====>.....] - ETA: 0s - loss: 0.5415 - accuracy:
0.9015
207/750 [=====>.....] - ETA: 0s - loss: 0.5396 - accuracy:
0.9041
278/750 [=======>..... - ETA: 0s - loss: 0.5427 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.5436 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 0.5392 - accuracy:
0.9043
490/750 [=========>.....] - ETA: 0s - loss: 0.5394 - accuracy:
0.9043
560/750 [============>.....] - ETA: 0s - loss: 0.5401 - accuracy:
700/750 [==============>..] - ETA: 0s - loss: 0.5393 - accuracy:
0.9038
0.9044 - val loss: 0.6128 - val accuracy: 0.8806
Epoch 210/220
1/750 [...... 0.5606 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5403 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.5458 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.5445 - accuracy:
0.9043
285/750 [=======>..... - ETA: 0s - loss: 0.5442 - accuracy:
0.9031
351/750 [========>.....] - ETA: 0s - loss: 0.5418 - accuracy:
420/750 [========>.....] - ETA: 0s - loss: 0.5370 - accuracy:
486/750 [==========>.....] - ETA: 0s - loss: 0.5365 - accuracy:
0.9064
559/750 [============>.....] - ETA: 0s - loss: 0.5369 - accuracy:
0.9061
703/750 [===============>..] - ETA: 0s - loss: 0.5381 - accuracy:
750/750 [============= ] - 1s 864us/step - loss: 0.5380 - accuracy:
```

```
0.9053 - val_loss: 0.6111 - val_accuracy: 0.8774 
Epoch 211/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.8364 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5236 - accuracy:
0.9073
145/750 [====>...... - ETA: 0s - loss: 0.5233 - accuracy:
216/750 [=====>.....] - ETA: 0s - loss: 0.5298 - accuracy:
0.9067
288/750 [=======>..... - ETA: 0s - loss: 0.5316 - accuracy:
359/750 [========>.....] - ETA: 0s - loss: 0.5340 - accuracy:
0.9061
427/750 [========>.....] - ETA: 0s - loss: 0.5378 - accuracy:
0.9051
498/750 [=========>.....] - ETA: 0s - loss: 0.5359 - accuracy:
0.9054
567/750 [=============>.....] - ETA: 0s - loss: 0.5368 - accuracy:
0.9053
750/750 [============= ] - 1s 862us/step - loss: 0.5371 - accuracy:
0.9053 - val_loss: 0.6125 - val_accuracy: 0.8779
Epoch 212/220
1/750 [...... 0.5131 - accuracy:
0.9219
71/750 [=>...... - accuracy:
0.9036
142/750 [====>.....] - ETA: 0s - loss: 0.5335 - accuracy:
0.9024
216/750 [======>.....] - ETA: 0s - loss: 0.5326 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.5302 - accuracy:
0.9059
360/750 [=======>.....] - ETA: 0s - loss: 0.5310 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5342 - accuracy:
507/750 [========>>.....] - ETA: 0s - loss: 0.5358 - accuracy:
0.9041
578/750 [============>.....] - ETA: 0s - loss: 0.5357 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 0.5367 - accuracy:
723/750 [==============>..] - ETA: 0s - loss: 0.5362 - accuracy:
```

```
0.9049
750/750 [================ ] - 1s 849us/step - loss: 0.5361 - accuracy:
0.9050 - val_loss: 0.6134 - val_accuracy: 0.8780
Epoch 213/220
 1/750 [.....] - ETA: 0s - loss: 0.5924 - accuracy:
0.9062
73/750 [=>.....] - ETA: 0s - loss: 0.5246 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.5278 - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.5335 - accuracy:
0.9081
285/750 [=======>.....] - ETA: 0s - loss: 0.5360 - accuracy:
353/750 [=========>.....] - ETA: 0s - loss: 0.5325 - accuracy:
0.9073
422/750 [========>..... - ETA: 0s - loss: 0.5335 - accuracy:
0.9064
492/750 [==========>.....] - ETA: 0s - loss: 0.5335 - accuracy:
0.9063
564/750 [==========>.....] - ETA: 0s - loss: 0.5337 - accuracy:
0.9063
704/750 [===============>..] - ETA: 0s - loss: 0.5355 - accuracy:
750/750 [============= ] - 1s 865us/step - loss: 0.5358 - accuracy:
0.9054 - val_loss: 0.6093 - val_accuracy: 0.8793
Epoch 214/220
 1/750 [.....] - ETA: 0s - loss: 0.4236 - accuracy:
0.9688
72/750 [=>.....] - ETA: 0s - loss: 0.5467 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.5408 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.5342 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.5358 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.5333 - accuracy:
0.9066
419/750 [========>..... - ETA: 0s - loss: 0.5351 - accuracy:
484/750 [=========>.....] - ETA: 0s - loss: 0.5345 - accuracy:
549/750 [=========>.....] - ETA: 0s - loss: 0.5330 - accuracy:
620/750 [===========>.....] - ETA: 0s - loss: 0.5351 - accuracy:
```

```
0.9061
0.9060 - val loss: 0.6088 - val accuracy: 0.8816
Epoch 215/220
1/750 [.....] - ETA: 0s - loss: 0.4290 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.5482 - accuracy:
0.8941
144/750 [====>...... - ETA: 0s - loss: 0.5352 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.5267 - accuracy:
0.9058
281/750 [=======>.....] - ETA: 0s - loss: 0.5275 - accuracy:
0.9061
347/750 [========>.....] - ETA: 0s - loss: 0.5296 - accuracy:
414/750 [=========>...... - ETA: 0s - loss: 0.5300 - accuracy:
484/750 [=========>.....] - ETA: 0s - loss: 0.5294 - accuracy:
0.9063
554/750 [==========>.....] - ETA: 0s - loss: 0.5289 - accuracy:
0.9056 - val loss: 0.6074 - val accuracy: 0.8797
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.4819 - accuracy:
0.9219
68/750 [=>.....] - ETA: 0s - loss: 0.5338 - accuracy:
136/750 [====>.....] - ETA: 0s - loss: 0.5366 - accuracy:
0.9044
200/750 [======>.....] - ETA: 0s - loss: 0.5341 - accuracy:
0.9041
262/750 [=======>.....] - ETA: 0s - loss: 0.5341 - accuracy:
331/750 [========>.....] - ETA: 0s - loss: 0.5343 - accuracy:
400/750 [========>....] - ETA: 0s - loss: 0.5329 - accuracy:
0.9059
470/750 [=========>.....] - ETA: 0s - loss: 0.5326 - accuracy:
539/750 [==========>.....] - ETA: 0s - loss: 0.5343 - accuracy:
```

```
661/750 [=============>....] - ETA: 0s - loss: 0.5336 - accuracy:
0.9053 - val loss: 0.6078 - val accuracy: 0.8773
Epoch 217/220
1/750 [.....] - ETA: 0s - loss: 0.5047 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5247 - accuracy:
138/750 [====>.....] - ETA: 0s - loss: 0.5295 - accuracy:
0.9094
209/750 [=====>>.....] - ETA: 0s - loss: 0.5305 - accuracy:
279/750 [=======>.....] - ETA: 0s - loss: 0.5306 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.5300 - accuracy:
422/750 [=========>...... - ETA: 0s - loss: 0.5315 - accuracy:
0.9075
493/750 [==========>.....] - ETA: 0s - loss: 0.5321 - accuracy:
563/750 [============>.....] - ETA: 0s - loss: 0.5311 - accuracy:
635/750 [============>....] - ETA: 0s - loss: 0.5320 - accuracy:
0.9068
750/750 [================ ] - 1s 868us/step - loss: 0.5318 - accuracy:
0.9063 - val loss: 0.6080 - val accuracy: 0.8773
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.5255 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.5252 - accuracy:
0.9108
143/750 [====>.....] - ETA: 0s - loss: 0.5267 - accuracy:
0.9093
211/750 [======>.....] - ETA: 0s - loss: 0.5261 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.5293 - accuracy:
0.9073
353/750 [=======>.....] - ETA: 0s - loss: 0.5302 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.5323 - accuracy:
```

```
0.9066
498/750 [==========>.....] - ETA: 0s - loss: 0.5328 - accuracy:
0.9056
570/750 [===========>.....] - ETA: 0s - loss: 0.5326 - accuracy:
0.9056
0.9061
0.9060 - val loss: 0.6049 - val accuracy: 0.8813
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.6083 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5229 - accuracy:
0.9099
143/750 [====>...... - ETA: 0s - loss: 0.5245 - accuracy:
214/750 [=====>...... - ETA: 0s - loss: 0.5287 - accuracy:
0.9074
286/750 [=======>..... - ETA: 0s - loss: 0.5298 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.5276 - accuracy:
0.9079
429/750 [=========>.....] - ETA: 0s - loss: 0.5279 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.5274 - accuracy:
0.9081
573/750 [==========>.....] - ETA: 0s - loss: 0.5274 - accuracy:
0.9072 - val loss: 0.6078 - val accuracy: 0.8783
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.5523 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.5205 - accuracy:
143/750 [====>...... - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.5246 - accuracy:
0.9081
288/750 [=======>..... - ETA: 0s - loss: 0.5273 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5283 - accuracy:
```

```
0.9077
432/750 [=========>.....] - ETA: 0s - loss: 0.5294 - accuracy:
502/750 [==========>.....] - ETA: 0s - loss: 0.5302 - accuracy:
574/750 [===============>.....] - ETA: 0s - loss: 0.5301 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.5305 - accuracy:
750/750 [============= ] - 1s 854us/step - loss: 0.5292 - accuracy:
0.9072 - val loss: 0.6086 - val accuracy: 0.8821
 1/313 [.....] - ETA: 3s - loss: 0.6449 - accuracy:
107/313 [=======>.....] - ETA: 0s - loss: 0.6438 - accuracy:
210/313 [=============>.....] - ETA: 0s - loss: 0.6602 - accuracy:
0.8689
Testing loss: 0.6420478224754333
Testing accuracy: 86.89000010490417%
The Best Model Was:
{'key': 'EPOCH: 220, LAYER_AMT: 5, NEURONS: 50, LR: 0.001, BATCH: 64, L2: 0.001',
'model': <keras.engine.sequential.Sequential object at 0x0000022A41B26970>,
'history': <keras.callbacks.History object at 0x0000022A865F2E80>, 'epochs': 220,
'batch_size': 64, 'architecture': [{'name': 'input_layer', 'size': 50,
'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size':
50, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 50,
'activation function': 'relu'}, {'name': 'hidden4', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden5', 'size': 50,
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation_function': 'softmax'}], 'l2_strength': 0.001, 'learning_rate': 0.001,
'testing results': {'loss': 0.6420478224754333, 'accuracy': 0.8689000010490417},
'validation_results': {'loss': 0.6085644364356995, 'accuracy': 0.8820833563804626}}
Testing problem_3c:
The model being used is:
{'key': 'EPOCH: 220, LAYER_AMT: 5, NEURONS: 50, LR: 0.001, BATCH: 64, L2: 0.001',
'model': <keras.engine.sequential.Sequential object at 0x0000022A41B26970>,
'history': <keras.callbacks.History object at 0x0000022A865F2E80>, 'epochs': 220,
'batch_size': 64, 'architecture': [{'name': 'input_layer', 'size': 50,
'activation function': 'relu', 'input shape': (784,)}, {'name': 'hidden1', 'size':
50, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden3', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden4', 'size': 50,
'activation_function': 'relu'}, {'name': 'hidden5', 'size': 50,
```

```
'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10,
'activation_function': 'softmax'}], 'l2_strength': 0.001, 'learning_rate': 0.001,
'testing_results': {'loss': 0.6420478224754333, 'accuracy': 0.8689000010490417},
'validation results': {'loss': 0.6085644364356995, 'accuracy': 0.8820833563804626}}
```

Re-training the best model!

Model: "sequential 13"

Layer (type)	Output Shape	Param #
input_layer (Dense)	(None, 50)	39250
hidden1 (Dense)	(None, 50)	2550
hidden2 (Dense)	(None, 50)	2550
hidden3 (Dense)	(None, 50)	2550
hidden4 (Dense)	(None, 50)	2550
hidden5 (Dense)	(None, 50)	2550
output_layer (Dense)	(None, 10)	510

Total params: 52,510 Trainable params: 52,510 Non-trainable params: 0

```
Training NN with EPOCHS=220, BATCH_SIZE=64, LEARNING_RATE=0.001 and L2_REGULARIZE=0.001, ARCHITECTURE=[{'name': 'input_layer', 'size': 50, 'activation_function': 'relu', 'input_shape': (784,)}, {'name': 'hidden1', 'size': 50, 'activation_function': 'relu'}, {'name': 'hidden2', 'size': 50, 'activation_function': 'relu'}, {'name': 'hidden3', 'size': 50, 'activation_function': 'relu'}, {'name': 'hidden4', 'size': 50, 'activation_function': 'relu'}, {'name': 'hidden5', 'size': 50, 'activation_function': 'relu'}, {'name': 'output_layer', 'size': 10, 'activation_function': 'softmax'}]

Importing MNIST Dataset...

(48000, 784) train samples

(12000, 784) validation samples

(10000, 784) test samples

(48000, 10) train labels

(12000, 10) validation labels

(12000, 10) test labels
```

```
1/750 [...... loss: 2.6608 - accuracy:
66/750 [=>.....] - ETA: 0s - loss: 2.6639 - accuracy: 0.1117
130/750 [====>......] - ETA: 0s - loss: 2.6631 - accuracy:
0.1167
198/750 [=====>.....] - ETA: 0s - loss: 2.6629 - accuracy:
0.1162
264/750 [=======>.....] - ETA: 0s - loss: 2.6621 - accuracy:
0.1161
331/750 [=======>.....] - ETA: 0s - loss: 2.6613 - accuracy:
0.1169
397/750 [========>.....] - ETA: 0s - loss: 2.6605 - accuracy:
0.1169
466/750 [==========>.....] - ETA: 0s - loss: 2.6595 - accuracy:
0.1178
532/750 [=========>.....] - ETA: 0s - loss: 2.6587 - accuracy:
0.1186
0.1203
667/750 [============>....] - ETA: 0s - loss: 2.6570 - accuracy:
0.1208
0.1219
0.1224 - val_loss: 2.6453 - val_accuracy: 0.1326
Epoch 2/220
1/750 [.....] - ETA: 0s - loss: 2.6464 - accuracy:
66/750 [=>.....] - ETA: 0s - loss: 2.6438 - accuracy:
132/750 [====>...... - ETA: 0s - loss: 2.6438 - accuracy:
0.1360
202/750 [=====>.....] - ETA: 0s - loss: 2.6419 - accuracy:
0.1370
273/750 [=======>.....] - ETA: 0s - loss: 2.6400 - accuracy:
0.1399
346/750 [=======>.....] - ETA: 0s - loss: 2.6385 - accuracy:
416/750 [========>.....] - ETA: 0s - loss: 2.6370 - accuracy:
0.1434
486/750 [=========>.....] - ETA: 0s - loss: 2.6356 - accuracy:
0.1446
559/750 [==========>.....] - ETA: 0s - loss: 2.6341 - accuracy:
0.1465
```

```
0.1486
0.1506
0.1525 - val_loss: 2.6125 - val_accuracy: 0.1692
Epoch 3/220
1/750 [.....] - ETA: 0s - loss: 2.5990 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 2.6091 - accuracy:
0.1811
143/750 [====>.....] - ETA: 0s - loss: 2.6079 - accuracy:
0.1801
214/750 [=====>.....] - ETA: 0s - loss: 2.6054 - accuracy:
0.1851
287/750 [=======>.....] - ETA: 0s - loss: 2.6024 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 2.5997 - accuracy:
0.1936
431/750 [=========>..... - ETA: 0s - loss: 2.5971 - accuracy:
0.1980
503/750 [==========>.....] - ETA: 0s - loss: 2.5943 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 2.5915 - accuracy:
0.2036
0.2083
0.2101 - val_loss: 2.5464 - val_accuracy: 0.2325
Epoch 4/220
1/750 [.....] - ETA: 0s - loss: 2.5242 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 2.5397 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 2.5339 - accuracy:
0.2389
217/750 [======>.....] - ETA: 0s - loss: 2.5288 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 2.5232 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 2.5162 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 2.5091 - accuracy:
0.2451
505/750 [=========>.....] - ETA: 0s - loss: 2.5020 - accuracy:
```

```
577/750 [===========>.....] - ETA: 0s - loss: 2.4942 - accuracy:
0.2509
0.2565 - val_loss: 2.3839 - val_accuracy: 0.2987
Epoch 5/220
1/750 [.....] - ETA: 0s - loss: 2.4373 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 2.3678 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 2.3579 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 2.3481 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 2.3338 - accuracy:
358/750 [========>...... - ETA: 0s - loss: 2.3197 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 2.3074 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 2.2958 - accuracy:
0.3356
574/750 [==========>.....] - ETA: 0s - loss: 2.2803 - accuracy:
0.3416
645/750 [==============>....] - ETA: 0s - loss: 2.2670 - accuracy:
0.3447
0.3469
0.3473 - val loss: 2.0933 - val accuracy: 0.3648
Epoch 6/220
1/750 [.....] - ETA: 0s - loss: 2.0168 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 2.0693 - accuracy:
0.3748
143/750 [====>.....] - ETA: 0s - loss: 2.0561 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 2.0432 - accuracy:
0.3921
287/750 [=======>..... - ETA: 0s - loss: 2.0261 - accuracy:
0.4053
356/750 [=======>.....] - ETA: 0s - loss: 2.0113 - accuracy:
0.4158
427/750 [=========>..... - ETA: 0s - loss: 1.9931 - accuracy:
```

```
500/750 [===========>.....] - ETA: 0s - loss: 1.9778 - accuracy:
0.4317
572/750 [============>.....] - ETA: 0s - loss: 1.9610 - accuracy:
0.4489
750/750 [=============== ] - 1s 858us/step - loss: 1.9206 - accuracy:
0.4533 - val loss: 1.7505 - val accuracy: 0.5278
Epoch 7/220
1/750 [.....] - ETA: 0s - loss: 1.6448 - accuracy:
0.5156
73/750 [=>.....] - ETA: 0s - loss: 1.7449 - accuracy:
148/750 [====>.....] - ETA: 0s - loss: 1.7221 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 1.7075 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 1.6928 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 1.6771 - accuracy:
432/750 [=========>..... - ETA: 0s - loss: 1.6627 - accuracy:
0.5493
503/750 [=========>.....] - ETA: 0s - loss: 1.6514 - accuracy:
575/750 [=============>.....] - ETA: 0s - loss: 1.6388 - accuracy:
750/750 [================ ] - 1s 852us/step - loss: 1.6107 - accuracy:
0.5619 - val_loss: 1.4959 - val_accuracy: 0.5929
Epoch 8/220
1/750 [.....] - ETA: 0s - loss: 1.5833 - accuracy:
0.6406
73/750 [=>.....] - ETA: 0s - loss: 1.4982 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 1.4835 - accuracy:
221/750 [======>...... - ETA: 0s - loss: 1.4740 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 1.4659 - accuracy:
0.6127
362/750 [=======>.....] - ETA: 0s - loss: 1.4545 - accuracy:
```

```
434/750 [=========>.....] - ETA: 0s - loss: 1.4454 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 1.4404 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 1.4337 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 1.4266 - accuracy:
0.6269
750/750 [============= ] - 1s 852us/step - loss: 1.4177 - accuracy:
0.6275 - val_loss: 1.3534 - val_accuracy: 0.6511
Epoch 9/220
1/750 [.....] - ETA: 0s - loss: 1.4366 - accuracy:
52/750 [=>.....] - ETA: 0s - loss: 1.3519 - accuracy:
105/750 [===>.....] - ETA: 0s - loss: 1.3379 - accuracy:
177/750 [=====>...... - ETA: 0s - loss: 1.3378 - accuracy:
247/750 [======>.....] - ETA: 0s - loss: 1.3390 - accuracy:
0.6461
319/750 [=======>.....] - ETA: 0s - loss: 1.3336 - accuracy:
390/750 [=======>.....] - ETA: 0s - loss: 1.3289 - accuracy:
463/750 [==========>.....] - ETA: 0s - loss: 1.3239 - accuracy:
535/750 [=========>.....] - ETA: 0s - loss: 1.3195 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 1.3153 - accuracy:
677/750 [===========>...] - ETA: 0s - loss: 1.3103 - accuracy:
749/750 [=============>.] - ETA: 0s - loss: 1.3054 - accuracy:
0.6589
0.6588 - val_loss: 1.2670 - val_accuracy: 0.6677
Epoch 10/220
1/750 [.....] - ETA: 0s - loss: 1.4701 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 1.2610 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 1.2481 - accuracy:
214/750 [======>...... - ETA: 0s - loss: 1.2494 - accuracy:
```

```
285/750 [=======>.....] - ETA: 0s - loss: 1.2493 - accuracy:
0.6766
353/750 [========>.....] - ETA: 0s - loss: 1.2468 - accuracy:
422/750 [========>..... - ETA: 0s - loss: 1.2422 - accuracy:
0.6770
494/750 [=========>.....] - ETA: 0s - loss: 1.2402 - accuracy:
0.6777
566/750 [==========>.....] - ETA: 0s - loss: 1.2381 - accuracy:
0.6789
638/750 [============>....] - ETA: 0s - loss: 1.2350 - accuracy:
0.6791
750/750 [=============== ] - 1s 861us/step - loss: 1.2318 - accuracy:
0.6799 - val loss: 1.2067 - val accuracy: 0.6923
Epoch 11/220
1/750 [.....] - ETA: 0s - loss: 1.2885 - accuracy:
0.7031
70/750 [=>.....] - ETA: 0s - loss: 1.2088 - accuracy:
0.6897
142/750 [====>.....] - ETA: 0s - loss: 1.2010 - accuracy:
0.6867
213/750 [======>.....] - ETA: 0s - loss: 1.2032 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 1.1983 - accuracy:
0.6914
424/750 [========>.....] - ETA: 0s - loss: 1.1897 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 1.1894 - accuracy:
569/750 [=========>.....] - ETA: 0s - loss: 1.1842 - accuracy:
641/750 [============>....] - ETA: 0s - loss: 1.1809 - accuracy:
0.6973
712/750 [===============>..] - ETA: 0s - loss: 1.1793 - accuracy:
0.6984
750/750 [================ ] - 1s 858us/step - loss: 1.1780 - accuracy:
0.6990 - val loss: 1.1588 - val accuracy: 0.7088
Epoch 12/220
1/750 [.....] - ETA: 0s - loss: 1.0777 - accuracy:
0.7344
73/750 [=>.....] - ETA: 0s - loss: 1.1408 - accuracy:
0.7181
146/750 [====>...... - ETA: 0s - loss: 1.1505 - accuracy:
0.7092
```

```
218/750 [======>.....] - ETA: 0s - loss: 1.1539 - accuracy:
0.7090
291/750 [=======>.....] - ETA: 0s - loss: 1.1509 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 1.1459 - accuracy:
0.7129
433/750 [=========>.....] - ETA: 0s - loss: 1.1418 - accuracy:
0.7133
504/750 [=========>.....] - ETA: 0s - loss: 1.1405 - accuracy:
0.7146
576/750 [===========>.....] - ETA: 0s - loss: 1.1384 - accuracy:
0.7148
0.7166
0.7168 - val_loss: 1.1175 - val_accuracy: 0.7221
Epoch 13/220
1/750 [.....] - ETA: 0s - loss: 1.0746 - accuracy:
0.7344
74/750 [=>.....] - ETA: 0s - loss: 1.1443 - accuracy:
0.7158
147/750 [====>.....] - ETA: 0s - loss: 1.1251 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 1.1138 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 1.1106 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 1.1074 - accuracy:
435/750 [=========>..... - ETA: 0s - loss: 1.1024 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 1.0987 - accuracy:
0.7296
579/750 [===========>.....] - ETA: 0s - loss: 1.0965 - accuracy:
0.7309
651/750 [=============>....] - ETA: 0s - loss: 1.0955 - accuracy:
0.7304
0.7313 - val loss: 1.0852 - val accuracy: 0.7371
Epoch 14/220
1/750 [.....] - ETA: 0s - loss: 0.9808 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 1.0768 - accuracy:
0.7348
```

```
142/750 [====>...... - ETA: 0s - loss: 1.0762 - accuracy:
0.7394
215/750 [======>.....] - ETA: 0s - loss: 1.0735 - accuracy:
0.7404
287/750 [=======>.....] - ETA: 0s - loss: 1.0713 - accuracy:
0.7407
358/750 [=======>.....] - ETA: 0s - loss: 1.0674 - accuracy:
430/750 [=========>..... - ETA: 0s - loss: 1.0651 - accuracy:
0.7421
496/750 [==========>.....] - ETA: 0s - loss: 1.0621 - accuracy:
0.7431
569/750 [===========>.....] - ETA: 0s - loss: 1.0627 - accuracy:
0.7496
0.7403 - val loss: 1.0590 - val accuracy: 0.7444
Epoch 15/220
1/750 [.....] - ETA: 0s - loss: 0.9914 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 1.0544 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 1.0622 - accuracy:
0.7371
215/750 [======>.....] - ETA: 0s - loss: 1.0500 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 1.0501 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 1.0463 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 1.0427 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 1.0426 - accuracy:
0.7471
575/750 [===========>.....] - ETA: 0s - loss: 1.0402 - accuracy:
0.7484
750/750 [=============== ] - 1s 850us/step - loss: 1.0391 - accuracy:
0.7488 - val loss: 1.0367 - val accuracy: 0.7522
Epoch 16/220
1/750 [.....] - ETA: 0s - loss: 1.0270 - accuracy:
```

```
71/750 [=>.....] - ETA: 0s - loss: 1.0253 - accuracy:
0.7504
144/750 [====>.....] - ETA: 0s - loss: 1.0296 - accuracy:
214/750 [=====>.....] - ETA: 0s - loss: 1.0290 - accuracy:
285/750 [=======>..... - ETA: 0s - loss: 1.0258 - accuracy:
0.7528
359/750 [========>.....] - ETA: 0s - loss: 1.0262 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 1.0269 - accuracy:
0.7516
503/750 [==========>.....] - ETA: 0s - loss: 1.0232 - accuracy:
576/750 [============>.....] - ETA: 0s - loss: 1.0233 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 1.0203 - accuracy:
750/750 [=============== ] - 1s 850us/step - loss: 1.0191 - accuracy:
0.7547 - val_loss: 1.0182 - val_accuracy: 0.7578
Epoch 17/220
 1/750 [.....] - ETA: 0s - loss: 0.9307 - accuracy:
0.8125
73/750 [=>.....] - ETA: 0s - loss: 0.9894 - accuracy:
0.7669
145/750 [====>.....] - ETA: 0s - loss: 0.9930 - accuracy:
0.7637
218/750 [======>.....] - ETA: 0s - loss: 0.9999 - accuracy:
290/750 [=======>..... - ETA: 0s - loss: 1.0032 - accuracy:
0.7617
361/750 [=======>.....] - ETA: 0s - loss: 0.9999 - accuracy:
434/750 [========>..... - ETA: 0s - loss: 1.0010 - accuracy:
506/750 [=========>....] - ETA: 0s - loss: 1.0002 - accuracy:
0.7632
578/750 [=============>.....] - ETA: 0s - loss: 0.9986 - accuracy:
0.7641
650/750 [============>....] - ETA: 0s - loss: 1.0030 - accuracy:
721/750 [===============>..] - ETA: 0s - loss: 1.0025 - accuracy:
0.7621
750/750 [=============== ] - 1s 850us/step - loss: 1.0019 - accuracy:
0.7624 - val_loss: 0.9999 - val_accuracy: 0.7653
Epoch 18/220
```

```
1/750 [...... - ETA: 0s - loss: 1.1688 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.9755 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.9788 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.9919 - accuracy:
0.7661
287/750 [=======>..... - ETA: 0s - loss: 0.9908 - accuracy:
0.7654
356/750 [========>.....] - ETA: 0s - loss: 0.9873 - accuracy:
0.7676
430/750 [=========>.....] - ETA: 0s - loss: 0.9823 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.9830 - accuracy:
571/750 [============>.....] - ETA: 0s - loss: 0.9863 - accuracy:
0.7684
0.7693 - val_loss: 0.9875 - val_accuracy: 0.7697
Epoch 19/220
1/750 [.....] - ETA: 0s - loss: 1.1344 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.9754 - accuracy:
0.7806
142/750 [====>.....] - ETA: 0s - loss: 0.9752 - accuracy:
207/750 [=====>.....] - ETA: 0s - loss: 0.9751 - accuracy:
280/750 [=======>.....] - ETA: 0s - loss: 0.9725 - accuracy:
0.7748
351/750 [=======>.....] - ETA: 0s - loss: 0.9720 - accuracy:
424/750 [========>..... - ETA: 0s - loss: 0.9704 - accuracy:
0.7753
496/750 [==========>.....] - ETA: 0s - loss: 0.9739 - accuracy:
0.7736
568/750 [==========>.....] - ETA: 0s - loss: 0.9751 - accuracy:
0.7739
0.7743
0.7744 - val_loss: 0.9713 - val_accuracy: 0.7727
```

```
1/750 [.....] - ETA: 0s - loss: 1.0347 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.9659 - accuracy:
0.7798
144/750 [====>.....] - ETA: 0s - loss: 0.9662 - accuracy:
0.7784
216/750 [======>...... - ETA: 0s - loss: 0.9668 - accuracy:
0.7790
287/750 [=======>.....] - ETA: 0s - loss: 0.9611 - accuracy:
0.7811
357/750 [=======>.....] - ETA: 0s - loss: 0.9618 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.9585 - accuracy:
499/750 [==========>.....] - ETA: 0s - loss: 0.9587 - accuracy:
0.7797
572/750 [===============>.....] - ETA: 0s - loss: 0.9601 - accuracy:
644/750 [============>....] - ETA: 0s - loss: 0.9598 - accuracy:
0.7807 - val loss: 0.9612 - val accuracy: 0.7815
Epoch 21/220
1/750 [.................] - ETA: 0s - loss: 0.8837 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.9450 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.9524 - accuracy:
0.7861
217/750 [=====>.....] - ETA: 0s - loss: 0.9485 - accuracy:
0.7873
290/750 [======>..... - ETA: 0s - loss: 0.9474 - accuracy:
0.7851
361/750 [=======>.....] - ETA: 0s - loss: 0.9477 - accuracy:
432/750 [==========>.....] - ETA: 0s - loss: 0.9446 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.9417 - accuracy:
577/750 [============>.....] - ETA: 0s - loss: 0.9435 - accuracy:
0.7874
649/750 [============>....] - ETA: 0s - loss: 0.9463 - accuracy:
0.7866
0.7863
```

```
0.7865 - val loss: 0.9483 - val accuracy: 0.7856
Epoch 22/220
1/750 [.....] - ETA: 0s - loss: 0.8150 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.9527 - accuracy:
0.7830
142/750 [====>...... - ETA: 0s - loss: 0.9410 - accuracy:
0.7887
214/750 [======>.....] - ETA: 0s - loss: 0.9391 - accuracy:
0.7886
283/750 [=======>.....] - ETA: 0s - loss: 0.9368 - accuracy:
0.7885
353/750 [=======>.....] - ETA: 0s - loss: 0.9385 - accuracy:
0.7886
425/750 [=========>.....] - ETA: 0s - loss: 0.9397 - accuracy:
0.7887
498/750 [==========>.....] - ETA: 0s - loss: 0.9383 - accuracy:
0.7897
570/750 [==========>.....] - ETA: 0s - loss: 0.9398 - accuracy:
0.7895
0.7906
0.7909 - val loss: 0.9382 - val accuracy: 0.7892
Epoch 23/220
1/750 [.....] - ETA: 0s - loss: 0.8039 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.9239 - accuracy:
0.7971
146/750 [====>.....] - ETA: 0s - loss: 0.9380 - accuracy:
217/750 [=====>.....] - ETA: 0s - loss: 0.9414 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.9380 - accuracy:
0.7921
358/750 [========>.....] - ETA: 0s - loss: 0.9385 - accuracy:
0.7921
431/750 [========>..... - ETA: 0s - loss: 0.9362 - accuracy:
0.7915
502/750 [===========>.....] - ETA: 0s - loss: 0.9357 - accuracy:
0.7917
575/750 [===========>.....] - ETA: 0s - loss: 0.9335 - accuracy:
0.7923
```

```
0.7944
750/750 [=============== ] - 1s 860us/step - loss: 0.9270 - accuracy:
0.7949 - val loss: 0.9306 - val accuracy: 0.7914
Epoch 24/220
 1/750 [.....] - ETA: 0s - loss: 0.8505 - accuracy:
0.7969
73/750 [=>.....] - ETA: 0s - loss: 0.9415 - accuracy:
0.7924
143/750 [====>.....] - ETA: 0s - loss: 0.9256 - accuracy:
0.7982
216/750 [======>.....] - ETA: 0s - loss: 0.9283 - accuracy:
0.7960
289/750 [=======>..... - ETA: 0s - loss: 0.9242 - accuracy:
0.7975
360/750 [========>.....] - ETA: 0s - loss: 0.9236 - accuracy:
0.7973
432/750 [==========>.....] - ETA: 0s - loss: 0.9238 - accuracy:
505/750 [========>>.....] - ETA: 0s - loss: 0.9210 - accuracy:
0.7977
576/750 [============>.....] - ETA: 0s - loss: 0.9215 - accuracy:
648/750 [=============>.....] - ETA: 0s - loss: 0.9205 - accuracy:
0.7984
0.7995
0.7997 - val_loss: 0.9217 - val_accuracy: 0.7956
Epoch 25/220
 1/750 [.....] - ETA: 0s - loss: 1.0088 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8977 - accuracy:
146/750 [====>...... - ETA: 0s - loss: 0.9038 - accuracy:
0.8088
218/750 [======>...... - ETA: 0s - loss: 0.9049 - accuracy:
0.8056
287/750 [=======>.....] - ETA: 0s - loss: 0.9033 - accuracy:
0.8064
360/750 [=======>.....] - ETA: 0s - loss: 0.9062 - accuracy:
428/750 [=========>..... - ETA: 0s - loss: 0.9103 - accuracy:
0.8036
499/750 [=========>.....] - ETA: 0s - loss: 0.9119 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.9100 - accuracy:
```

```
0.8029
750/750 [=============== ] - 1s 860us/step - loss: 0.9094 - accuracy:
0.8028 - val_loss: 0.9150 - val_accuracy: 0.7998
Epoch 26/220
1/750 [.....] - ETA: 0s - loss: 0.9914 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.9115 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.9092 - accuracy:
0.8081
211/750 [======>.....] - ETA: 0s - loss: 0.9096 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.9118 - accuracy:
0.8051
355/750 [========>.....] - ETA: 0s - loss: 0.9095 - accuracy:
427/750 [=========>...... - ETA: 0s - loss: 0.9034 - accuracy:
498/750 [=========>.....] - ETA: 0s - loss: 0.9022 - accuracy:
570/750 [==========>.....] - ETA: 0s - loss: 0.9047 - accuracy:
0.8059
0.8967
0.8066
750/750 [=============== ] - 1s 866us/step - loss: 0.9021 - accuracy:
0.8066 - val_loss: 0.9061 - val_accuracy: 0.8041
Epoch 27/220
1/750 [.....] - ETA: 0s - loss: 0.9092 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.8757 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.8927 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.8926 - accuracy:
0.8081
291/750 [=======>..... - ETA: 0s - loss: 0.8957 - accuracy:
363/750 [=======>.....] - ETA: 0s - loss: 0.8970 - accuracy:
436/750 [=========>.....] - ETA: 0s - loss: 0.8953 - accuracy:
0.8071
508/750 [=========>.....] - ETA: 0s - loss: 0.8952 - accuracy:
0.8073
```

```
578/750 [============>.....] - ETA: 0s - loss: 0.8941 - accuracy:
0.8082
 0.8083 \\ 0.000 \\ \overline{0} \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.000 \\ 0.0
0.8079 - val_loss: 0.9048 - val_accuracy: 0.8037
Epoch 28/220
  1/750 [.....] - ETA: 0s - loss: 0.9061 - accuracy:
0.7344
 73/750 [=>.....] - ETA: 0s - loss: 0.8820 - accuracy:
0.8093
144/750 [====>...... - ETA: 0s - loss: 0.8869 - accuracy:
0.8074
214/750 [======>.....] - ETA: 0s - loss: 0.8900 - accuracy:
0.8091
287/750 [=======>.....] - ETA: 0s - loss: 0.8892 - accuracy:
357/750 [=======>...... - ETA: 0s - loss: 0.8913 - accuracy:
0.8079
429/750 [=========>.....] - ETA: 0s - loss: 0.8870 - accuracy:
0.8097
492/750 [==========>.....] - ETA: 0s - loss: 0.8886 - accuracy:
564/750 [==========>.....] - ETA: 0s - loss: 0.8881 - accuracy:
0.8097
636/750 [===============>.....] - ETA: 0s - loss: 0.8878 - accuracy:
0.8099
0.8102 - val loss: 0.8982 - val accuracy: 0.8052
Epoch 29/220
  1/750 [.....] - ETA: 0s - loss: 0.8682 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.8878 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.8744 - accuracy:
214/750 [=====>...... - ETA: 0s - loss: 0.8850 - accuracy:
286/750 [=======>..... - ETA: 0s - loss: 0.8891 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.8888 - accuracy:
0.8086
427/750 [=========>..... - ETA: 0s - loss: 0.8852 - accuracy:
```

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498/750 [==========>.....] - ETA: 0s - loss: 0.8853 - accuracy:
570/750 [============>.....] - ETA: 0s - loss: 0.8830 - accuracy:
0.8107
0.8123 - val loss: 0.8901 - val accuracy: 0.8087
Epoch 30/220
1/750 [.....] - ETA: 0s - loss: 0.7699 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.8681 - accuracy:
0.8197
139/750 [====>.....] - ETA: 0s - loss: 0.8850 - accuracy:
209/750 [=====>.....] - ETA: 0s - loss: 0.8794 - accuracy:
280/750 [=======>..... - ETA: 0s - loss: 0.8833 - accuracy:
0.8129
351/750 [=======>.....] - ETA: 0s - loss: 0.8810 - accuracy:
425/750 [=========>.....] - ETA: 0s - loss: 0.8768 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 0.8792 - accuracy:
568/750 [===============>.....] - ETA: 0s - loss: 0.8776 - accuracy:
0.8151 - val_loss: 0.8803 - val_accuracy: 0.8121
Epoch 31/220
1/750 [...... - ETA: 0s - loss: 0.9048 - accuracy:
0.7656
74/750 [=>...... - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.8743 - accuracy:
0.8151
218/750 [======>...... - ETA: 0s - loss: 0.8741 - accuracy:
0.8147
288/750 [=======>.....] - ETA: 0s - loss: 0.8713 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.8691 - accuracy:
```

```
433/750 [=========>.....] - ETA: 0s - loss: 0.8709 - accuracy:
0.8158
506/750 [===========>.....] - ETA: 0s - loss: 0.8714 - accuracy:
571/750 [===============>.....] - ETA: 0s - loss: 0.8701 - accuracy:
0.8171
644/750 [============>....] - ETA: 0s - loss: 0.8720 - accuracy:
0.8164
0.8159
750/750 [============= ] - 1s 853us/step - loss: 0.8713 - accuracy:
0.8163 - val_loss: 0.8787 - val_accuracy: 0.8117
Epoch 32/220
 1/750 [.....] - ETA: 0s - loss: 0.8175 - accuracy:
72/750 [=>...... - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.8849 - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.8824 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.8792 - accuracy:
0.8131
362/750 [=======>.....] - ETA: 0s - loss: 0.8794 - accuracy:
0.8126
433/750 [=========>.....] - ETA: 0s - loss: 0.8745 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.8712 - accuracy:
0.8168
577/750 [===========>.....] - ETA: 0s - loss: 0.8696 - accuracy:
648/750 [============>.....] - ETA: 0s - loss: 0.8685 - accuracy:
0.8194
750/750 [============= ] - 1s 850us/step - loss: 0.8661 - accuracy:
0.8192 - val_loss: 0.8711 - val_accuracy: 0.8148
Epoch 33/220
1/750 [.....] - ETA: 0s - loss: 0.8577 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.8692 - accuracy:
0.8154
142/750 [====>...... - ETA: 0s - loss: 0.8607 - accuracy:
207/750 [======>.....] - ETA: 0s - loss: 0.8559 - accuracy:
280/750 [=======>..... - ETA: 0s - loss: 0.8568 - accuracy:
```

```
350/750 [========>.....] - ETA: 0s - loss: 0.8598 - accuracy:
0.8208
422/750 [========>.....] - ETA: 0s - loss: 0.8582 - accuracy:
0.8221
495/750 [=========>.....] - ETA: 0s - loss: 0.8606 - accuracy:
0.8216
568/750 [=========>.....] - ETA: 0s - loss: 0.8593 - accuracy:
638/750 [============>....] - ETA: 0s - loss: 0.8580 - accuracy:
0.8227
0.8211 - val loss: 0.8687 - val accuracy: 0.8192
Epoch 34/220
1/750 [.....] - ETA: 0s - loss: 0.6674 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.8572 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.8571 - accuracy:
0.8241
217/750 [======>.....] - ETA: 0s - loss: 0.8569 - accuracy:
287/750 [=======>..... - ETA: 0s - loss: 0.8581 - accuracy:
0.8246
359/750 [=======>.....] - ETA: 0s - loss: 0.8590 - accuracy:
431/750 [==========>.....] - ETA: 0s - loss: 0.8587 - accuracy:
0.8216
502/750 [==========>.....] - ETA: 0s - loss: 0.8566 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.8587 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.8586 - accuracy:
709/750 [==============>..] - ETA: 0s - loss: 0.8578 - accuracy:
0.8209
750/750 [============== ] - 1s 861us/step - loss: 0.8568 - accuracy:
0.8214 - val_loss: 0.8616 - val_accuracy: 0.8197
Epoch 35/220
1/750 [...... 0.7168 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8674 - accuracy:
145/750 [====>...... - accuracy:
218/750 [======>...... - ETA: 0s - loss: 0.8561 - accuracy:
0.8227
```

```
289/750 [=======>.....] - ETA: 0s - loss: 0.8576 - accuracy:
0.8221
362/750 [========>.....] - ETA: 0s - loss: 0.8566 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.8561 - accuracy:
0.8220
504/750 [=========>.....] - ETA: 0s - loss: 0.8516 - accuracy:
0.8233
576/750 [===========>.....] - ETA: 0s - loss: 0.8489 - accuracy:
0.8241
649/750 [============>....] - ETA: 0s - loss: 0.8492 - accuracy:
0.8246
0.8235 - val loss: 0.8613 - val accuracy: 0.8198
Epoch 36/220
1/750 [.....] - ETA: 0s - loss: 0.7723 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8511 - accuracy:
0.8196
145/750 [====>.....] - ETA: 0s - loss: 0.8439 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.8443 - accuracy:
281/750 [=======>.....] - ETA: 0s - loss: 0.8462 - accuracy:
0.8241
0.8229
425/750 [=========>.....] - ETA: 0s - loss: 0.8460 - accuracy:
0.8241
496/750 [=========>.....] - ETA: 0s - loss: 0.8462 - accuracy:
568/750 [==========>.....] - ETA: 0s - loss: 0.8456 - accuracy:
640/750 [============>....] - ETA: 0s - loss: 0.8473 - accuracy:
0.8249
710/750 [==============>..] - ETA: 0s - loss: 0.8496 - accuracy:
0.8247 - val loss: 0.8572 - val accuracy: 0.8199
Epoch 37/220
1/750 [.....] - ETA: 0s - loss: 0.9153 - accuracy:
71/750 [=>...... - accuracy:
142/750 [====>...... - ETA: 0s - loss: 0.8307 - accuracy:
```

```
214/750 [======>.....] - ETA: 0s - loss: 0.8392 - accuracy:
0.8289
287/750 [=======>.....] - ETA: 0s - loss: 0.8434 - accuracy:
359/750 [========>.....] - ETA: 0s - loss: 0.8408 - accuracy:
0.8293
429/750 [========>.....] - ETA: 0s - loss: 0.8380 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.8414 - accuracy:
0.8278
572/750 [==============>.....] - ETA: 0s - loss: 0.8437 - accuracy:
0.8271
0.8266
0.8267 - val_loss: 0.8511 - val_accuracy: 0.8211
Epoch 38/220
1/750 [...... - ETA: 0s - loss: 0.8183 - accuracy:
71/750 [=>...... - accuracy:
0.8288
143/750 [====>.....] - ETA: 0s - loss: 0.8308 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.8335 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.8349 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.8353 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.8425 - accuracy:
0.8274
502/750 [=========>.....] - ETA: 0s - loss: 0.8442 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.8411 - accuracy:
0.8273
642/750 [============>....] - ETA: 0s - loss: 0.8415 - accuracy:
0.8266
0.8267
0.8267 - val loss: 0.8483 - val accuracy: 0.8238
Epoch 39/220
1/750 [.....] - ETA: 0s - loss: 0.7736 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.8357 - accuracy:
```

```
144/750 [====>...... - ETA: 0s - loss: 0.8412 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.8423 - accuracy:
0.8281
284/750 [=======>..... - ETA: 0s - loss: 0.8404 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.8390 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.8379 - accuracy:
0.8269
489/750 [==========>.....] - ETA: 0s - loss: 0.8361 - accuracy:
0.8276
563/750 [============>.....] - ETA: 0s - loss: 0.8350 - accuracy:
633/750 [============>....] - ETA: 0s - loss: 0.8363 - accuracy:
0.8278 - val loss: 0.8451 - val accuracy: 0.8239
Epoch 40/220
1/750 [.....] - ETA: 0s - loss: 0.7344 - accuracy:
0.8594
69/750 [=>.....] - ETA: 0s - loss: 0.8323 - accuracy:
138/750 [====>.....] - ETA: 0s - loss: 0.8274 - accuracy:
208/750 [======>.....] - ETA: 0s - loss: 0.8303 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.8329 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.8322 - accuracy:
418/750 [=========>.....] - ETA: 0s - loss: 0.8341 - accuracy:
487/750 [=========>.....] - ETA: 0s - loss: 0.8340 - accuracy:
0.8306
557/750 [==========>.....] - ETA: 0s - loss: 0.8314 - accuracy:
0.8318
697/750 [============>...] - ETA: 0s - loss: 0.8314 - accuracy:
0.8307 - val loss: 0.8413 - val accuracy: 0.8273
Epoch 41/220
1/750 [.....] - ETA: 0s - loss: 0.9104 - accuracy:
```

```
75/750 [==>...... - ETA: 0s - loss: 0.8299 - accuracy:
0.8346
144/750 [====>.....] - ETA: 0s - loss: 0.8356 - accuracy:
0.8288
216/750 [======>.....] - ETA: 0s - loss: 0.8220 - accuracy:
0.8343
289/750 [=======>.....] - ETA: 0s - loss: 0.8278 - accuracy:
0.8326
360/750 [========>.....] - ETA: 0s - loss: 0.8249 - accuracy:
0.8339
428/750 [=========>.....] - ETA: 0s - loss: 0.8260 - accuracy:
499/750 [==========>.....] - ETA: 0s - loss: 0.8281 - accuracy:
569/750 [==============>.....] - ETA: 0s - loss: 0.8279 - accuracy:
639/750 [============>....] - ETA: 0s - loss: 0.8261 - accuracy:
0.8319 - val_loss: 0.8372 - val_accuracy: 0.8260
Epoch 42/220
1/750 [.....] - ETA: 0s - loss: 0.6352 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.8222 - accuracy:
0.8349
143/750 [====>.....] - ETA: 0s - loss: 0.8152 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.8170 - accuracy:
285/750 [=======>..... - ETA: 0s - loss: 0.8157 - accuracy:
0.8366
356/750 [========>.....] - ETA: 0s - loss: 0.8193 - accuracy:
420/750 [=======>.....] - ETA: 0s - loss: 0.8227 - accuracy:
0.8319
490/750 [=========>....] - ETA: 0s - loss: 0.8205 - accuracy:
0.8324
560/750 [===============>.....] - ETA: 0s - loss: 0.8214 - accuracy:
630/750 [============>....] - ETA: 0s - loss: 0.8208 - accuracy:
703/750 [==============>..] - ETA: 0s - loss: 0.8246 - accuracy:
0.8320 - val_loss: 0.8347 - val_accuracy: 0.8273
Epoch 43/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.7983 - accuracy:
0.7969
69/750 [=>.....] - ETA: 0s - loss: 0.8159 - accuracy:
138/750 [====>......] - ETA: 0s - loss: 0.8288 - accuracy:
0.8321
207/750 [======>.....] - ETA: 0s - loss: 0.8276 - accuracy:
0.8321
275/750 [=======>..... - ETA: 0s - loss: 0.8279 - accuracy:
0.8311
344/750 [=========>.....] - ETA: 0s - loss: 0.8264 - accuracy:
412/750 [========>.....] - ETA: 0s - loss: 0.8239 - accuracy:
0.8329
479/750 [==========>.....] - ETA: 0s - loss: 0.8238 - accuracy:
547/750 [=========>.....] - ETA: 0s - loss: 0.8224 - accuracy:
0.8331
0.8328 - val_loss: 0.8320 - val_accuracy: 0.8280
Epoch 44/220
1/750 [.....] - ETA: 0s - loss: 0.9080 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.8230 - accuracy:
139/750 [====>.....] - ETA: 0s - loss: 0.8206 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.8220 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.8175 - accuracy:
354/750 [=======>.....] - ETA: 0s - loss: 0.8145 - accuracy:
0.8369
426/750 [=========>.....] - ETA: 0s - loss: 0.8157 - accuracy:
0.8364
496/750 [==========>.....] - ETA: 0s - loss: 0.8153 - accuracy:
566/750 [==========>.....] - ETA: 0s - loss: 0.8157 - accuracy:
0.8344
707/750 [==============>..] - ETA: 0s - loss: 0.8171 - accuracy:
0.8339 - val_loss: 0.8303 - val_accuracy: 0.8251
```

```
1/750 [.....] - ETA: 0s - loss: 0.9177 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.8131 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.8144 - accuracy:
0.8325
214/750 [======>...... - ETA: 0s - loss: 0.8176 - accuracy:
0.8342
283/750 [=======>.....] - ETA: 0s - loss: 0.8191 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.8225 - accuracy:
0.8331
424/750 [=========>.....] - ETA: 0s - loss: 0.8199 - accuracy:
489/750 [==========>.....] - ETA: 0s - loss: 0.8184 - accuracy:
0.8341
551/750 [===============>.....] - ETA: 0s - loss: 0.8169 - accuracy:
617/750 [============>.....] - ETA: 0s - loss: 0.8168 - accuracy:
0.8346
0.8353 - val loss: 0.8252 - val accuracy: 0.8308
Epoch 46/220
1/750 [................] - ETA: 0s - loss: 0.7283 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.8036 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.8086 - accuracy:
0.8380
216/750 [======>...... - ETA: 0s - loss: 0.8081 - accuracy:
0.8401
288/750 [=======>.....] - ETA: 0s - loss: 0.8062 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.8079 - accuracy:
0.8393
432/750 [==========>.....] - ETA: 0s - loss: 0.8112 - accuracy:
0.8376
503/750 [===========>.....] - ETA: 0s - loss: 0.8107 - accuracy:
574/750 [============>.....] - ETA: 0s - loss: 0.8122 - accuracy:
0.8366
648/750 [============>....] - ETA: 0s - loss: 0.8114 - accuracy:
0.8369
0.8366
```

```
0.8366 - val loss: 0.8229 - val accuracy: 0.8307
Epoch 47/220
1/750 [.....] - ETA: 0s - loss: 0.7824 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.8232 - accuracy:
0.8313
140/750 [====>...... - ETA: 0s - loss: 0.8151 - accuracy:
0.8326
209/750 [======>.....] - ETA: 0s - loss: 0.8141 - accuracy:
0.8344
279/750 [=======>.....] - ETA: 0s - loss: 0.8102 - accuracy:
0.8373
352/750 [=======>.....] - ETA: 0s - loss: 0.8079 - accuracy:
0.8374
422/750 [========>.....] - ETA: 0s - loss: 0.8068 - accuracy:
494/750 [===========>.....] - ETA: 0s - loss: 0.8051 - accuracy:
565/750 [==========>.....] - ETA: 0s - loss: 0.8084 - accuracy:
707/750 [===============>..] - ETA: 0s - loss: 0.8076 - accuracy:
0.8365 - val loss: 0.8224 - val accuracy: 0.8313
Epoch 48/220
1/750 [.....] - ETA: 0s - loss: 0.7294 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.8230 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.8055 - accuracy:
216/750 [=====>.....] - ETA: 0s - loss: 0.8065 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.8016 - accuracy:
0.8378
357/750 [========>.....] - ETA: 0s - loss: 0.8042 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.8036 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 0.8052 - accuracy:
564/750 [==========>.....] - ETA: 0s - loss: 0.8062 - accuracy:
0.8379
```

```
0.8374
0.8375 - val loss: 0.8182 - val accuracy: 0.8310
Epoch 49/220
1/750 [.....] - ETA: 0s - loss: 0.6781 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.7895 - accuracy:
0.8449
144/750 [====>.....] - ETA: 0s - loss: 0.8003 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7941 - accuracy:
286/750 [=======>..... - ETA: 0s - loss: 0.7930 - accuracy:
0.8409
359/750 [=======>.....] - ETA: 0s - loss: 0.7957 - accuracy:
432/750 [==========>.....] - ETA: 0s - loss: 0.7972 - accuracy:
502/750 [=========>....] - ETA: 0s - loss: 0.8006 - accuracy:
574/750 [============>.....] - ETA: 0s - loss: 0.8005 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.8001 - accuracy:
0.8379
0.8380 - val_loss: 0.8176 - val_accuracy: 0.8294
Epoch 50/220
1/750 [.....] - ETA: 0s - loss: 0.9002 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.8034 - accuracy:
139/750 [====>...... - ETA: 0s - loss: 0.7997 - accuracy:
0.8429
209/750 [=====>.....] - ETA: 0s - loss: 0.8002 - accuracy:
0.8417
280/750 [=======>.....] - ETA: 0s - loss: 0.7969 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.7989 - accuracy:
0.8411
423/750 [========>.....] - ETA: 0s - loss: 0.7980 - accuracy:
493/750 [=========>.....] - ETA: 0s - loss: 0.7981 - accuracy:
565/750 [==========>.....] - ETA: 0s - loss: 0.7992 - accuracy:
0.8397
```

```
636/750 [============>....] - ETA: 0s - loss: 0.7999 - accuracy:
0.8391
750/750 [================ ] - 1s 868us/step - loss: 0.7996 - accuracy:
0.8397 - val_loss: 0.8116 - val_accuracy: 0.8355
Epoch 51/220
1/750 [.....] - ETA: 0s - loss: 0.6526 - accuracy:
71/750 [=>...... - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.7995 - accuracy:
0.8371
213/750 [======>.....] - ETA: 0s - loss: 0.8002 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.7962 - accuracy:
356/750 [========>.....] - ETA: 0s - loss: 0.7977 - accuracy:
426/750 [=========>...... - ETA: 0s - loss: 0.7972 - accuracy:
0.8384
497/750 [=========>.....] - ETA: 0s - loss: 0.7966 - accuracy:
0.8389
570/750 [==========>.....] - ETA: 0s - loss: 0.7970 - accuracy:
0.8391
635/750 [============>....] - ETA: 0s - loss: 0.7971 - accuracy:
0.8386
750/750 [=============== ] - 1s 872us/step - loss: 0.7968 - accuracy:
0.8395 - val_loss: 0.8108 - val_accuracy: 0.8338
Epoch 52/220
1/750 [.....] - ETA: 0s - loss: 0.6714 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.8031 - accuracy:
0.8399
137/750 [====>.....] - ETA: 0s - loss: 0.7996 - accuracy:
0.8379
207/750 [======>.....] - ETA: 0s - loss: 0.7947 - accuracy:
0.8431
275/750 [=======>.....] - ETA: 0s - loss: 0.7980 - accuracy:
346/750 [=======>.....] - ETA: 0s - loss: 0.8014 - accuracy:
416/750 [========>..... - ETA: 0s - loss: 0.8000 - accuracy:
485/750 [=========>.....] - ETA: 0s - loss: 0.7974 - accuracy:
```

```
554/750 [===============>.....] - ETA: 0s - loss: 0.7970 - accuracy:
0.8418
0.8424 - val_loss: 0.8077 - val_accuracy: 0.8345
Epoch 53/220
1/750 [.....] - ETA: 0s - loss: 0.7148 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.7964 - accuracy:
0.8351
132/750 [====>...... - ETA: 0s - loss: 0.7973 - accuracy:
200/750 [======>.....] - ETA: 0s - loss: 0.7882 - accuracy:
271/750 [=======>.....] - ETA: 0s - loss: 0.7896 - accuracy:
341/750 [========>.....] - ETA: 0s - loss: 0.7873 - accuracy:
412/750 [========>.....] - ETA: 0s - loss: 0.7851 - accuracy:
0.8444
484/750 [==========>.....] - ETA: 0s - loss: 0.7872 - accuracy:
0.8436
554/750 [==========>.....] - ETA: 0s - loss: 0.7901 - accuracy:
0.8429
627/750 [===============>.....] - ETA: 0s - loss: 0.7909 - accuracy:
750/750 [=============== ] - 1s 874us/step - loss: 0.7907 - accuracy:
0.8424 - val loss: 0.8104 - val accuracy: 0.8331
Epoch 54/220
1/750 [.....] - ETA: 0s - loss: 0.7228 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.7804 - accuracy:
0.8446
143/750 [====>.....] - ETA: 0s - loss: 0.7822 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7800 - accuracy:
287/750 [=======>..... - ETA: 0s - loss: 0.7791 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.7836 - accuracy:
427/750 [=========>..... - ETA: 0s - loss: 0.7840 - accuracy:
```

```
498/750 [=========>.....] - ETA: 0s - loss: 0.7848 - accuracy:
0.8441
568/750 [============>.....] - ETA: 0s - loss: 0.7861 - accuracy:
0.8424
750/750 [============= ] - 1s 862us/step - loss: 0.7881 - accuracy:
0.8424 - val loss: 0.8009 - val accuracy: 0.8351
Epoch 55/220
1/750 [.....] - ETA: 0s - loss: 0.8882 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.7886 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.7860 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.7859 - accuracy:
287/750 [=======>..... - ETA: 0s - loss: 0.7882 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.7872 - accuracy:
0.8438
429/750 [=========>.....] - ETA: 0s - loss: 0.7858 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.7843 - accuracy:
572/750 [===============>.....] - ETA: 0s - loss: 0.7821 - accuracy:
0.8441
0.8439 - val_loss: 0.7989 - val_accuracy: 0.8363
Epoch 56/220
1/750 [.....] - ETA: 0s - loss: 0.7978 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.7760 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.7821 - accuracy:
212/750 [======>...... - ETA: 0s - loss: 0.7828 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.7789 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.7807 - accuracy:
0.8441
```

```
420/750 [========>...... - ETA: 0s - loss: 0.7821 - accuracy:
0.8433
491/750 [==========>.....] - ETA: 0s - loss: 0.7800 - accuracy:
561/750 [===============>.....] - ETA: 0s - loss: 0.7808 - accuracy:
632/750 [============>....] - ETA: 0s - loss: 0.7805 - accuracy:
0.8441
750/750 [============= ] - 1s 872us/step - loss: 0.7827 - accuracy:
0.8438 - val_loss: 0.7961 - val_accuracy: 0.8377
Epoch 57/220
1/750 [.....] - ETA: 0s - loss: 0.6806 - accuracy:
71/750 [=>...... - accuracy:
0.8407
143/750 [====>.....] - ETA: 0s - loss: 0.7705 - accuracy:
215/750 [======>...... - ETA: 0s - loss: 0.7839 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.7812 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.7824 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.7847 - accuracy:
502/750 [===========>.....] - ETA: 0s - loss: 0.7822 - accuracy:
574/750 [===========>.....] - ETA: 0s - loss: 0.7826 - accuracy:
750/750 [============= ] - 1s 858us/step - loss: 0.7801 - accuracy:
0.8456 - val_loss: 0.7959 - val_accuracy: 0.8362
Epoch 58/220
1/750 [.....] - ETA: 0s - loss: 0.8546 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.7835 - accuracy:
0.8406
141/750 [====>...... - ETA: 0s - loss: 0.7866 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7854 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 0.7840 - accuracy:
```

```
359/750 [========>.....] - ETA: 0s - loss: 0.7797 - accuracy:
0.8426
432/750 [=========>.....] - ETA: 0s - loss: 0.7769 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.7785 - accuracy:
0.8441
577/750 [===========>.....] - ETA: 0s - loss: 0.7789 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.7788 - accuracy:
0.8443
0.8446
0.8448 - val loss: 0.7931 - val accuracy: 0.8379
Epoch 59/220
1/750 [.....] - ETA: 0s - loss: 0.8666 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7776 - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.7830 - accuracy:
0.8451
216/750 [======>.....] - ETA: 0s - loss: 0.7814 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.7787 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.7768 - accuracy:
0.8469
429/750 [==========>.....] - ETA: 0s - loss: 0.7777 - accuracy:
501/750 [==========>.....] - ETA: 0s - loss: 0.7793 - accuracy:
572/750 [==========>.....] - ETA: 0s - loss: 0.7788 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.7783 - accuracy:
750/750 [============= ] - 1s 854us/step - loss: 0.7746 - accuracy:
0.8462 - val_loss: 0.7898 - val_accuracy: 0.8397
Epoch 60/220
1/750 [................] - ETA: 0s - loss: 0.8132 - accuracy:
71/750 [=>...... - accuracy:
0.8431
143/750 [====>.....] - ETA: 0s - loss: 0.7673 - accuracy:
0.8471
215/750 [======>...... - ETA: 0s - loss: 0.7723 - accuracy:
0.8471
```

```
286/750 [=======>..... - ETA: 0s - loss: 0.7758 - accuracy:
0.8456
358/750 [========>.....] - ETA: 0s - loss: 0.7748 - accuracy:
430/750 [==========>.....] - ETA: 0s - loss: 0.7760 - accuracy:
0.8463
504/750 [=========>.....] - ETA: 0s - loss: 0.7768 - accuracy:
575/750 [===========>.....] - ETA: 0s - loss: 0.7760 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.7743 - accuracy:
0.8461
750/750 [================ ] - 1s 856us/step - loss: 0.7724 - accuracy:
0.8466 - val loss: 0.7887 - val accuracy: 0.8380
Epoch 61/220
  1/750 [.....] - ETA: 0s - loss: 0.5997 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7652 - accuracy:
0.8526
142/750 [====>.....] - ETA: 0s - loss: 0.7600 - accuracy:
0.8539
214/750 [======>.....] - ETA: 0s - loss: 0.7617 - accuracy:
0.8543
285/750 [=======>.....] - ETA: 0s - loss: 0.7661 - accuracy:
0.8517
433/750 [=========>.....] - ETA: 0s - loss: 0.7728 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.7758 - accuracy:
 0.8481 \\ 0.00 \\ \bar{0} \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00
574/750 [==========>.....] - ETA: 0s - loss: 0.7737 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.7708 - accuracy:
0.8491
720/750 [==============>..] - ETA: 0s - loss: 0.7695 - accuracy:
0.8488
750/750 [================ ] - 1s 850us/step - loss: 0.7698 - accuracy:
0.8482 - val loss: 0.7852 - val accuracy: 0.8400
Epoch 62/220
  1/750 [.....] - ETA: 0s - loss: 0.7405 - accuracy:
0.8594
 73/750 [=>..... - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.7718 - accuracy:
```

```
219/750 [======>...... - ETA: 0s - loss: 0.7701 - accuracy:
0.8446
291/750 [=======>.....] - ETA: 0s - loss: 0.7706 - accuracy:
364/750 [========>.....] - ETA: 0s - loss: 0.7700 - accuracy:
0.8463
432/750 [========>..... - ETA: 0s - loss: 0.7711 - accuracy:
0.8458
504/750 [=========>.....] - ETA: 0s - loss: 0.7670 - accuracy:
0.8476
574/750 [=============>.....] - ETA: 0s - loss: 0.7663 - accuracy:
0.8483
750/750 [================ ] - 1s 852us/step - loss: 0.7675 - accuracy:
0.8480 - val_loss: 0.7819 - val_accuracy: 0.8413
Epoch 63/220
1/750 [...... - ETA: 0s - loss: 0.8071 - accuracy:
71/750 [=>...... - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7600 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7691 - accuracy:
0.8489
290/750 [=======>.....] - ETA: 0s - loss: 0.7647 - accuracy:
0.8498
362/750 [=======>.....] - ETA: 0s - loss: 0.7625 - accuracy:
0.8514
433/750 [=========>.....] - ETA: 0s - loss: 0.7672 - accuracy:
0.8483
506/750 [=========>.....] - ETA: 0s - loss: 0.7649 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.7626 - accuracy:
0.8506
649/750 [============>....] - ETA: 0s - loss: 0.7627 - accuracy:
0.8491 - val loss: 0.7819 - val accuracy: 0.8414
Epoch 64/220
1/750 [...... 0.8792 - accuracy:
0.7656
67/750 [=>.....] - ETA: 0s - loss: 0.7438 - accuracy:
```

```
140/750 [====>...... - ETA: 0s - loss: 0.7472 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.7553 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.7548 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7540 - accuracy:
430/750 [=========>...... - ETA: 0s - loss: 0.7578 - accuracy:
0.8513
502/750 [===========>.....] - ETA: 0s - loss: 0.7597 - accuracy:
574/750 [============>.....] - ETA: 0s - loss: 0.7617 - accuracy:
645/750 [===========>....] - ETA: 0s - loss: 0.7616 - accuracy:
0.8492 - val loss: 0.7832 - val accuracy: 0.8403
Epoch 65/220
1/750 [.....] - ETA: 0s - loss: 0.8634 - accuracy:
0.8594
70/750 [=>.....] - ETA: 0s - loss: 0.7591 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.7610 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.7622 - accuracy:
0.8489
285/750 [=======>.....] - ETA: 0s - loss: 0.7620 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.7603 - accuracy:
0.8501
428/750 [=========>.....] - ETA: 0s - loss: 0.7596 - accuracy:
0.8516
501/750 [========>.....] - ETA: 0s - loss: 0.7595 - accuracy:
568/750 [==========>.....] - ETA: 0s - loss: 0.7581 - accuracy:
0.8518
750/750 [================ ] - 1s 862us/step - loss: 0.7600 - accuracy:
0.8513 - val loss: 0.7755 - val accuracy: 0.8452
Epoch 66/220
1/750 [.....] - ETA: 0s - loss: 0.6938 - accuracy:
```

```
72/750 [=>.....] - ETA: 0s - loss: 0.7369 - accuracy:
0.8576
143/750 [====>.....] - ETA: 0s - loss: 0.7415 - accuracy:
0.8564
215/750 [======>.....] - ETA: 0s - loss: 0.7445 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.7528 - accuracy:
0.8526
359/750 [========>.....] - ETA: 0s - loss: 0.7525 - accuracy:
0.8521
431/750 [=========>.....] - ETA: 0s - loss: 0.7509 - accuracy:
0.8526
501/750 [===========>.....] - ETA: 0s - loss: 0.7540 - accuracy:
575/750 [=============>.....] - ETA: 0s - loss: 0.7548 - accuracy:
646/750 [============>....] - ETA: 0s - loss: 0.7553 - accuracy:
0.8516 - val_loss: 0.7739 - val_accuracy: 0.8437
Epoch 67/220
1/750 [.....] - ETA: 0s - loss: 0.7044 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.7493 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7489 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7609 - accuracy:
0.8494
284/750 [=======>..... - ETA: 0s - loss: 0.7612 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.7582 - accuracy:
425/750 [========>.....] - ETA: 0s - loss: 0.7547 - accuracy:
0.8519
497/750 [=========>.....] - ETA: 0s - loss: 0.7543 - accuracy:
0.8516
569/750 [==============>.....] - ETA: 0s - loss: 0.7557 - accuracy:
0.8511
643/750 [============>.....] - ETA: 0s - loss: 0.7568 - accuracy:
0.8517
0.8514 - val_loss: 0.7728 - val_accuracy: 0.8452
Epoch 68/220
```

```
1/750 [...... - ETA: 0s - loss: 0.7312 - accuracy:
0.8438
73/750 [=>.....] - ETA: 0s - loss: 0.7389 - accuracy:
145/750 [====>......] - ETA: 0s - loss: 0.7561 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7596 - accuracy:
0.8498
287/750 [=======>..... - ETA: 0s - loss: 0.7534 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.7554 - accuracy:
0.8517
431/750 [=========>.....] - ETA: 0s - loss: 0.7551 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.7553 - accuracy:
575/750 [============>.....] - ETA: 0s - loss: 0.7539 - accuracy:
645/750 [===============>.....] - ETA: 0s - loss: 0.7538 - accuracy:
0.8523 - val_loss: 0.7716 - val_accuracy: 0.8439
Epoch 69/220
1/750 [.....] - ETA: 0s - loss: 0.7975 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7694 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7576 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7570 - accuracy:
0.8501
288/750 [=======>.....] - ETA: 0s - loss: 0.7557 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.7544 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.7515 - accuracy:
0.8528
506/750 [===========>.....] - ETA: 0s - loss: 0.7501 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.7511 - accuracy:
722/750 [===============>..] - ETA: 0s - loss: 0.7520 - accuracy:
0.8530 - val_loss: 0.7676 - val_accuracy: 0.8468
```

```
1/750 [.....] - ETA: 0s - loss: 0.5774 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7487 - accuracy:
0.8486
145/750 [====>.....] - ETA: 0s - loss: 0.7458 - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.7418 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.7465 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.7465 - accuracy:
0.8543
429/750 [==========>.....] - ETA: 0s - loss: 0.7467 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.7470 - accuracy:
572/750 [===============>.....] - ETA: 0s - loss: 0.7467 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.7457 - accuracy:
0.8544
0.8530 - val loss: 0.7691 - val accuracy: 0.8453
Epoch 71/220
1/750 [.................] - ETA: 0s - loss: 0.8682 - accuracy:
0.7969
73/750 [=>.....] - ETA: 0s - loss: 0.7566 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7478 - accuracy:
216/750 [=====>.....] - ETA: 0s - loss: 0.7494 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.7475 - accuracy:
0.8541
357/750 [=======>.....] - ETA: 0s - loss: 0.7474 - accuracy:
0.8531
430/750 [==========>.....] - ETA: 0s - loss: 0.7487 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.7479 - accuracy:
573/750 [===========>.....] - ETA: 0s - loss: 0.7495 - accuracy:
0.8536
643/750 [============>....] - ETA: 0s - loss: 0.7483 - accuracy:
0.8544
```

```
0.8541 - val loss: 0.7644 - val accuracy: 0.8457
Epoch 72/220
1/750 [.....] - ETA: 0s - loss: 0.8680 - accuracy:
0.7969
73/750 [=>.....] - ETA: 0s - loss: 0.7427 - accuracy:
0.8536
144/750 [====>...... - ETA: 0s - loss: 0.7481 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7451 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.7408 - accuracy:
360/750 [========>.....] - ETA: 0s - loss: 0.7415 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.7434 - accuracy:
0.8541
501/750 [===========>.....] - ETA: 0s - loss: 0.7444 - accuracy:
0.8539
574/750 [==========>.....] - ETA: 0s - loss: 0.7434 - accuracy:
0.8544 - val loss: 0.7652 - val accuracy: 0.8451
Epoch 73/220
1/750 [.....] - ETA: 0s - loss: 0.7408 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.7373 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7355 - accuracy:
217/750 [=====>.....] - ETA: 0s - loss: 0.7349 - accuracy:
0.8579
287/750 [=======>.....] - ETA: 0s - loss: 0.7375 - accuracy:
357/750 [========>.....] - ETA: 0s - loss: 0.7373 - accuracy:
430/750 [========>..... - ETA: 0s - loss: 0.7371 - accuracy:
502/750 [===========>.....] - ETA: 0s - loss: 0.7369 - accuracy:
573/750 [===========>.....] - ETA: 0s - loss: 0.7372 - accuracy:
0.8549
```

```
0.8538
0.8539 - val loss: 0.7601 - val accuracy: 0.8474
Epoch 74/220
1/750 [.....] - ETA: 0s - loss: 0.8177 - accuracy:
67/750 [=>.....] - ETA: 0s - loss: 0.7425 - accuracy:
0.8566
136/750 [====>.....] - ETA: 0s - loss: 0.7410 - accuracy:
203/750 [=====>.....] - ETA: 0s - loss: 0.7396 - accuracy:
270/750 [======>..... - ETA: 0s - loss: 0.7391 - accuracy:
338/750 [========>.....] - ETA: 0s - loss: 0.7394 - accuracy:
407/750 [========>...............] - ETA: 0s - loss: 0.7388 - accuracy:
475/750 [=========>.....] - ETA: 0s - loss: 0.7411 - accuracy:
0.8551
544/750 [==========>.....] - ETA: 0s - loss: 0.7438 - accuracy:
613/750 [============>.....] - ETA: 0s - loss: 0.7431 - accuracy:
681/750 [============>...] - ETA: 0s - loss: 0.7426 - accuracy:
750/750 [=============== ] - 1s 897us/step - loss: 0.7403 - accuracy:
0.8555 - val_loss: 0.7594 - val_accuracy: 0.8486
Epoch 75/220
1/750 [.....] - ETA: 0s - loss: 0.6524 - accuracy:
0.9219
71/750 [=>.....] - ETA: 0s - loss: 0.7314 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.7328 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.7407 - accuracy:
286/750 [=======>..... - ETA: 0s - loss: 0.7380 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.7368 - accuracy:
430/750 [========>.....] - ETA: 0s - loss: 0.7382 - accuracy:
0.8566
503/750 [=========>.....] - ETA: 0s - loss: 0.7395 - accuracy:
```

```
576/750 [============>.....] - ETA: 0s - loss: 0.7376 - accuracy:
0.8563
0.8561 - val_loss: 0.7614 - val_accuracy: 0.8464
Epoch 76/220
1/750 [.....] - ETA: 0s - loss: 0.7670 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7253 - accuracy:
0.8648
145/750 [====>...... - ETA: 0s - loss: 0.7319 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7364 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.7395 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.7380 - accuracy:
431/750 [=========>.....] - ETA: 0s - loss: 0.7385 - accuracy:
502/750 [=========>.....] - ETA: 0s - loss: 0.7370 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.7402 - accuracy:
646/750 [===============>.....] - ETA: 0s - loss: 0.7388 - accuracy:
0.8560 - val_loss: 0.7571 - val_accuracy: 0.8478
Epoch 77/220
1/750 [.....] - ETA: 0s - loss: 0.6815 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.7407 - accuracy:
144/750 [====>...... - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.7367 - accuracy:
0.8563
289/750 [=======>..... - ETA: 0s - loss: 0.7349 - accuracy:
0.8561
361/750 [=======>.....] - ETA: 0s - loss: 0.7371 - accuracy:
0.8557
433/750 [=========>..... - ETA: 0s - loss: 0.7340 - accuracy:
```

```
506/750 [===========>.....] - ETA: 0s - loss: 0.7324 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.7316 - accuracy:
0.8568 - val loss: 0.7544 - val accuracy: 0.8512
Epoch 78/220
1/750 [.....] - ETA: 0s - loss: 0.5888 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.7276 - accuracy:
0.8596
140/750 [====>.....] - ETA: 0s - loss: 0.7258 - accuracy:
209/750 [======>.....] - ETA: 0s - loss: 0.7233 - accuracy:
279/750 [=======>..... - ETA: 0s - loss: 0.7249 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.7303 - accuracy:
0.8554
421/750 [========>..... - ETA: 0s - loss: 0.7314 - accuracy:
0.8566
493/750 [=========>.....] - ETA: 0s - loss: 0.7342 - accuracy:
566/750 [=============>.....] - ETA: 0s - loss: 0.7363 - accuracy:
0.8565 - val_loss: 0.7518 - val_accuracy: 0.8503
Epoch 79/220
1/750 [.....] - ETA: 0s - loss: 0.6763 - accuracy:
0.8594
71/750 [=>...... - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.7316 - accuracy:
0.8597
213/750 [======>...... - ETA: 0s - loss: 0.7257 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.7262 - accuracy:
0.8607
356/750 [=======>.....] - ETA: 0s - loss: 0.7295 - accuracy:
```

```
429/750 [=========>.....] - ETA: 0s - loss: 0.7290 - accuracy:
496/750 [==========>.....] - ETA: 0s - loss: 0.7296 - accuracy:
566/750 [==============>.....] - ETA: 0s - loss: 0.7294 - accuracy:
0.8589
640/750 [============>....] - ETA: 0s - loss: 0.7303 - accuracy:
0.8583
711/750 [===============>..] - ETA: 0s - loss: 0.7306 - accuracy:
0.8579
750/750 [============= ] - 1s 862us/step - loss: 0.7297 - accuracy:
0.8583 - val_loss: 0.7530 - val_accuracy: 0.8488
Epoch 80/220
1/750 [.....] - ETA: 0s - loss: 0.8599 - accuracy:
72/750 [=>...... - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.7173 - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.7219 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.7269 - accuracy:
0.8618
359/750 [=======>.....] - ETA: 0s - loss: 0.7271 - accuracy:
432/750 [=========>.....] - ETA: 0s - loss: 0.7311 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.7276 - accuracy:
574/750 [===========>.....] - ETA: 0s - loss: 0.7264 - accuracy:
645/750 [============>.....] - ETA: 0s - loss: 0.7266 - accuracy:
0.8591 - val_loss: 0.7483 - val_accuracy: 0.8527
Epoch 81/220
1/750 [.....] - ETA: 0s - loss: 0.7940 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7302 - accuracy:
139/750 [====>...... - ETA: 0s - loss: 0.7119 - accuracy:
0.8676
212/750 [======>.....] - ETA: 0s - loss: 0.7172 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.7231 - accuracy:
```

```
355/750 [========>.....] - ETA: 0s - loss: 0.7290 - accuracy:
0.8696
429/750 [=========>.....] - ETA: 0s - loss: 0.7302 - accuracy:
0.8591
498/750 [==========>.....] - ETA: 0s - loss: 0.7290 - accuracy:
572/750 [==========>.....] - ETA: 0s - loss: 0.7270 - accuracy:
0.8598
644/750 [============>....] - ETA: 0s - loss: 0.7264 - accuracy:
718/750 [===============>..] - ETA: 0s - loss: 0.7267 - accuracy:
0.8591
0.8592 - val loss: 0.7506 - val accuracy: 0.8500
Epoch 82/220
1/750 [.....] - ETA: 0s - loss: 0.7627 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7178 - accuracy:
147/750 [====>...... - ETA: 0s - loss: 0.7118 - accuracy:
0.8614
219/750 [======>.....] - ETA: 0s - loss: 0.7116 - accuracy:
0.8621
290/750 [=======>.....] - ETA: 0s - loss: 0.7142 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.7185 - accuracy:
0.8607
435/750 [==========>.....] - ETA: 0s - loss: 0.7216 - accuracy:
0.8696
506/750 [==========>.....] - ETA: 0s - loss: 0.7229 - accuracy:
580/750 [===========>.....] - ETA: 0s - loss: 0.7243 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 0.7236 - accuracy:
720/750 [===============>..] - ETA: 0s - loss: 0.7239 - accuracy:
750/750 [============== ] - 1s 850us/step - loss: 0.7239 - accuracy:
0.8597 - val loss: 0.7484 - val accuracy: 0.8489
Epoch 83/220
1/750 [...... 0.7766 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7317 - accuracy:
0.8576
146/750 [====>...... - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.7159 - accuracy:
```

```
290/750 [=======>.....] - ETA: 0s - loss: 0.7186 - accuracy:
0.8622
362/750 [========>.....] - ETA: 0s - loss: 0.7195 - accuracy:
434/750 [==========>.....] - ETA: 0s - loss: 0.7183 - accuracy:
0.8627
505/750 [========>.....] - ETA: 0s - loss: 0.7199 - accuracy:
578/750 [===========>.....] - ETA: 0s - loss: 0.7209 - accuracy:
0.8613
650/750 [============>....] - ETA: 0s - loss: 0.7227 - accuracy:
0.8602 - val loss: 0.7460 - val accuracy: 0.8501
Epoch 84/220
1/750 [.....] - ETA: 0s - loss: 0.6543 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7216 - accuracy:
0.8639
143/750 [====>.....] - ETA: 0s - loss: 0.7219 - accuracy:
0.8613
214/750 [======>.....] - ETA: 0s - loss: 0.7203 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.7246 - accuracy:
0.8596
431/750 [=========>.....] - ETA: 0s - loss: 0.7215 - accuracy:
501/750 [=========>.....] - ETA: 0s - loss: 0.7201 - accuracy:
0.8601
573/750 [==========>.....] - ETA: 0s - loss: 0.7205 - accuracy:
644/750 [============>....] - ETA: 0s - loss: 0.7205 - accuracy:
0.8696
716/750 [==============>..] - ETA: 0s - loss: 0.7193 - accuracy:
0.8616
750/750 [================ ] - 1s 853us/step - loss: 0.7205 - accuracy:
0.8609 - val loss: 0.7422 - val accuracy: 0.8518
Epoch 85/220
1/750 [.....] - ETA: 0s - loss: 0.6849 - accuracy:
75/750 [==>...... - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.7241 - accuracy:
0.8597
```

```
217/750 [======>...... - ETA: 0s - loss: 0.7276 - accuracy:
0.8575
288/750 [=======>.....] - ETA: 0s - loss: 0.7270 - accuracy:
361/750 [========>.....] - ETA: 0s - loss: 0.7229 - accuracy:
432/750 [========>..... - ETA: 0s - loss: 0.7219 - accuracy:
0.8591
505/750 [=========>.....] - ETA: 0s - loss: 0.7190 - accuracy:
0.8601
576/750 [=============>.....] - ETA: 0s - loss: 0.7210 - accuracy:
0.8596
750/750 [=============== ] - 1s 850us/step - loss: 0.7190 - accuracy:
0.8604 - val loss: 0.7401 - val_accuracy: 0.8537
Epoch 86/220
1/750 [...... - ETA: 0s - loss: 0.7398 - accuracy:
71/750 [=>...... - accuracy:
0.8636
143/750 [====>.....] - ETA: 0s - loss: 0.7153 - accuracy:
0.8616
214/750 [======>.....] - ETA: 0s - loss: 0.7095 - accuracy:
0.8661
287/750 [=======>...... - ETA: 0s - loss: 0.7157 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.7171 - accuracy:
0.8639
430/750 [=========>..... - ETA: 0s - loss: 0.7153 - accuracy:
503/750 [=========>.....] - ETA: 0s - loss: 0.7164 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.7175 - accuracy:
0.8621
650/750 [============>....] - ETA: 0s - loss: 0.7178 - accuracy:
0.8619
0.8621 - val loss: 0.7381 - val accuracy: 0.8546
Epoch 87/220
1/750 [.....] - ETA: 0s - loss: 0.7264 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.7282 - accuracy:
```

```
147/750 [====>...... - ETA: 0s - loss: 0.7330 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.7258 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.7171 - accuracy:
0.8603
358/750 [=======>.....] - ETA: 0s - loss: 0.7153 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.7173 - accuracy:
0.8696
503/750 [===========>.....] - ETA: 0s - loss: 0.7139 - accuracy:
0.8618
575/750 [=============>.....] - ETA: 0s - loss: 0.7134 - accuracy:
0.8622 - val loss: 0.7357 - val accuracy: 0.8541
Epoch 88/220
1/750 [...... - ETA: 0s - loss: 0.7971 - accuracy:
0.8594
71/750 [=>.....] - ETA: 0s - loss: 0.7083 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.7029 - accuracy:
0.8634
212/750 [======>.....] - ETA: 0s - loss: 0.7062 - accuracy:
0.8649
281/750 [=======>.....] - ETA: 0s - loss: 0.7083 - accuracy:
0.8631
352/750 [=======>.....] - ETA: 0s - loss: 0.7099 - accuracy:
424/750 [========>.....] - ETA: 0s - loss: 0.7114 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 0.7128 - accuracy:
566/750 [==========>.....] - ETA: 0s - loss: 0.7145 - accuracy:
0.8614
0.8619
0.8621 - val loss: 0.7364 - val accuracy: 0.8535
Epoch 89/220
1/750 [.....] - ETA: 0s - loss: 0.5862 - accuracy:
```

```
72/750 [=>.....] - ETA: 0s - loss: 0.6997 - accuracy:
0.8639
142/750 [====>.....] - ETA: 0s - loss: 0.7123 - accuracy:
0.8584
215/750 [======>.....] - ETA: 0s - loss: 0.7077 - accuracy:
0.8593
286/750 [=======>.....] - ETA: 0s - loss: 0.7057 - accuracy:
0.8611
359/750 [========>.....] - ETA: 0s - loss: 0.7093 - accuracy:
0.8699
430/750 [=========>..... - ETA: 0s - loss: 0.7116 - accuracy:
500/750 [===========>.....] - ETA: 0s - loss: 0.7117 - accuracy:
570/750 [===============>.....] - ETA: 0s - loss: 0.7128 - accuracy:
640/750 [============>....] - ETA: 0s - loss: 0.7114 - accuracy:
750/750 [=============== ] - 1s 856us/step - loss: 0.7113 - accuracy:
0.8625 - val_loss: 0.7348 - val_accuracy: 0.8539
Epoch 90/220
1/750 [.....] - ETA: 0s - loss: 0.8091 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.7109 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.7042 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.7062 - accuracy:
0.8616
288/750 [=======>.....] - ETA: 0s - loss: 0.7029 - accuracy:
0.8646
359/750 [========>.....] - ETA: 0s - loss: 0.7056 - accuracy:
429/750 [========>.....] - ETA: 0s - loss: 0.7066 - accuracy:
502/750 [=========>....] - ETA: 0s - loss: 0.7094 - accuracy:
0.8624
572/750 [==============>.....] - ETA: 0s - loss: 0.7083 - accuracy:
642/750 [============>.....] - ETA: 0s - loss: 0.7084 - accuracy:
0.8631
0.8634
750/750 [================ ] - 1s 869us/step - loss: 0.7096 - accuracy:
0.8632 - val_loss: 0.7328 - val_accuracy: 0.8543
Epoch 91/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6847 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.6995 - accuracy:
146/750 [====>.....] - ETA: 0s - loss: 0.7103 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.7147 - accuracy:
0.8588
289/750 [=======>..... - ETA: 0s - loss: 0.7094 - accuracy:
0.8619
361/750 [=========>.....] - ETA: 0s - loss: 0.7061 - accuracy:
0.8637
433/750 [==========>.....] - ETA: 0s - loss: 0.7087 - accuracy:
504/750 [============>.....] - ETA: 0s - loss: 0.7111 - accuracy:
576/750 [=============>.....] - ETA: 0s - loss: 0.7104 - accuracy:
645/750 [===============>.....] - ETA: 0s - loss: 0.7086 - accuracy:
0.8637 - val_loss: 0.7331 - val_accuracy: 0.8531
Epoch 92/220
1/750 [.....] - ETA: 0s - loss: 0.6011 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.7145 - accuracy:
0.8611
142/750 [====>.....] - ETA: 0s - loss: 0.7107 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7097 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.7090 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.7080 - accuracy:
430/750 [=========>....] - ETA: 0s - loss: 0.7098 - accuracy:
499/750 [==========>.....] - ETA: 0s - loss: 0.7109 - accuracy:
570/750 [==========>.....] - ETA: 0s - loss: 0.7102 - accuracy:
0.8626
0.8636 - val_loss: 0.7332 - val_accuracy: 0.8534
```

```
1/750 [.....] - ETA: 0s - loss: 0.5212 - accuracy:
67/750 [=>.....] - ETA: 0s - loss: 0.7113 - accuracy:
0.8626
133/750 [====>.....] - ETA: 0s - loss: 0.7080 - accuracy:
0.8643
202/750 [======>...... - ETA: 0s - loss: 0.7008 - accuracy:
0.8659
271/750 [=======>.....] - ETA: 0s - loss: 0.6996 - accuracy:
339/750 [========>...... - ETA: 0s - loss: 0.7019 - accuracy:
0.8661
406/750 [=========>.....] - ETA: 0s - loss: 0.7028 - accuracy:
0.8651
468/750 [==========>.....] - ETA: 0s - loss: 0.7027 - accuracy:
535/750 [===========>.....] - ETA: 0s - loss: 0.7040 - accuracy:
605/750 [===========>.....] - ETA: 0s - loss: 0.7035 - accuracy:
0.8646
0.8637 - val loss: 0.7325 - val accuracy: 0.8542
Epoch 94/220
1/750 [.....] - ETA: 0s - loss: 0.6845 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6912 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.6977 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.7007 - accuracy:
0.8688
288/750 [=======>.....] - ETA: 0s - loss: 0.6997 - accuracy:
0.8683
359/750 [========>.....] - ETA: 0s - loss: 0.7009 - accuracy:
433/750 [==========>.....] - ETA: 0s - loss: 0.7025 - accuracy:
507/750 [===========>.....] - ETA: 0s - loss: 0.7023 - accuracy:
0.8669
576/750 [===========>.....] - ETA: 0s - loss: 0.7023 - accuracy:
```

```
0.8659
0.8655 - val loss: 0.7283 - val accuracy: 0.8539
Epoch 95/220
1/750 [.....] - ETA: 0s - loss: 0.5824 - accuracy:
0.8906
69/750 [=>.....] - ETA: 0s - loss: 0.7067 - accuracy:
0.8635
140/750 [====>.....] - ETA: 0s - loss: 0.7015 - accuracy:
0.8641
213/750 [======>.....] - ETA: 0s - loss: 0.7027 - accuracy:
0.8646
283/750 [=======>..... - ETA: 0s - loss: 0.7030 - accuracy:
0.8643
355/750 [========>.....] - ETA: 0s - loss: 0.6991 - accuracy:
0.8647
426/750 [==========>.....] - ETA: 0s - loss: 0.7040 - accuracy:
498/750 [=========>.....] - ETA: 0s - loss: 0.7037 - accuracy:
568/750 [============>.....] - ETA: 0s - loss: 0.7015 - accuracy:
638/750 [============>....] - ETA: 0s - loss: 0.7009 - accuracy:
0.8645
0.8640 - val_loss: 0.7243 - val_accuracy: 0.8562
Epoch 96/220
1/750 [.....] - ETA: 0s - loss: 0.7605 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.7079 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.7063 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.7074 - accuracy:
0.8638
288/750 [=======>.....] - ETA: 0s - loss: 0.7055 - accuracy:
0.8646
359/750 [=======>.....] - ETA: 0s - loss: 0.7033 - accuracy:
0.8649
427/750 [=========>.....] - ETA: 0s - loss: 0.7040 - accuracy:
0.8646
495/750 [==========>.....] - ETA: 0s - loss: 0.7047 - accuracy:
560/750 [==========>.....] - ETA: 0s - loss: 0.7048 - accuracy:
```

```
0.8649
0.8663
0.8656 - val_loss: 0.7253 - val_accuracy: 0.8566
Epoch 97/220
1/750 [.....] - ETA: 0s - loss: 0.6497 - accuracy:
0.8996
72/750 [=>.....] - ETA: 0s - loss: 0.7027 - accuracy:
0.8607
143/750 [====>.....] - ETA: 0s - loss: 0.6991 - accuracy:
0.8619
215/750 [======>.....] - ETA: 0s - loss: 0.6966 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.7006 - accuracy:
0.8637
360/750 [========>.....] - ETA: 0s - loss: 0.6971 - accuracy:
0.8646
433/750 [=========>..... - ETA: 0s - loss: 0.6976 - accuracy:
506/750 [==========>.....] - ETA: 0s - loss: 0.6969 - accuracy:
0.8644
579/750 [===========>.....] - ETA: 0s - loss: 0.6966 - accuracy:
0.8646
0.8649
0.8656
750/750 [=============== ] - 1s 852us/step - loss: 0.6975 - accuracy:
0.8656 - val_loss: 0.7250 - val_accuracy: 0.8572
Epoch 98/220
1/750 [.....] - ETA: 0s - loss: 0.6382 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.7084 - accuracy:
0.8726
142/750 [====>.....] - ETA: 0s - loss: 0.6995 - accuracy:
0.8707
211/750 [======>.....] - ETA: 0s - loss: 0.6944 - accuracy:
280/750 [=======>..... - ETA: 0s - loss: 0.6942 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.6942 - accuracy:
421/750 [========>..... - ETA: 0s - loss: 0.6918 - accuracy:
0.8689
493/750 [==========>.....] - ETA: 0s - loss: 0.6924 - accuracy:
0.8689
```

```
565/750 [============>.....] - ETA: 0s - loss: 0.6931 - accuracy:
0.8686
0.8671
0.8675 - val_loss: 0.7221 - val_accuracy: 0.8543
Epoch 99/220
1/750 [.....] - ETA: 0s - loss: 0.5983 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.6911 - accuracy:
0.8657
145/750 [====>...... - ETA: 0s - loss: 0.6961 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.6956 - accuracy:
290/750 [=======>.....] - ETA: 0s - loss: 0.6906 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.6929 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.6922 - accuracy:
0.8671
506/750 [=========>.....] - ETA: 0s - loss: 0.6919 - accuracy:
0.8681
579/750 [=============>.....] - ETA: 0s - loss: 0.6954 - accuracy:
0.8667
648/750 [===============>....] - ETA: 0s - loss: 0.6941 - accuracy:
0.8673
0.8674
0.8669 - val loss: 0.7202 - val accuracy: 0.8581
Epoch 100/220
1/750 [.....] - ETA: 0s - loss: 0.6172 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6807 - accuracy:
0.8724
145/750 [====>......] - ETA: 0s - loss: 0.6879 - accuracy:
0.8671
215/750 [======>.....] - ETA: 0s - loss: 0.6903 - accuracy:
0.8664
286/750 [=======>..... - ETA: 0s - loss: 0.6936 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6921 - accuracy:
0.8677
431/750 [=========>..... - ETA: 0s - loss: 0.6962 - accuracy:
```

```
502/750 [===========>.....] - ETA: 0s - loss: 0.6930 - accuracy:
0.8667
574/750 [============>.....] - ETA: 0s - loss: 0.6943 - accuracy:
0.8668
750/750 [============== ] - 1s 853us/step - loss: 0.6923 - accuracy:
0.8668 - val loss: 0.7217 - val accuracy: 0.8533
Epoch 101/220
1/750 [.....] - ETA: 0s - loss: 0.7386 - accuracy:
0.8281
73/750 [=>.....] - ETA: 0s - loss: 0.6665 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.6832 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.6786 - accuracy:
283/750 [=======>..... - ETA: 0s - loss: 0.6810 - accuracy:
0.8698
353/750 [=======>.....] - ETA: 0s - loss: 0.6852 - accuracy:
425/750 [========>.....] - ETA: 0s - loss: 0.6843 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.6885 - accuracy:
560/750 [===============>.....] - ETA: 0s - loss: 0.6897 - accuracy:
0.8667 - val_loss: 0.7224 - val_accuracy: 0.8559
Epoch 102/220
1/750 [.....] - ETA: 0s - loss: 0.7133 - accuracy:
0.8281
73/750 [=>...... - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6952 - accuracy:
0.8689
216/750 [======>...... - ETA: 0s - loss: 0.6948 - accuracy:
0.8696
288/750 [=======>.....] - ETA: 0s - loss: 0.6899 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.6962 - accuracy:
0.8675
```

```
434/750 [==========>.....] - ETA: 0s - loss: 0.6958 - accuracy:
0.8670
506/750 [===========>.....] - ETA: 0s - loss: 0.6952 - accuracy:
578/750 [============>.....] - ETA: 0s - loss: 0.6943 - accuracy:
649/750 [============>....] - ETA: 0s - loss: 0.6920 - accuracy:
0.8674
721/750 [===============>..] - ETA: 0s - loss: 0.6900 - accuracy:
0.8678
750/750 [============= ] - 1s 852us/step - loss: 0.6892 - accuracy:
0.8681 - val_loss: 0.7148 - val_accuracy: 0.8577
Epoch 103/220
 1/750 [.....] - ETA: 0s - loss: 0.6643 - accuracy:
72/750 [=>...... - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.6797 - accuracy:
217/750 [======>...... - ETA: 0s - loss: 0.6823 - accuracy:
0.8698
287/750 [=======>.....] - ETA: 0s - loss: 0.6895 - accuracy:
0.8665
360/750 [=========>.....] - ETA: 0s - loss: 0.6901 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.6892 - accuracy:
503/750 [===========>.....] - ETA: 0s - loss: 0.6880 - accuracy:
0.8684
574/750 [===========>.....] - ETA: 0s - loss: 0.6880 - accuracy:
647/750 [============>.....] - ETA: 0s - loss: 0.6868 - accuracy:
0.8688 - val_loss: 0.7152 - val_accuracy: 0.8562
Epoch 104/220
1/750 [.....] - ETA: 0s - loss: 0.6312 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6797 - accuracy:
0.8691
147/750 [====>...... - ETA: 0s - loss: 0.6831 - accuracy:
0.8709
219/750 [======>.....] - ETA: 0s - loss: 0.6852 - accuracy:
0.8686
290/750 [=======>..... - ETA: 0s - loss: 0.6842 - accuracy:
```

```
359/750 [========>.....] - ETA: 0s - loss: 0.6849 - accuracy:
0.8701
429/750 [=========>.....] - ETA: 0s - loss: 0.6859 - accuracy:
0.8691
502/750 [=========>.....] - ETA: 0s - loss: 0.6857 - accuracy:
0.8687
572/750 [==========>.....] - ETA: 0s - loss: 0.6859 - accuracy:
644/750 [============>....] - ETA: 0s - loss: 0.6858 - accuracy:
0.8698
717/750 [===============>..] - ETA: 0s - loss: 0.6862 - accuracy:
0.8694
0.8692 - val loss: 0.7156 - val accuracy: 0.8591
Epoch 105/220
1/750 [.....] - ETA: 0s - loss: 0.7361 - accuracy:
0.9062
71/750 [=>.....] - ETA: 0s - loss: 0.6987 - accuracy:
0.8631
142/750 [====>...... - ETA: 0s - loss: 0.6873 - accuracy:
0.8661
215/750 [======>.....] - ETA: 0s - loss: 0.6864 - accuracy:
0.8669
288/750 [=======>.....] - ETA: 0s - loss: 0.6855 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.6837 - accuracy:
429/750 [==========>.....] - ETA: 0s - loss: 0.6860 - accuracy:
0.8689
502/750 [==========>.....] - ETA: 0s - loss: 0.6828 - accuracy:
575/750 [===========>.....] - ETA: 0s - loss: 0.6815 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.6827 - accuracy:
750/750 [============= ] - 1s 853us/step - loss: 0.6843 - accuracy:
0.8689 - val_loss: 0.7140 - val_accuracy: 0.8574
Epoch 106/220
1/750 [...... 0.5467 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6799 - accuracy:
0.8708
145/750 [====>...... - accuracy:
0.8726
218/750 [======>...... - ETA: 0s - loss: 0.6739 - accuracy:
```

```
291/750 [=======>..... - ETA: 0s - loss: 0.6742 - accuracy:
0.8729
363/750 [========>.....] - ETA: 0s - loss: 0.6758 - accuracy:
436/750 [=========>..... - ETA: 0s - loss: 0.6786 - accuracy:
0.8714
508/750 [=========>.....] - ETA: 0s - loss: 0.6813 - accuracy:
0.8704
578/750 [===========>.....] - ETA: 0s - loss: 0.6801 - accuracy:
652/750 [============>....] - ETA: 0s - loss: 0.6810 - accuracy:
0.8696
0.8695 - val loss: 0.7139 - val accuracy: 0.8580
Epoch 107/220
1/750 [.....] - ETA: 0s - loss: 0.6352 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6924 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.6859 - accuracy:
0.8674
213/750 [======>.....] - ETA: 0s - loss: 0.6809 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.6783 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.6804 - accuracy:
494/750 [=========>.....] - ETA: 0s - loss: 0.6818 - accuracy:
565/750 [=========>.....] - ETA: 0s - loss: 0.6797 - accuracy:
636/750 [============>....] - ETA: 0s - loss: 0.6798 - accuracy:
0.8706
708/750 [==============>..] - ETA: 0s - loss: 0.6790 - accuracy:
0.8707
750/750 [=============== ] - 1s 861us/step - loss: 0.6811 - accuracy:
0.8701 - val loss: 0.7127 - val accuracy: 0.8562
Epoch 108/220
1/750 [.....] - ETA: 0s - loss: 0.7840 - accuracy:
0.8281
72/750 [=>...... - accuracy:
144/750 [====>...... - ETA: 0s - loss: 0.6806 - accuracy:
```

```
216/750 [======>...... - ETA: 0s - loss: 0.6796 - accuracy:
0.8694
286/750 [=======>.....] - ETA: 0s - loss: 0.6797 - accuracy:
0.8677
359/750 [========>.....] - ETA: 0s - loss: 0.6782 - accuracy:
0.8698
430/750 [========>.....] - ETA: 0s - loss: 0.6802 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.6809 - accuracy:
0.8699
573/750 [==========>.....] - ETA: 0s - loss: 0.6817 - accuracy:
0.8695
750/750 [=============== ] - 1s 853us/step - loss: 0.6801 - accuracy:
0.8701 - val loss: 0.7083 - val_accuracy: 0.8586
Epoch 109/220
1/750 [.....] - ETA: 0s - loss: 0.4875 - accuracy:
0.9688
70/750 [=>.....] - ETA: 0s - loss: 0.6856 - accuracy:
0.8699
142/750 [====>.....] - ETA: 0s - loss: 0.6735 - accuracy:
214/750 [======>.....] - ETA: 0s - loss: 0.6845 - accuracy:
287/750 [=======>...... - ETA: 0s - loss: 0.6813 - accuracy:
0.8706
356/750 [=======>.....] - ETA: 0s - loss: 0.6798 - accuracy:
0.8721
427/750 [=========>.....] - ETA: 0s - loss: 0.6779 - accuracy:
0.8729
499/750 [=========>.....] - ETA: 0s - loss: 0.6769 - accuracy:
570/750 [==========>.....] - ETA: 0s - loss: 0.6771 - accuracy:
0.8711
641/750 [============>....] - ETA: 0s - loss: 0.6767 - accuracy:
0.8711
0.8708 - val loss: 0.7087 - val accuracy: 0.8583
Epoch 110/220
1/750 [.....] - ETA: 0s - loss: 0.4919 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6863 - accuracy:
```

```
148/750 [====>...... - ETA: 0s - loss: 0.6728 - accuracy:
0.8728
220/750 [======>.....] - ETA: 0s - loss: 0.6672 - accuracy:
0.8751
292/750 [=======>.....] - ETA: 0s - loss: 0.6696 - accuracy:
0.8744
365/750 [=======>.....] - ETA: 0s - loss: 0.6737 - accuracy:
0.8729
437/750 [=========>...... - ETA: 0s - loss: 0.6728 - accuracy:
510/750 [===========>.....] - ETA: 0s - loss: 0.6764 - accuracy:
0.8716
0.8709 - val loss: 0.7058 - val accuracy: 0.8593
Epoch 111/220
0.9375
71/750 [=>.....] - ETA: 0s - loss: 0.6868 - accuracy:
0.8675
142/750 [====>.....] - ETA: 0s - loss: 0.6736 - accuracy:
0.8704
215/750 [======>...... - ETA: 0s - loss: 0.6778 - accuracy:
0.8699
285/750 [=======>.....] - ETA: 0s - loss: 0.6788 - accuracy:
0.8696
355/750 [=======>.....] - ETA: 0s - loss: 0.6800 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.6801 - accuracy:
497/750 [=========>.....] - ETA: 0s - loss: 0.6766 - accuracy:
0.8711
569/750 [==========>.....] - ETA: 0s - loss: 0.6749 - accuracy:
0.8719
0.8711
750/750 [================ ] - 1s 866us/step - loss: 0.6748 - accuracy:
0.8712 - val loss: 0.7064 - val accuracy: 0.8591
Epoch 112/220
1/750 [.....] - ETA: 0s - loss: 0.6890 - accuracy:
```

```
73/750 [=>.....] - ETA: 0s - loss: 0.6584 - accuracy:
0.8795
139/750 [====>.....] - ETA: 0s - loss: 0.6653 - accuracy:
210/750 [=====>.....] - ETA: 0s - loss: 0.6641 - accuracy:
0.8761
283/750 [=======>..... - ETA: 0s - loss: 0.6670 - accuracy:
0.8744
354/750 [========>.....] - ETA: 0s - loss: 0.6689 - accuracy:
0.8738
428/750 [=========>.....] - ETA: 0s - loss: 0.6684 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.6711 - accuracy:
570/750 [===============>.....] - ETA: 0s - loss: 0.6716 - accuracy:
643/750 [============>....] - ETA: 0s - loss: 0.6729 - accuracy:
0.8714 - val_loss: 0.7039 - val_accuracy: 0.8607
Epoch 113/220
1/750 [.....] - ETA: 0s - loss: 0.6970 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.6621 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6743 - accuracy:
0.8723
217/750 [======>.....] - ETA: 0s - loss: 0.6765 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 0.6761 - accuracy:
0.8711
362/750 [========>.....] - ETA: 0s - loss: 0.6745 - accuracy:
435/750 [========>.....] - ETA: 0s - loss: 0.6764 - accuracy:
507/750 [=========>....] - ETA: 0s - loss: 0.6737 - accuracy:
0.8709
580/750 [=============>.....] - ETA: 0s - loss: 0.6724 - accuracy:
650/750 [============>....] - ETA: 0s - loss: 0.6732 - accuracy:
724/750 [===============>..] - ETA: 0s - loss: 0.6716 - accuracy:
0.8718
0.8718 - val_loss: 0.7041 - val_accuracy: 0.8609
Epoch 114/220
```

```
1/750 [...... - ETA: 0s - loss: 0.6381 - accuracy:
0.8438
70/750 [=>.....] - ETA: 0s - loss: 0.6663 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.6676 - accuracy:
0.8723
210/750 [======>.....] - ETA: 0s - loss: 0.6710 - accuracy:
0.8728
268/750 [=======>.....] - ETA: 0s - loss: 0.6743 - accuracy:
0.8716
339/750 [========>.....] - ETA: 0s - loss: 0.6703 - accuracy:
0.8724
412/750 [=========>.....] - ETA: 0s - loss: 0.6720 - accuracy:
482/750 [==========>.....] - ETA: 0s - loss: 0.6697 - accuracy:
555/750 [============>.....] - ETA: 0s - loss: 0.6690 - accuracy:
627/750 [===============>.....] - ETA: 0s - loss: 0.6697 - accuracy:
0.8728 - val_loss: 0.7007 - val_accuracy: 0.8607
Epoch 115/220
1/750 [.....] - ETA: 0s - loss: 0.6821 - accuracy:
0.8281
74/750 [=>.....] - ETA: 0s - loss: 0.6690 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6712 - accuracy:
0.8691
202/750 [=====>.....] - ETA: 0s - loss: 0.6691 - accuracy:
273/750 [=======>.....] - ETA: 0s - loss: 0.6660 - accuracy:
344/750 [=======>.....] - ETA: 0s - loss: 0.6684 - accuracy:
417/750 [========>....] - ETA: 0s - loss: 0.6696 - accuracy:
0.8707
490/750 [==========>.....] - ETA: 0s - loss: 0.6688 - accuracy:
0.8711
560/750 [==========>.....] - ETA: 0s - loss: 0.6684 - accuracy:
0.8721
705/750 [==============>..] - ETA: 0s - loss: 0.6681 - accuracy:
0.8723 - val_loss: 0.7000 - val_accuracy: 0.8612
```

```
1/750 [.....] - ETA: 0s - loss: 0.6656 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6686 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6665 - accuracy:
0.8699
203/750 [======>...... - ETA: 0s - loss: 0.6680 - accuracy:
0.8712
276/750 [=======>.....] - ETA: 0s - loss: 0.6690 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6673 - accuracy:
0.8729
420/750 [=========>.....] - ETA: 0s - loss: 0.6693 - accuracy:
492/750 [==========>.....] - ETA: 0s - loss: 0.6715 - accuracy:
0.8714
563/750 [==============>.....] - ETA: 0s - loss: 0.6703 - accuracy:
636/750 [============>....] - ETA: 0s - loss: 0.6694 - accuracy:
0.8724
0.8726 - val loss: 0.6982 - val accuracy: 0.8616
Epoch 117/220
1/750 [................] - ETA: 0s - loss: 0.7533 - accuracy:
0.7969
70/750 [=>.....] - ETA: 0s - loss: 0.6690 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.6692 - accuracy:
212/750 [======>...... - ETA: 0s - loss: 0.6666 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.6659 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.6649 - accuracy:
0.8742
428/750 [==========>.....] - ETA: 0s - loss: 0.6661 - accuracy:
498/750 [==========>.....] - ETA: 0s - loss: 0.6673 - accuracy:
570/750 [=============>.....] - ETA: 0s - loss: 0.6661 - accuracy:
0.8733
```

```
0.8735 - val loss: 0.6987 - val accuracy: 0.8608
Epoch 118/220
1/750 [.....] - ETA: 0s - loss: 0.7335 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6834 - accuracy:
0.8686
144/750 [====>...... - ETA: 0s - loss: 0.6700 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.6638 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.6657 - accuracy:
0.8744
357/750 [========>.....] - ETA: 0s - loss: 0.6663 - accuracy:
0.8742
429/750 [=========>.....] - ETA: 0s - loss: 0.6662 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.6667 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.6668 - accuracy:
0.8734
0.8733
0.8737 - val loss: 0.6967 - val accuracy: 0.8612
Epoch 119/220
1/750 [.....] - ETA: 0s - loss: 0.5810 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6678 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6644 - accuracy:
0.8736
216/750 [=====>.....] - ETA: 0s - loss: 0.6631 - accuracy:
0.8749
285/750 [=======>.....] - ETA: 0s - loss: 0.6619 - accuracy:
0.8751
356/750 [========>.....] - ETA: 0s - loss: 0.6644 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.6658 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.6643 - accuracy:
567/750 [===========>.....] - ETA: 0s - loss: 0.6646 - accuracy:
```

```
0.8731
0.8738 - val loss: 0.6988 - val accuracy: 0.8594
Epoch 120/220
1/750 [.....] - ETA: 0s - loss: 0.7883 - accuracy:
0.8594
71/750 [=>.....] - ETA: 0s - loss: 0.6580 - accuracy:
0.8779
143/750 [====>.....] - ETA: 0s - loss: 0.6667 - accuracy:
0.8743
214/750 [======>.....] - ETA: 0s - loss: 0.6634 - accuracy:
0.8744
286/750 [=======>..... - ETA: 0s - loss: 0.6609 - accuracy:
0.8758
358/750 [========>.....] - ETA: 0s - loss: 0.6613 - accuracy:
430/750 [==========>.....] - ETA: 0s - loss: 0.6603 - accuracy:
0.8754
501/750 [=========>.....] - ETA: 0s - loss: 0.6626 - accuracy:
0.8745
571/750 [============>.....] - ETA: 0s - loss: 0.6618 - accuracy:
0.8743
642/750 [=============>....] - ETA: 0s - loss: 0.6631 - accuracy:
0.8741 - val_loss: 0.6973 - val_accuracy: 0.8609
Epoch 121/220
1/750 [...... 0.5818 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6649 - accuracy:
0.8771
146/750 [====>...... - ETA: 0s - loss: 0.6611 - accuracy:
0.8768
219/750 [======>.....] - ETA: 0s - loss: 0.6608 - accuracy:
0.8758
292/750 [=======>.....] - ETA: 0s - loss: 0.6577 - accuracy:
0.8761
363/750 [=======>.....] - ETA: 0s - loss: 0.6570 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.6562 - accuracy:
0.8764
499/750 [=========>.....] - ETA: 0s - loss: 0.6572 - accuracy:
0.8763
569/750 [==========>.....] - ETA: 0s - loss: 0.6566 - accuracy:
0.8763
```

```
0.8753
0.8745 - val_loss: 0.6927 - val_accuracy: 0.8619
Epoch 122/220
1/750 [.....] - ETA: 0s - loss: 0.7556 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6687 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6681 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.6647 - accuracy:
286/750 [=======>.....] - ETA: 0s - loss: 0.6611 - accuracy:
359/750 [========>.....] - ETA: 0s - loss: 0.6602 - accuracy:
0.8746
429/750 [=========>...... - ETA: 0s - loss: 0.6559 - accuracy:
0.8759
501/750 [==========>.....] - ETA: 0s - loss: 0.6578 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.6590 - accuracy:
0.8745
0.8739
0.8743 - val_loss: 0.6956 - val_accuracy: 0.8602
Epoch 123/220
1/750 [.....] - ETA: 0s - loss: 0.7450 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6512 - accuracy:
0.8726
146/750 [====>.....] - ETA: 0s - loss: 0.6520 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.6611 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.6622 - accuracy:
361/750 [=======>.....] - ETA: 0s - loss: 0.6625 - accuracy:
0.8736
432/750 [=========>..... - ETA: 0s - loss: 0.6621 - accuracy:
0.8748
503/750 [=========>.....] - ETA: 0s - loss: 0.6598 - accuracy:
```

```
574/750 [==============>.....] - ETA: 0s - loss: 0.6584 - accuracy:
0.8749
0.8751 - val_loss: 0.6907 - val_accuracy: 0.8637
Epoch 124/220
1/750 [.....] - ETA: 0s - loss: 0.6256 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.6639 - accuracy:
0.8726
143/750 [====>...... - ETA: 0s - loss: 0.6555 - accuracy:
0.8773
214/750 [======>.....] - ETA: 0s - loss: 0.6550 - accuracy:
283/750 [=======>.....] - ETA: 0s - loss: 0.6552 - accuracy:
354/750 [=======>...... - ETA: 0s - loss: 0.6581 - accuracy:
0.8759
425/750 [=========>.....] - ETA: 0s - loss: 0.6597 - accuracy:
488/750 [==========>.....] - ETA: 0s - loss: 0.6597 - accuracy:
0.8754
557/750 [==========>.....] - ETA: 0s - loss: 0.6581 - accuracy:
0.8756
630/750 [===============>.....] - ETA: 0s - loss: 0.6575 - accuracy:
0.8759 - val loss: 0.6893 - val accuracy: 0.8635
Epoch 125/220
1/750 [.....] - ETA: 1s - loss: 0.5615 - accuracy:
0.9375
71/750 [=>.....] - ETA: 0s - loss: 0.6561 - accuracy:
0.8726
141/750 [====>.....] - ETA: 0s - loss: 0.6596 - accuracy:
210/750 [=====>..... - ETA: 0s - loss: 0.6581 - accuracy:
278/750 [=======>..... - ETA: 0s - loss: 0.6561 - accuracy:
349/750 [=======>.....] - ETA: 0s - loss: 0.6558 - accuracy:
419/750 [========>..... - ETA: 0s - loss: 0.6568 - accuracy:
```

```
491/750 [==========>.....] - ETA: 0s - loss: 0.6556 - accuracy:
0.8745
562/750 [============>.....] - ETA: 0s - loss: 0.6555 - accuracy:
0.8751
0.8761
0.8760
750/750 [============= ] - 1s 870us/step - loss: 0.6546 - accuracy:
0.8761 - val loss: 0.6887 - val accuracy: 0.8634
Epoch 126/220
1/750 [.....] - ETA: 0s - loss: 0.6363 - accuracy:
66/750 [=>.....] - ETA: 0s - loss: 0.6482 - accuracy:
0.8821
139/750 [====>.....] - ETA: 0s - loss: 0.6518 - accuracy:
210/750 [======>.....] - ETA: 0s - loss: 0.6498 - accuracy:
281/750 [=======>..... - ETA: 0s - loss: 0.6526 - accuracy:
0.8774
351/750 [=======>.....] - ETA: 0s - loss: 0.6514 - accuracy:
0.8774
423/750 [========>..... - ETA: 0s - loss: 0.6505 - accuracy:
0.8778
497/750 [=========>.....] - ETA: 0s - loss: 0.6514 - accuracy:
568/750 [===============>.....] - ETA: 0s - loss: 0.6520 - accuracy:
0.8774
0.8766
0.8763 - val_loss: 0.6912 - val_accuracy: 0.8626
Epoch 127/220
1/750 [.....] - ETA: 0s - loss: 0.5998 - accuracy:
0.9219
71/750 [=>...... - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.6452 - accuracy:
0.8797
213/750 [======>...... - ETA: 0s - loss: 0.6499 - accuracy:
283/750 [=======>.....] - ETA: 0s - loss: 0.6522 - accuracy:
0.8770
356/750 [=======>.....] - ETA: 0s - loss: 0.6518 - accuracy:
0.8778
```

```
428/750 [=========>.....] - ETA: 0s - loss: 0.6514 - accuracy:
0.8777
499/750 [==========>.....] - ETA: 0s - loss: 0.6505 - accuracy:
0.8776
563/750 [===============>.....] - ETA: 0s - loss: 0.6518 - accuracy:
0.8773
634/750 [============>....] - ETA: 0s - loss: 0.6526 - accuracy:
0.8766
707/750 [==============>..] - ETA: 0s - loss: 0.6511 - accuracy:
0.8768
750/750 [============= ] - 1s 868us/step - loss: 0.6515 - accuracy:
0.8764 - val_loss: 0.6867 - val_accuracy: 0.8625
Epoch 128/220
 1/750 [.....] - ETA: 0s - loss: 0.4775 - accuracy:
0.9531
70/750 [=>...... - 6.6463 - accuracy:
0.8821
141/750 [====>.....] - ETA: 0s - loss: 0.6580 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.6595 - accuracy:
281/750 [=======>.....] - ETA: 0s - loss: 0.6540 - accuracy:
0.8766
351/750 [=======>.....] - ETA: 0s - loss: 0.6502 - accuracy:
0.8779
423/750 [========>.....] - ETA: 0s - loss: 0.6506 - accuracy:
494/750 [==========>.....] - ETA: 0s - loss: 0.6501 - accuracy:
0.8776
565/750 [===========>.....] - ETA: 0s - loss: 0.6521 - accuracy:
636/750 [===========>.....] - ETA: 0s - loss: 0.6503 - accuracy:
707/750 [===============>..] - ETA: 0s - loss: 0.6505 - accuracy:
0.8780
750/750 [============= ] - 1s 864us/step - loss: 0.6507 - accuracy:
0.8777 - val_loss: 0.6844 - val_accuracy: 0.8638
Epoch 129/220
 1/750 [.....] - ETA: 0s - loss: 0.5373 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6354 - accuracy:
134/750 [====>...... - ETA: 0s - loss: 0.6391 - accuracy:
206/750 [======>.....] - ETA: 0s - loss: 0.6443 - accuracy:
0.8823
277/750 [=======>..... - ETA: 0s - loss: 0.6456 - accuracy:
0.8817
```

```
348/750 [========>.....] - ETA: 0s - loss: 0.6454 - accuracy:
0.8803
418/750 [=========>.....] - ETA: 0s - loss: 0.6465 - accuracy:
488/750 [==========>.....] - ETA: 0s - loss: 0.6470 - accuracy:
559/750 [===========>.....] - ETA: 0s - loss: 0.6490 - accuracy:
0.8783
629/750 [============>....] - ETA: 0s - loss: 0.6516 - accuracy:
0.8770
701/750 [===============>..] - ETA: 0s - loss: 0.6489 - accuracy:
0.8778
0.8773 - val loss: 0.6857 - val accuracy: 0.8633
Epoch 130/220
 1/750 [.....] - ETA: 0s - loss: 0.4508 - accuracy:
0.9844
72/750 [=>.....] - ETA: 0s - loss: 0.6445 - accuracy:
145/750 [====>...... - ETA: 0s - loss: 0.6495 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.6465 - accuracy:
0.8775
284/750 [=======>.....] - ETA: 0s - loss: 0.6443 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.6466 - accuracy:
426/750 [==========>.....] - ETA: 0s - loss: 0.6469 - accuracy:
0.8769
497/750 [=========>.....] - ETA: 0s - loss: 0.6454 - accuracy:
0.8775
567/750 [============>.....] - ETA: 0s - loss: 0.6460 - accuracy:
0.8775
631/750 [============>....] - ETA: 0s - loss: 0.6463 - accuracy:
700/750 [==============>..] - ETA: 0s - loss: 0.6466 - accuracy:
750/750 [============== ] - 1s 870us/step - loss: 0.6479 - accuracy:
0.8770 - val_loss: 0.6838 - val_accuracy: 0.8644
Epoch 131/220
 1/750 [...... 0.5982 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.6379 - accuracy:
141/750 [====>.....] - ETA: 0s - loss: 0.6484 - accuracy:
0.8794
212/750 [======>...... - ETA: 0s - loss: 0.6512 - accuracy:
0.8779
```

```
284/750 [=======>..... - ETA: 0s - loss: 0.6449 - accuracy:
0.8784
354/750 [========>.....] - ETA: 0s - loss: 0.6487 - accuracy:
424/750 [========>...... - ETA: 0s - loss: 0.6490 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 0.6478 - accuracy:
0.8769
565/750 [==========>.....] - ETA: 0s - loss: 0.6473 - accuracy:
0.8775
634/750 [============>....] - ETA: 0s - loss: 0.6480 - accuracy:
0.8771
0.8772
750/750 [================ ] - 1s 864us/step - loss: 0.6463 - accuracy:
0.8775 - val loss: 0.6803 - val accuracy: 0.8650
Epoch 132/220
1/750 [.....] - ETA: 0s - loss: 0.6680 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6413 - accuracy:
0.8787
141/750 [====>.....] - ETA: 0s - loss: 0.6440 - accuracy:
0.8778
209/750 [======>.....] - ETA: 0s - loss: 0.6456 - accuracy:
275/750 [=======>.....] - ETA: 0s - loss: 0.6456 - accuracy:
0.8784
341/750 [========>.....] - ETA: 0s - loss: 0.6428 - accuracy:
0.8795
414/750 [========>.....] - ETA: 0s - loss: 0.6429 - accuracy:
0.8796
482/750 [==========>.....] - ETA: 0s - loss: 0.6432 - accuracy:
0.8794
553/750 [==========>.....] - ETA: 0s - loss: 0.6458 - accuracy:
0.8781
624/750 [============>.....] - ETA: 0s - loss: 0.6440 - accuracy:
695/750 [============>...] - ETA: 0s - loss: 0.6449 - accuracy:
0.8783
0.8780 - val loss: 0.6818 - val accuracy: 0.8643
Epoch 133/220
1/750 [.....] - ETA: 0s - loss: 0.7018 - accuracy:
0.8594
70/750 [=>...... - accuracy:
0.8746
141/750 [====>...... - ETA: 0s - loss: 0.6553 - accuracy:
```

```
212/750 [======>...... - ETA: 0s - loss: 0.6540 - accuracy:
0.8762
283/750 [=======>.....] - ETA: 0s - loss: 0.6486 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.6481 - accuracy:
0.8778
423/750 [========>.....] - ETA: 0s - loss: 0.6465 - accuracy:
0.8791
495/750 [=========>.....] - ETA: 0s - loss: 0.6441 - accuracy:
0.8789
566/750 [==========>.....] - ETA: 0s - loss: 0.6439 - accuracy:
0.8789
0.8790
0.8792 - val_loss: 0.6787 - val_accuracy: 0.8656
Epoch 134/220
1/750 [.....] - ETA: 0s - loss: 0.5954 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6254 - accuracy:
0.8841
143/750 [====>.....] - ETA: 0s - loss: 0.6244 - accuracy:
0.8847
212/750 [======>.....] - ETA: 0s - loss: 0.6280 - accuracy:
283/750 [=======>.....] - ETA: 0s - loss: 0.6266 - accuracy:
0.8844
355/750 [=======>.....] - ETA: 0s - loss: 0.6354 - accuracy:
425/750 [=========>.....] - ETA: 0s - loss: 0.6374 - accuracy:
0.8888
495/750 [==========>.....] - ETA: 0s - loss: 0.6370 - accuracy:
565/750 [==========>.....] - ETA: 0s - loss: 0.6390 - accuracy:
0.8798
635/750 [============>....] - ETA: 0s - loss: 0.6409 - accuracy:
0.8792
0.8789
0.8793 - val loss: 0.6799 - val accuracy: 0.8639
Epoch 135/220
1/750 [...... 0.5598 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6474 - accuracy:
0.8763
```

```
140/750 [====>...... - ETA: 0s - loss: 0.6367 - accuracy:
0.8794
209/750 [======>.....] - ETA: 0s - loss: 0.6360 - accuracy:
0.8794
280/750 [=======>.....] - ETA: 0s - loss: 0.6408 - accuracy:
0.8777
349/750 [=======>:....] - ETA: 0s - loss: 0.6403 - accuracy:
0.8776
421/750 [========>..... - ETA: 0s - loss: 0.6407 - accuracy:
0.8777
491/750 [==========>.....] - ETA: 0s - loss: 0.6393 - accuracy:
0.8783
552/750 [============>.....] - ETA: 0s - loss: 0.6418 - accuracy:
622/750 [===========>.....] - ETA: 0s - loss: 0.6414 - accuracy:
693/750 [============>...] - ETA: 0s - loss: 0.6413 - accuracy:
0.8783
0.8788 - val loss: 0.6785 - val accuracy: 0.8641
Epoch 136/220
1/750 [.....] - ETA: 0s - loss: 0.6689 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6392 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.6454 - accuracy:
0.8809
208/750 [======>.....] - ETA: 0s - loss: 0.6412 - accuracy:
0.8814
280/750 [=======>.....] - ETA: 0s - loss: 0.6396 - accuracy:
0.8821
349/750 [========>.....] - ETA: 0s - loss: 0.6402 - accuracy:
0.8813
420/750 [========>.....] - ETA: 0s - loss: 0.6395 - accuracy:
492/750 [=========>.....] - ETA: 0s - loss: 0.6395 - accuracy:
0.8814
563/750 [==========>.....] - ETA: 0s - loss: 0.6383 - accuracy:
0.8811
0.8896
750/750 [================ ] - 1s 869us/step - loss: 0.6397 - accuracy:
0.8800 - val loss: 0.6761 - val accuracy: 0.8657
Epoch 137/220
 1/750 [.....] - ETA: 0s - loss: 0.7344 - accuracy:
0.8594
```

```
73/750 [=>.....] - ETA: 0s - loss: 0.6254 - accuracy:
0.8883
144/750 [====>.....] - ETA: 0s - loss: 0.6321 - accuracy:
0.8854
213/750 [======>.....] - ETA: 0s - loss: 0.6357 - accuracy:
0.8844
284/750 [=======>..... - ETA: 0s - loss: 0.6325 - accuracy:
354/750 [=========>......] - ETA: 0s - loss: 0.6321 - accuracy:
0.8839
424/750 [========>.....] - ETA: 0s - loss: 0.6323 - accuracy:
494/750 [==========>.....] - ETA: 0s - loss: 0.6352 - accuracy:
563/750 [==============>.....] - ETA: 0s - loss: 0.6357 - accuracy:
632/750 [============>....] - ETA: 0s - loss: 0.6348 - accuracy:
0.8821
0.8816
750/750 [================ ] - 1s 879us/step - loss: 0.6382 - accuracy:
0.8815 - val_loss: 0.6752 - val_accuracy: 0.8668
Epoch 138/220
1/750 [.....] - ETA: 0s - loss: 0.6233 - accuracy:
67/750 [=>.....] - ETA: 0s - loss: 0.6410 - accuracy:
136/750 [====>.....] - ETA: 0s - loss: 0.6476 - accuracy:
0.8749
201/750 [======>.....] - ETA: 0s - loss: 0.6408 - accuracy:
266/750 [======>.....] - ETA: 0s - loss: 0.6372 - accuracy:
0.8781
329/750 [========>.....] - ETA: 0s - loss: 0.6359 - accuracy:
396/750 [=======>.....] - ETA: 0s - loss: 0.6403 - accuracy:
0.8778
466/750 [=========>.....] - ETA: 0s - loss: 0.6416 - accuracy:
0.8777
536/750 [==========>.....] - ETA: 0s - loss: 0.6390 - accuracy:
607/750 [===========>.....] - ETA: 0s - loss: 0.6379 - accuracy:
0.8799
750/750 [================ ] - 1s 893us/step - loss: 0.6372 - accuracy:
0.8801 - val_loss: 0.6748 - val_accuracy: 0.8671
Epoch 139/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6134 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.6361 - accuracy:
0.8826
141/750 [====>.....] - ETA: 0s - loss: 0.6279 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.6310 - accuracy:
0.8823
283/750 [=======>..... - ETA: 0s - loss: 0.6297 - accuracy:
0.8839
355/750 [========>.....] - ETA: 0s - loss: 0.6299 - accuracy:
0.8831
425/750 [=========>.....] - ETA: 0s - loss: 0.6330 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.6345 - accuracy:
566/750 [==========>.....] - ETA: 0s - loss: 0.6325 - accuracy:
638/750 [===============>.....] - ETA: 0s - loss: 0.6332 - accuracy:
0.8811
0.8810 - val_loss: 0.6730 - val_accuracy: 0.8648
Epoch 140/220
1/750 [.....] - ETA: 0s - loss: 0.5662 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6357 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.6390 - accuracy:
214/750 [=====>...... - ETA: 0s - loss: 0.6382 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.6363 - accuracy:
350/750 [=======>.....] - ETA: 0s - loss: 0.6355 - accuracy:
420/750 [========>....] - ETA: 0s - loss: 0.6342 - accuracy:
0.8826
491/750 [==========>.....] - ETA: 0s - loss: 0.6374 - accuracy:
0.8807
561/750 [==========>.....] - ETA: 0s - loss: 0.6349 - accuracy:
0.8898
0.8812 - val_loss: 0.6782 - val_accuracy: 0.8642
```

```
1/750 [.....] - ETA: 0s - loss: 0.6237 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6352 - accuracy:
0.8799
145/750 [====>.....] - ETA: 0s - loss: 0.6345 - accuracy:
0.8773
215/750 [======>...... - ETA: 0s - loss: 0.6321 - accuracy:
0.8783
285/750 [=======>.....] - ETA: 0s - loss: 0.6324 - accuracy:
0.8797
357/750 [=======>.....] - ETA: 0s - loss: 0.6329 - accuracy:
428/750 [==========>.....] - ETA: 0s - loss: 0.6329 - accuracy:
501/750 [===========>.....] - ETA: 0s - loss: 0.6351 - accuracy:
0.8896
571/750 [===============>.....] - ETA: 0s - loss: 0.6366 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.6346 - accuracy:
0.8810 - val loss: 0.6725 - val accuracy: 0.8657
Epoch 142/220
1/750 [.................] - ETA: 0s - loss: 0.7142 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6274 - accuracy:
0.8824
144/750 [====>.....] - ETA: 0s - loss: 0.6248 - accuracy:
0.8841
215/750 [======>...... - ETA: 0s - loss: 0.6256 - accuracy:
0.8836
286/750 [=======>..... - ETA: 0s - loss: 0.6271 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6321 - accuracy:
0.8819
430/750 [==========>.....] - ETA: 0s - loss: 0.6342 - accuracy:
500/750 [===========>.....] - ETA: 0s - loss: 0.6338 - accuracy:
573/750 [============>.....] - ETA: 0s - loss: 0.6317 - accuracy:
645/750 [============>....] - ETA: 0s - loss: 0.6320 - accuracy:
0.8820
0.8817
```

```
0.8817 - val loss: 0.6729 - val accuracy: 0.8633
Epoch 143/220
1/750 [.....] - ETA: 0s - loss: 0.6754 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.6162 - accuracy:
0.8856
144/750 [====>...... - ETA: 0s - loss: 0.6235 - accuracy:
0.8817
217/750 [======>.....] - ETA: 0s - loss: 0.6252 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.6243 - accuracy:
0.8834
360/750 [========>.....] - ETA: 0s - loss: 0.6255 - accuracy:
0.8832
432/750 [=========>.....] - ETA: 0s - loss: 0.6248 - accuracy:
0.8841
502/750 [===========>.....] - ETA: 0s - loss: 0.6261 - accuracy:
0.8833
576/750 [===========>.....] - ETA: 0s - loss: 0.6253 - accuracy:
0.8826
0.8825 - val loss: 0.6741 - val accuracy: 0.8649
Epoch 144/220
1/750 [.....] - ETA: 0s - loss: 0.5329 - accuracy:
75/750 [==>.....] - ETA: 0s - loss: 0.6400 - accuracy:
0.8781
147/750 [====>.....] - ETA: 0s - loss: 0.6342 - accuracy:
0.8799
220/750 [=====>.....] - ETA: 0s - loss: 0.6299 - accuracy:
294/750 [=======>.....] - ETA: 0s - loss: 0.6237 - accuracy:
0.8809
366/750 [========>.....] - ETA: 0s - loss: 0.6240 - accuracy:
0.8826
434/750 [========>..... - ETA: 0s - loss: 0.6221 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.6245 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.6260 - accuracy:
0.8827
0.8815
```

```
0.8815
0.8816 - val loss: 0.6683 - val accuracy: 0.8663
Epoch 145/220
1/750 [.....] - ETA: 0s - loss: 0.7968 - accuracy:
0.8594
72/750 [=>.....] - ETA: 0s - loss: 0.6224 - accuracy:
0.8839
145/750 [====>.....] - ETA: 0s - loss: 0.6306 - accuracy:
0.8898
215/750 [=====>.....] - ETA: 0s - loss: 0.6226 - accuracy:
0.8834
287/750 [=======>..... - ETA: 0s - loss: 0.6249 - accuracy:
0.8826
359/750 [=======>.....] - ETA: 0s - loss: 0.6268 - accuracy:
0.8827
430/750 [==========>.....] - ETA: 0s - loss: 0.6293 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.6291 - accuracy:
573/750 [===========>.....] - ETA: 0s - loss: 0.6281 - accuracy:
643/750 [=============>....] - ETA: 0s - loss: 0.6288 - accuracy:
0.8824
0.8820 - val_loss: 0.6715 - val_accuracy: 0.8663
Epoch 146/220
1/750 [.....] - ETA: 0s - loss: 0.4744 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6353 - accuracy:
0.8759
143/750 [====>...... - ETA: 0s - loss: 0.6235 - accuracy:
0.8840
215/750 [======>.....] - ETA: 0s - loss: 0.6232 - accuracy:
0.8842
286/750 [=======>.....] - ETA: 0s - loss: 0.6287 - accuracy:
0.8813
357/750 [=======>.....] - ETA: 0s - loss: 0.6263 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.6264 - accuracy:
0.8819
500/750 [=========>.....] - ETA: 0s - loss: 0.6260 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.6257 - accuracy:
0.8824
```

```
0.8825
0.8820 - val_loss: 0.6734 - val_accuracy: 0.8648
Epoch 147/220
1/750 [.....] - ETA: 0s - loss: 0.6040 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6092 - accuracy:
0.8896
144/750 [====>.....] - ETA: 0s - loss: 0.6133 - accuracy:
0.8878
216/750 [======>.....] - ETA: 0s - loss: 0.6190 - accuracy:
0.8851
287/750 [=======>.....] - ETA: 0s - loss: 0.6218 - accuracy:
358/750 [========>.....] - ETA: 0s - loss: 0.6193 - accuracy:
431/750 [=========>..... - ETA: 0s - loss: 0.6237 - accuracy:
0.8837
500/750 [===========>.....] - ETA: 0s - loss: 0.6245 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.6264 - accuracy:
0.8829
0.8836
0.8837
0.8838 - val_loss: 0.6682 - val_accuracy: 0.8664
Epoch 148/220
1/750 [.....] - ETA: 0s - loss: 0.6271 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.6461 - accuracy:
0.8724
147/750 [====>.....] - ETA: 0s - loss: 0.6437 - accuracy:
0.8741
218/750 [======>.....] - ETA: 0s - loss: 0.6307 - accuracy:
289/750 [=======>..... - ETA: 0s - loss: 0.6276 - accuracy:
0.8827
360/750 [=======>.....] - ETA: 0s - loss: 0.6256 - accuracy:
0.8836
432/750 [=========>.....] - ETA: 0s - loss: 0.6242 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.6250 - accuracy:
0.8837
```

```
574/750 [=============>.....] - ETA: 0s - loss: 0.6250 - accuracy:
0.8838
0.8845
0.8835 - val_loss: 0.6681 - val_accuracy: 0.8644
Epoch 149/220
1/750 [.....] - ETA: 0s - loss: 0.6449 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.6248 - accuracy:
0.8783
140/750 [====>...... - ETA: 0s - loss: 0.6219 - accuracy:
0.8817
212/750 [======>.....] - ETA: 0s - loss: 0.6204 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.6195 - accuracy:
354/750 [=======>...... - ETA: 0s - loss: 0.6209 - accuracy:
425/750 [=========>.....] - ETA: 0s - loss: 0.6192 - accuracy:
0.8844
497/750 [==========>.....] - ETA: 0s - loss: 0.6216 - accuracy:
570/750 [==========>.....] - ETA: 0s - loss: 0.6207 - accuracy:
0.8844
0.8834 - val loss: 0.6650 - val accuracy: 0.8683
Epoch 150/220
1/750 [.....] - ETA: 0s - loss: 0.5325 - accuracy:
0.9219
71/750 [=>.....] - ETA: 0s - loss: 0.6145 - accuracy:
0.8926
141/750 [====>.....] - ETA: 0s - loss: 0.6143 - accuracy:
211/750 [======>.....] - ETA: 0s - loss: 0.6134 - accuracy:
0.8884
280/750 [=======>..... - ETA: 0s - loss: 0.6191 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.6170 - accuracy:
0.8866
420/750 [========>..... - ETA: 0s - loss: 0.6199 - accuracy:
```

```
489/750 [==========>.....] - ETA: 0s - loss: 0.6201 - accuracy:
0.8843
560/750 [============>.....] - ETA: 0s - loss: 0.6194 - accuracy:
0.8851
0.8842
750/750 [============= ] - 1s 869us/step - loss: 0.6221 - accuracy:
0.8834 - val loss: 0.6662 - val accuracy: 0.8645
Epoch 151/220
1/750 [.....] - ETA: 0s - loss: 0.5838 - accuracy:
0.8906
73/750 [=>.....] - ETA: 0s - loss: 0.6054 - accuracy:
0.8883
146/750 [====>.....] - ETA: 0s - loss: 0.6151 - accuracy:
217/750 [=====>.....] - ETA: 0s - loss: 0.6220 - accuracy:
0.8823
289/750 [=======>..... - ETA: 0s - loss: 0.6249 - accuracy:
0.8816
361/750 [=======>.....] - ETA: 0s - loss: 0.6209 - accuracy:
433/750 [=========>..... - ETA: 0s - loss: 0.6189 - accuracy:
506/750 [=========>.....] - ETA: 0s - loss: 0.6212 - accuracy:
577/750 [=============>.....] - ETA: 0s - loss: 0.6206 - accuracy:
0.8832 - val_loss: 0.6617 - val_accuracy: 0.8674
Epoch 152/220
1/750 [...... 0.6899 - accuracy:
0.8438
72/750 [=>...... - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6206 - accuracy:
210/750 [======>...... - ETA: 0s - loss: 0.6196 - accuracy:
280/750 [=======>.....] - ETA: 0s - loss: 0.6158 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.6198 - accuracy:
0.8837
```

```
424/750 [========>.....] - ETA: 0s - loss: 0.6177 - accuracy:
0.8844
496/750 [==========>.....] - ETA: 0s - loss: 0.6195 - accuracy:
567/750 [==============>.....] - ETA: 0s - loss: 0.6188 - accuracy:
639/750 [===========>....] - ETA: 0s - loss: 0.6175 - accuracy:
711/750 [===============>..] - ETA: 0s - loss: 0.6189 - accuracy:
0.8837
750/750 [============= ] - 1s 858us/step - loss: 0.6195 - accuracy:
0.8835 - val_loss: 0.6630 - val_accuracy: 0.8666
Epoch 153/220
   1/750 [.....] - ETA: 0s - loss: 0.5700 - accuracy:
73/750 [=>...... - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.6124 - accuracy:
0.8870
215/750 [======>.....] - ETA: 0s - loss: 0.6142 - accuracy:
287/750 [=======>.....] - ETA: 0s - loss: 0.6144 - accuracy:
0.8868
359/750 [=======>.....] - ETA: 0s - loss: 0.6175 - accuracy:
0.8846
432/750 [=========>.....] - ETA: 0s - loss: 0.6176 - accuracy:
0.8846
502/750 [===========>.....] - ETA: 0s - loss: 0.6205 - accuracy:
0.8836
574/750 [===========>.....] - ETA: 0s - loss: 0.6179 - accuracy:
648/750 [============>.....] - ETA: 0s - loss: 0.6171 - accuracy:
\textbf{0.8851} \\ \textbf{0.000} \\ \textbf{0.000}
0.8847 - val_loss: 0.6658 - val_accuracy: 0.8643
Epoch 154/220
   1/750 [.....] - ETA: 0s - loss: 0.5440 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6168 - accuracy:
0.8859
135/750 [====>...... - ETA: 0s - loss: 0.6159 - accuracy:
0.8876
202/750 [======>.....] - ETA: 0s - loss: 0.6160 - accuracy:
269/750 [======>..... - ETA: 0s - loss: 0.6193 - accuracy:
```

```
336/750 [========>.....] - ETA: 0s - loss: 0.6168 - accuracy:
0.8865
403/750 [========>.....] - ETA: 0s - loss: 0.6178 - accuracy:
473/750 [=========>..... - ETA: 0s - loss: 0.6167 - accuracy:
0.8860
542/750 [=========>.....] - ETA: 0s - loss: 0.6172 - accuracy:
0.8856
612/750 [============>.....] - ETA: 0s - loss: 0.6152 - accuracy:
0.8862
681/750 [============>...] - ETA: 0s - loss: 0.6175 - accuracy:
0.8851
0.8851
750/750 [================ ] - 1s 896us/step - loss: 0.6174 - accuracy:
0.8851 - val loss: 0.6631 - val accuracy: 0.8654
Epoch 155/220
 1/750 [.....] - ETA: 0s - loss: 0.6447 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6179 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.6199 - accuracy:
0.8834
209/750 [======>.....] - ETA: 0s - loss: 0.6127 - accuracy:
277/750 [=======>.....] - ETA: 0s - loss: 0.6121 - accuracy:
0.8866
348/750 [========>.....] - ETA: 0s - loss: 0.6123 - accuracy:
0.8864
419/750 [========>.....] - ETA: 0s - loss: 0.6112 - accuracy:
491/750 [==========>.....] - ETA: 0s - loss: 0.6127 - accuracy:
0.8866
560/750 [==========>.....] - ETA: 0s - loss: 0.6132 - accuracy:
631/750 [============>....] - ETA: 0s - loss: 0.6125 - accuracy:
0.8864
705/750 [=============>..] - ETA: 0s - loss: 0.6166 - accuracy:
0.8850
750/750 [================ ] - 1s 868us/step - loss: 0.6160 - accuracy:
0.8850 - val loss: 0.6587 - val accuracy: 0.8682
Epoch 156/220
 1/750 [.....] - ETA: 0s - loss: 0.5240 - accuracy:
69/750 [=>.....] - ETA: 0s - loss: 0.6075 - accuracy:
141/750 [====>...... - ETA: 0s - loss: 0.6135 - accuracy:
0.8849
```

```
213/750 [======>...... - ETA: 0s - loss: 0.6105 - accuracy:
0.8856
282/750 [=======>.....] - ETA: 0s - loss: 0.6126 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.6139 - accuracy:
423/750 [========>..... - ETA: 0s - loss: 0.6190 - accuracy:
0.8842
496/750 [=========>.....] - ETA: 0s - loss: 0.6191 - accuracy:
0.8835
569/750 [=========>.....] - ETA: 0s - loss: 0.6162 - accuracy:
0.8846
750/750 [================ ] - 1s 861us/step - loss: 0.6148 - accuracy:
0.8845 - val loss: 0.6594 - val_accuracy: 0.8680
Epoch 157/220
1/750 [...... - ETA: 0s - loss: 0.6964 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.6323 - accuracy:
0.8786
143/750 [====>.....] - ETA: 0s - loss: 0.6231 - accuracy:
216/750 [======>.....] - ETA: 0s - loss: 0.6171 - accuracy:
0.8829
287/750 [=======>...... - ETA: 0s - loss: 0.6128 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.6143 - accuracy:
430/750 [=========>.....] - ETA: 0s - loss: 0.6152 - accuracy:
0.8851
501/750 [=========>.....] - ETA: 0s - loss: 0.6164 - accuracy:
0.8846
573/750 [==========>.....] - ETA: 0s - loss: 0.6135 - accuracy:
645/750 [===========>....] - ETA: 0s - loss: 0.6144 - accuracy:
0.8851
0.8853 - val loss: 0.6573 - val accuracy: 0.8683
Epoch 158/220
1/750 [.....] - ETA: 0s - loss: 0.6224 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5881 - accuracy:
```

```
143/750 [====>...... - ETA: 0s - loss: 0.5983 - accuracy:
0.8937
213/750 [======>.....] - ETA: 0s - loss: 0.5956 - accuracy:
0.8961
284/750 [=======>.....] - ETA: 0s - loss: 0.5954 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.5987 - accuracy:
0.8933
421/750 [========>..... - ETA: 0s - loss: 0.6038 - accuracy:
0.8906
495/750 [=========>.....] - ETA: 0s - loss: 0.6057 - accuracy:
0.8906
565/750 [============>.....] - ETA: 0s - loss: 0.6086 - accuracy:
638/750 [============>....] - ETA: 0s - loss: 0.6096 - accuracy:
0.8873
0.8871 - val loss: 0.6581 - val accuracy: 0.8668
Epoch 159/220
1/750 [.....] - ETA: 0s - loss: 0.6682 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6091 - accuracy:
0.8865
142/750 [====>.....] - ETA: 0s - loss: 0.6042 - accuracy:
0.8874
215/750 [======>.....] - ETA: 0s - loss: 0.6074 - accuracy:
0.8887
284/750 [=======>.....] - ETA: 0s - loss: 0.6074 - accuracy:
0.8886
357/750 [=======>.....] - ETA: 0s - loss: 0.6108 - accuracy:
0.8877
428/750 [=========>.....] - ETA: 0s - loss: 0.6123 - accuracy:
498/750 [=========>.....] - ETA: 0s - loss: 0.6113 - accuracy:
0.8861
569/750 [==========>.....] - ETA: 0s - loss: 0.6122 - accuracy:
0.8859
750/750 [================ ] - 1s 858us/step - loss: 0.6109 - accuracy:
0.8857 - val loss: 0.6564 - val accuracy: 0.8677
Epoch 160/220
1/750 [.....] - ETA: 0s - loss: 0.6304 - accuracy:
0.8594
```

```
73/750 [=>.....] - ETA: 0s - loss: 0.6099 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.6129 - accuracy:
217/750 [======>.....] - ETA: 0s - loss: 0.6081 - accuracy:
0.8863
290/750 [======>..... - ETA: 0s - loss: 0.6080 - accuracy:
0.8859
361/750 [========>.....] - ETA: 0s - loss: 0.6078 - accuracy:
0.8866
434/750 [==========>.....] - ETA: 0s - loss: 0.6081 - accuracy:
506/750 [===========>.....] - ETA: 0s - loss: 0.6054 - accuracy:
576/750 [=============>.....] - ETA: 0s - loss: 0.6077 - accuracy:
0.8860
648/750 [============>....] - ETA: 0s - loss: 0.6094 - accuracy:
0.8857
750/750 [================ ] - 1s 856us/step - loss: 0.6100 - accuracy:
0.8859 - val_loss: 0.6531 - val_accuracy: 0.8683
Epoch 161/220
1/750 [.....] - ETA: 0s - loss: 0.6124 - accuracy:
0.9219
74/750 [=>.....] - ETA: 0s - loss: 0.6244 - accuracy:
147/750 [====>.....] - ETA: 0s - loss: 0.6106 - accuracy:
0.8870
219/750 [======>.....] - ETA: 0s - loss: 0.6124 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.6089 - accuracy:
0.8864
362/750 [========>.....] - ETA: 0s - loss: 0.6057 - accuracy:
0.8877
430/750 [========>..... - ETA: 0s - loss: 0.6100 - accuracy:
0.8864
502/750 [=========>....] - ETA: 0s - loss: 0.6097 - accuracy:
0.8865
574/750 [===============>.....] - ETA: 0s - loss: 0.6088 - accuracy:
0.8866
645/750 [===========>.....] - ETA: 0s - loss: 0.6093 - accuracy:
0.8868
0.8869 - val_loss: 0.6521 - val_accuracy: 0.8679
Epoch 162/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5555 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.6038 - accuracy:
0.8887
146/750 [====>.....] - ETA: 0s - loss: 0.6024 - accuracy:
0.8888
219/750 [======>.....] - ETA: 0s - loss: 0.6047 - accuracy:
0.8894
290/750 [=======>..... - ETA: 0s - loss: 0.6067 - accuracy:
0.8876
362/750 [=========>.....] - ETA: 0s - loss: 0.6102 - accuracy:
0.8861
436/750 [==========>.....] - ETA: 0s - loss: 0.6101 - accuracy:
505/750 [===========>.....] - ETA: 0s - loss: 0.6099 - accuracy:
578/750 [=============>.....] - ETA: 0s - loss: 0.6079 - accuracy:
650/750 [===============>....] - ETA: 0s - loss: 0.6065 - accuracy:
0.8874
0.8872 - val_loss: 0.6534 - val_accuracy: 0.8683
Epoch 163/220
1/750 [.....] - ETA: 0s - loss: 0.6816 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6136 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.6097 - accuracy:
213/750 [======>.....] - ETA: 0s - loss: 0.6078 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.6065 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.6075 - accuracy:
0.8865
428/750 [=========>.....] - ETA: 0s - loss: 0.6078 - accuracy:
0.8873
501/750 [===========>.....] - ETA: 0s - loss: 0.6049 - accuracy:
573/750 [==========>.....] - ETA: 0s - loss: 0.6058 - accuracy:
0.8865
0.8869
0.8869 - val_loss: 0.6560 - val_accuracy: 0.8680
```

```
1/750 [.....] - ETA: 0s - loss: 0.6892 - accuracy:
0.8281
72/750 [=>.....] - ETA: 0s - loss: 0.6089 - accuracy:
0.8943
144/750 [====>.....] - ETA: 0s - loss: 0.6044 - accuracy:
0.8954
213/750 [======>...... - ETA: 0s - loss: 0.6003 - accuracy:
0.8925
286/750 [=======>.....] - ETA: 0s - loss: 0.6038 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.6039 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.6039 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 0.6036 - accuracy:
565/750 [==============>.....] - ETA: 0s - loss: 0.6042 - accuracy:
637/750 [============>....] - ETA: 0s - loss: 0.6062 - accuracy:
0.8876
0.8877 - val_loss: 0.6527 - val_accuracy: 0.8682
Epoch 165/220
1/750 [.................] - ETA: 0s - loss: 0.6158 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6227 - accuracy:
142/750 [====>...... - ETA: 0s - loss: 0.6071 - accuracy:
0.8883
214/750 [======>...... - ETA: 0s - loss: 0.6056 - accuracy:
284/750 [=======>.....] - ETA: 0s - loss: 0.6062 - accuracy:
0.8883
354/750 [=======>.....] - ETA: 0s - loss: 0.6062 - accuracy:
0.8876
425/750 [==========>.....] - ETA: 0s - loss: 0.6053 - accuracy:
496/750 [==========>.....] - ETA: 0s - loss: 0.6065 - accuracy:
566/750 [============>.....] - ETA: 0s - loss: 0.6048 - accuracy:
0.8881
0.8881
0.8875
```

```
0.8870 - val loss: 0.6537 - val accuracy: 0.8688
Epoch 166/220
1/750 [.....] - ETA: 0s - loss: 0.6440 - accuracy:
0.8750
71/750 [=>.....] - ETA: 0s - loss: 0.5960 - accuracy:
0.8922
142/750 [====>...... - ETA: 0s - loss: 0.6016 - accuracy:
0.8875
213/750 [======>.....] - ETA: 0s - loss: 0.6047 - accuracy:
0.8864
284/750 [=======>.....] - ETA: 0s - loss: 0.6069 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.6050 - accuracy:
0.8854
423/750 [========>.....] - ETA: 0s - loss: 0.6057 - accuracy:
495/750 [==========>.....] - ETA: 0s - loss: 0.6076 - accuracy:
0.8861
567/750 [==========>.....] - ETA: 0s - loss: 0.6044 - accuracy:
0.8876
0.8878
0.8878 - val loss: 0.6504 - val accuracy: 0.8674
Epoch 167/220
1/750 [.....] - ETA: 0s - loss: 0.5337 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.6020 - accuracy:
0.8874
144/750 [====>.....] - ETA: 0s - loss: 0.5996 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.6039 - accuracy:
0.8898
286/750 [=======>.....] - ETA: 0s - loss: 0.6000 - accuracy:
0.8899
358/750 [========>...... - ETA: 0s - loss: 0.6036 - accuracy:
0.8887
429/750 [========>.....] - ETA: 0s - loss: 0.6038 - accuracy:
0.8893
501/750 [===========>.....] - ETA: 0s - loss: 0.6017 - accuracy:
0.8893
567/750 [===========>.....] - ETA: 0s - loss: 0.6013 - accuracy:
0.8891
0.8889
```

```
0.8888 - val loss: 0.6498 - val accuracy: 0.8683
Epoch 168/220
1/750 [.....] - ETA: 0s - loss: 0.7039 - accuracy:
0.8438
70/750 [=>.....] - ETA: 0s - loss: 0.5899 - accuracy:
0.8915
142/750 [====>.....] - ETA: 0s - loss: 0.5954 - accuracy:
0.8881
214/750 [=====>.....] - ETA: 0s - loss: 0.5953 - accuracy:
0.8868
283/750 [=======>..... - ETA: 0s - loss: 0.5986 - accuracy:
0.8861
352/750 [=======>.....] - ETA: 0s - loss: 0.5983 - accuracy:
0.8873
423/750 [=========>...............] - ETA: 0s - loss: 0.5981 - accuracy:
0.8876
494/750 [=========>.....] - ETA: 0s - loss: 0.5998 - accuracy:
564/750 [============>.....] - ETA: 0s - loss: 0.6025 - accuracy:
0.8873
633/750 [============>....] - ETA: 0s - loss: 0.6016 - accuracy:
0.8876
0.8877
0.8878 - val_loss: 0.6472 - val_accuracy: 0.8697
Epoch 169/220
1/750 [...... 0.5308 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6150 - accuracy:
0.8816
142/750 [====>...... - ETA: 0s - loss: 0.6107 - accuracy:
0.8874
210/750 [=====>.....] - ETA: 0s - loss: 0.6050 - accuracy:
0.8897
281/750 [=======>.....] - ETA: 0s - loss: 0.6010 - accuracy:
351/750 [=======>.....] - ETA: 0s - loss: 0.5977 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 0.5978 - accuracy:
0.8914
493/750 [=========>.....] - ETA: 0s - loss: 0.5972 - accuracy:
564/750 [==========>.....] - ETA: 0s - loss: 0.5981 - accuracy:
```

```
0.8906
0.8894 - val_loss: 0.6462 - val_accuracy: 0.8702
Epoch 170/220
1/750 [.....] - ETA: 0s - loss: 0.6813 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5996 - accuracy:
0.8871
142/750 [====>.....] - ETA: 0s - loss: 0.5948 - accuracy:
0.8896
211/750 [======>.....] - ETA: 0s - loss: 0.5961 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.5971 - accuracy:
0.8874
339/750 [========>.....] - ETA: 0s - loss: 0.5987 - accuracy:
0.8870
409/750 [========>..... - ETA: 0s - loss: 0.5968 - accuracy:
0.8882
479/750 [=========>.....] - ETA: 0s - loss: 0.5979 - accuracy:
0.8877
550/750 [==========>.....] - ETA: 0s - loss: 0.5983 - accuracy:
0.8884
0.8896
750/750 [=============== ] - 1s 891us/step - loss: 0.5982 - accuracy:
0.8892 - val_loss: 0.6493 - val_accuracy: 0.8690
Epoch 171/220
1/750 [.....] - ETA: 0s - loss: 0.5461 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.5974 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.6091 - accuracy:
0.8861
212/750 [======>.....] - ETA: 0s - loss: 0.6032 - accuracy:
0.8896
284/750 [=======>..... - ETA: 0s - loss: 0.6031 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.6042 - accuracy:
0.8870
426/750 [========>.....] - ETA: 0s - loss: 0.6032 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 0.6012 - accuracy:
0.8879
```

```
568/750 [============>.....] - ETA: 0s - loss: 0.5985 - accuracy:
0.8885
0.8886 - val_loss: 0.6457 - val_accuracy: 0.8690
Epoch 172/220
1/750 [.....] - ETA: 0s - loss: 0.6357 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.6077 - accuracy:
0.8826
143/750 [====>...... - ETA: 0s - loss: 0.6051 - accuracy:
209/750 [======>.....] - ETA: 0s - loss: 0.6056 - accuracy:
0.8867
279/750 [=======>.....] - ETA: 0s - loss: 0.6021 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.6033 - accuracy:
0.8881
420/750 [========>.....] - ETA: 0s - loss: 0.6026 - accuracy:
491/750 [==========>.....] - ETA: 0s - loss: 0.6009 - accuracy:
0.8882
562/750 [==========>.....] - ETA: 0s - loss: 0.6005 - accuracy:
0.8881
632/750 [===============>.....] - ETA: 0s - loss: 0.5985 - accuracy:
0.8887
0.8889 - val loss: 0.6445 - val accuracy: 0.8692
Epoch 173/220
1/750 [.....] - ETA: 0s - loss: 0.6983 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.6040 - accuracy:
0.8829
142/750 [====>.....] - ETA: 0s - loss: 0.6024 - accuracy:
0.8847
213/750 [======>.....] - ETA: 0s - loss: 0.5928 - accuracy:
0.8880
285/750 [=======>..... - ETA: 0s - loss: 0.5951 - accuracy:
356/750 [=======>.....] - ETA: 0s - loss: 0.5973 - accuracy:
0.8886
426/750 [=========>..... - ETA: 0s - loss: 0.5950 - accuracy:
0.8899
```

```
496/750 [==========>.....] - ETA: 0s - loss: 0.5953 - accuracy:
0.8897
566/750 [============>.....] - ETA: 0s - loss: 0.5966 - accuracy:
0.8902
750/750 [============= ] - 1s 869us/step - loss: 0.5951 - accuracy:
0.8901 - val loss: 0.6435 - val accuracy: 0.8717
Epoch 174/220
1/750 [.....] - ETA: 0s - loss: 0.7526 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5750 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.5880 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.5866 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.5889 - accuracy:
0.8924
355/750 [=======>.....] - ETA: 0s - loss: 0.5907 - accuracy:
0.8919
426/750 [=========>.....] - ETA: 0s - loss: 0.5889 - accuracy:
0.8916
496/750 [=========>.....] - ETA: 0s - loss: 0.5923 - accuracy:
0.8907
566/750 [==============>.....] - ETA: 0s - loss: 0.5925 - accuracy:
0.8893 - val_loss: 0.6453 - val_accuracy: 0.8683
Epoch 175/220
1/750 [...... 0.5606 - accuracy:
0.8906
69/750 [=>.....] - ETA: 0s - loss: 0.5872 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.5965 - accuracy:
0.8901
213/750 [======>...... - ETA: 0s - loss: 0.5911 - accuracy:
0.8917
278/750 [=======>.....] - ETA: 0s - loss: 0.5953 - accuracy:
0.8901
350/750 [=======>.....] - ETA: 0s - loss: 0.5982 - accuracy:
0.8889
```

```
420/750 [========>...... - ETA: 0s - loss: 0.5965 - accuracy:
0.8891
490/750 [==========>.....] - ETA: 0s - loss: 0.5944 - accuracy:
561/750 [==========>.....] - ETA: 0s - loss: 0.5944 - accuracy:
632/750 [============>....] - ETA: 0s - loss: 0.5946 - accuracy:
0.8898
0.8906
750/750 [============= ] - 1s 866us/step - loss: 0.5929 - accuracy:
0.8907 - val_loss: 0.6456 - val_accuracy: 0.8702
Epoch 176/220
 1/750 [.....] - ETA: 0s - loss: 0.5370 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.6046 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.5963 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.5882 - accuracy:
0.8921
281/750 [=======>.....] - ETA: 0s - loss: 0.5892 - accuracy:
0.8915
352/750 [=======>.....] - ETA: 0s - loss: 0.5896 - accuracy:
422/750 [========>.....] - ETA: 0s - loss: 0.5900 - accuracy:
0.8907
492/750 [==========>.....] - ETA: 0s - loss: 0.5915 - accuracy:
0.8893
564/750 [===========>.....] - ETA: 0s - loss: 0.5921 - accuracy:
634/750 [============>.....] - ETA: 0s - loss: 0.5915 - accuracy:
705/750 [==============>..] - ETA: 0s - loss: 0.5920 - accuracy:
0.8901
0.8900 - val_loss: 0.6414 - val_accuracy: 0.8710
Epoch 177/220
1/750 [.....] - ETA: 0s - loss: 0.5550 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5900 - accuracy:
0.8941
143/750 [====>...... - ETA: 0s - loss: 0.5922 - accuracy:
0.8901
215/750 [======>.....] - ETA: 0s - loss: 0.5949 - accuracy:
0.8891
287/750 [=======>..... - ETA: 0s - loss: 0.5928 - accuracy:
```

```
358/750 [========>.....] - ETA: 0s - loss: 0.5937 - accuracy:
0.8898
428/750 [=========>.....] - ETA: 0s - loss: 0.5916 - accuracy:
0.8998
499/750 [=========>.....] - ETA: 0s - loss: 0.5896 - accuracy:
0.8917
570/750 [==========>.....] - ETA: 0s - loss: 0.5888 - accuracy:
0.8923
641/750 [============>....] - ETA: 0s - loss: 0.5898 - accuracy:
0.8918
0.8919
0.8914 - val loss: 0.6421 - val accuracy: 0.8687
Epoch 178/220
1/750 [.....] - ETA: 0s - loss: 0.5529 - accuracy:
0.9062
70/750 [=>.....] - ETA: 0s - loss: 0.5872 - accuracy:
139/750 [====>...... - ETA: 0s - loss: 0.5870 - accuracy:
0.8894
209/750 [======>.....] - ETA: 0s - loss: 0.5888 - accuracy:
0.8895
280/750 [=======>.....] - ETA: 0s - loss: 0.5866 - accuracy:
348/750 [========>.....] - ETA: 0s - loss: 0.5871 - accuracy:
0.8904
419/750 [=========>...... - ETA: 0s - loss: 0.5915 - accuracy:
0.8889
490/750 [=========>.....] - ETA: 0s - loss: 0.5911 - accuracy:
562/750 [==========>.....] - ETA: 0s - loss: 0.5895 - accuracy:
0.8898
631/750 [============>....] - ETA: 0s - loss: 0.5899 - accuracy:
0.8901
704/750 [===============>..] - ETA: 0s - loss: 0.5898 - accuracy:
0.8899
750/750 [============= ] - 1s 862us/step - loss: 0.5900 - accuracy:
0.8901 - val_loss: 0.6434 - val_accuracy: 0.8692
Epoch 179/220
1/750 [...... 0.6029 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5889 - accuracy:
0.8878
142/750 [====>.....] - ETA: 0s - loss: 0.5832 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.5859 - accuracy:
0.8931
```

```
281/750 [=======>.....] - ETA: 0s - loss: 0.5872 - accuracy:
0.8925
354/750 [========>.....] - ETA: 0s - loss: 0.5890 - accuracy:
423/750 [========>.....] - ETA: 0s - loss: 0.5888 - accuracy:
0.8923
492/750 [=========>.....] - ETA: 0s - loss: 0.5905 - accuracy:
0.8914
564/750 [==========>.....] - ETA: 0s - loss: 0.5889 - accuracy:
0.8917
635/750 [============>....] - ETA: 0s - loss: 0.5896 - accuracy:
0.8911
0.8913 - val loss: 0.6402 - val accuracy: 0.8692
Epoch 180/220
1/750 [.....] - ETA: 0s - loss: 0.6091 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5756 - accuracy:
0.8951
141/750 [====>.....] - ETA: 0s - loss: 0.5814 - accuracy:
0.8916
214/750 [======>.....] - ETA: 0s - loss: 0.5851 - accuracy:
282/750 [=======>.....] - ETA: 0s - loss: 0.5842 - accuracy:
352/750 [=======>.....] - ETA: 0s - loss: 0.5854 - accuracy:
0.8921
424/750 [========>.....] - ETA: 0s - loss: 0.5851 - accuracy:
0.8917
494/750 [=========>.....] - ETA: 0s - loss: 0.5857 - accuracy:
565/750 [==========>.....] - ETA: 0s - loss: 0.5858 - accuracy:
633/750 [============>....] - ETA: 0s - loss: 0.5866 - accuracy:
704/750 [==============>..] - ETA: 0s - loss: 0.5859 - accuracy:
0.8924
0.8916 - val loss: 0.6402 - val accuracy: 0.8706
Epoch 181/220
1/750 [.....] - ETA: 0s - loss: 0.5293 - accuracy:
0.9219
71/750 [=>...... - 6.5658 - accuracy:
141/750 [====>...... - ETA: 0s - loss: 0.5855 - accuracy:
0.8887
```

```
213/750 [======>.....] - ETA: 0s - loss: 0.5856 - accuracy:
281/750 [=======>.....] - ETA: 0s - loss: 0.5831 - accuracy:
349/750 [========>.....] - ETA: 0s - loss: 0.5848 - accuracy:
417/750 [========>..... - ETA: 0s - loss: 0.5887 - accuracy:
0.8908
489/750 [=========>.....] - ETA: 0s - loss: 0.5902 - accuracy:
0.8903
561/750 [==========>.....] - ETA: 0s - loss: 0.5891 - accuracy:
0.8904
0.8916
0.8916
0.8919 - val_loss: 0.6381 - val_accuracy: 0.8711
Epoch 182/220
1/750 [.....] - ETA: 0s - loss: 0.6182 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5814 - accuracy:
0.8943
146/750 [====>.....] - ETA: 0s - loss: 0.5800 - accuracy:
0.8951
217/750 [======>.....] - ETA: 0s - loss: 0.5796 - accuracy:
0.8954
288/750 [=======>...... - ETA: 0s - loss: 0.5807 - accuracy:
362/750 [=======>.....] - ETA: 0s - loss: 0.5839 - accuracy:
433/750 [=========>.....] - ETA: 0s - loss: 0.5836 - accuracy:
0.8928
506/750 [=========>.....] - ETA: 0s - loss: 0.5854 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.5850 - accuracy:
648/750 [============>....] - ETA: 0s - loss: 0.5846 - accuracy:
0.8916
0.8920 - val loss: 0.6395 - val accuracy: 0.8703
Epoch 183/220
1/750 [.....] - ETA: 0s - loss: 0.5611 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5705 - accuracy:
0.8994
```

```
144/750 [====>...... - ETA: 0s - loss: 0.5806 - accuracy:
0.8952
217/750 [======>.....] - ETA: 0s - loss: 0.5842 - accuracy:
288/750 [=======>.....] - ETA: 0s - loss: 0.5829 - accuracy:
0.8924
362/750 [=======>.....] - ETA: 0s - loss: 0.5817 - accuracy:
0.8927
436/750 [=========>...... - ETA: 0s - loss: 0.5841 - accuracy:
0.8917
508/750 [===========>.....] - ETA: 0s - loss: 0.5850 - accuracy:
580/750 [==============>.....] - ETA: 0s - loss: 0.5869 - accuracy:
0.8921
654/750 [============>....] - ETA: 0s - loss: 0.5866 - accuracy:
0.8925 - val loss: 0.6364 - val accuracy: 0.8703
Epoch 184/220
1/750 [.....] - ETA: 0s - loss: 0.5961 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.5801 - accuracy:
0.8906
146/750 [====>.....] - ETA: 0s - loss: 0.5898 - accuracy:
0.8888
216/750 [======>.....] - ETA: 0s - loss: 0.5869 - accuracy:
0.8895
287/750 [=======>.....] - ETA: 0s - loss: 0.5884 - accuracy:
359/750 [=======>.....] - ETA: 0s - loss: 0.5844 - accuracy:
429/750 [=========>.....] - ETA: 0s - loss: 0.5880 - accuracy:
0.8891
498/750 [=========>.....] - ETA: 0s - loss: 0.5871 - accuracy:
568/750 [==========>.....] - ETA: 0s - loss: 0.5845 - accuracy:
0.8914
0.8913
0.8922 - val loss: 0.6396 - val accuracy: 0.8697
Epoch 185/220
1/750 [.....] - ETA: 0s - loss: 0.5640 - accuracy:
```

```
70/750 [=>.....] - ETA: 0s - loss: 0.5853 - accuracy:
0.8853
141/750 [====>.....] - ETA: 0s - loss: 0.5837 - accuracy:
0.8886
214/750 [=====>.....] - ETA: 0s - loss: 0.5826 - accuracy:
285/750 [=======>.....] - ETA: 0s - loss: 0.5809 - accuracy:
0.8921
358/750 [========>.....] - ETA: 0s - loss: 0.5802 - accuracy:
0.8917
429/750 [=========>.....] - ETA: 0s - loss: 0.5797 - accuracy:
500/750 [===========>.....] - ETA: 0s - loss: 0.5819 - accuracy:
575/750 [============>.....] - ETA: 0s - loss: 0.5837 - accuracy:
0.8921
646/750 [============>....] - ETA: 0s - loss: 0.5826 - accuracy:
750/750 [================ ] - 1s 850us/step - loss: 0.5827 - accuracy:
0.8925 - val_loss: 0.6349 - val_accuracy: 0.8725
Epoch 186/220
 1/750 [.....] - ETA: 0s - loss: 0.5224 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.5764 - accuracy:
0.8967
141/750 [====>.....] - ETA: 0s - loss: 0.5756 - accuracy:
0.8938
213/750 [======>.....] - ETA: 0s - loss: 0.5769 - accuracy:
282/750 [=======>..... - ETA: 0s - loss: 0.5746 - accuracy:
354/750 [========>.....] - ETA: 0s - loss: 0.5745 - accuracy:
426/750 [========>.....] - ETA: 0s - loss: 0.5773 - accuracy:
495/750 [=========>.....] - ETA: 0s - loss: 0.5815 - accuracy:
0.8941
567/750 [==============>.....] - ETA: 0s - loss: 0.5825 - accuracy:
0.8931
641/750 [============>.....] - ETA: 0s - loss: 0.5823 - accuracy:
711/750 [==============>..] - ETA: 0s - loss: 0.5813 - accuracy:
0.8929
750/750 [================ ] - 1s 864us/step - loss: 0.5813 - accuracy:
0.8927 - val_loss: 0.6364 - val_accuracy: 0.8706
Epoch 187/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.6180 - accuracy:
0.8594
73/750 [=>.....] - ETA: 0s - loss: 0.5974 - accuracy:
146/750 [====>......] - ETA: 0s - loss: 0.5787 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.5784 - accuracy:
0.8933
291/750 [=======>..... - ETA: 0s - loss: 0.5825 - accuracy:
0.8907
361/750 [=========>.....] - ETA: 0s - loss: 0.5807 - accuracy:
0.8916
433/750 [==========>.....] - ETA: 0s - loss: 0.5819 - accuracy:
504/750 [============>.....] - ETA: 0s - loss: 0.5834 - accuracy:
575/750 [============>.....] - ETA: 0s - loss: 0.5824 - accuracy:
0.8914
0.8911
0.8917 - val_loss: 0.6363 - val_accuracy: 0.8711
Epoch 188/220
1/750 [.....] - ETA: 0s - loss: 0.6322 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5619 - accuracy:
0.8978
145/750 [====>.....] - ETA: 0s - loss: 0.5638 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5714 - accuracy:
0.8970
289/750 [=======>.....] - ETA: 0s - loss: 0.5743 - accuracy:
362/750 [========>.....] - ETA: 0s - loss: 0.5765 - accuracy:
0.8939
435/750 [=========>.....] - ETA: 0s - loss: 0.5751 - accuracy:
0.8948
507/750 [===========>.....] - ETA: 0s - loss: 0.5758 - accuracy:
579/750 [===========>.....] - ETA: 0s - loss: 0.5773 - accuracy:
722/750 [===============>..] - ETA: 0s - loss: 0.5801 - accuracy:
0.8926 - val_loss: 0.6351 - val_accuracy: 0.8729
```

```
1/750 [.....] - ETA: 0s - loss: 0.6802 - accuracy:
74/750 [=>...... - accuracy:
0.8944
146/750 [====>.....] - ETA: 0s - loss: 0.5799 - accuracy:
215/750 [======>...... - ETA: 0s - loss: 0.5746 - accuracy:
0.8956
286/750 [=======>.....] - ETA: 0s - loss: 0.5745 - accuracy:
360/750 [=======>.....] - ETA: 0s - loss: 0.5732 - accuracy:
0.8957
431/750 [==========>.....] - ETA: 0s - loss: 0.5766 - accuracy:
503/750 [===========>.....] - ETA: 0s - loss: 0.5769 - accuracy:
573/750 [===============>.....] - ETA: 0s - loss: 0.5789 - accuracy:
647/750 [============>....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8933 - val loss: 0.6353 - val accuracy: 0.8709
Epoch 190/220
1/750 [................] - ETA: 0s - loss: 0.4856 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5690 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.5713 - accuracy:
213/750 [======>...... - ETA: 0s - loss: 0.5761 - accuracy:
0.8943
286/750 [=======>.....] - ETA: 0s - loss: 0.5752 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.5789 - accuracy:
0.8926
429/750 [==========>.....] - ETA: 0s - loss: 0.5760 - accuracy:
0.8936
500/750 [=========>.....] - ETA: 0s - loss: 0.5760 - accuracy:
571/750 [============>.....] - ETA: 0s - loss: 0.5758 - accuracy:
0.8938
642/750 [============>....] - ETA: 0s - loss: 0.5760 - accuracy:
0.8938
0.8939
```

```
0.8934 - val loss: 0.6317 - val accuracy: 0.8717
Epoch 191/220
1/750 [.....] - ETA: 0s - loss: 0.6893 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5749 - accuracy:
0.8946
142/750 [====>...... - ETA: 0s - loss: 0.5746 - accuracy:
0.8955
214/750 [======>.....] - ETA: 0s - loss: 0.5785 - accuracy:
0.8944
286/750 [=======>.....] - ETA: 0s - loss: 0.5774 - accuracy:
0.8936
359/750 [=======>....] - ETA: 0s - loss: 0.5784 - accuracy:
0.8925
430/750 [=========>.....] - ETA: 0s - loss: 0.5787 - accuracy:
503/750 [===========>.....] - ETA: 0s - loss: 0.5781 - accuracy:
574/750 [==========>.....] - ETA: 0s - loss: 0.5787 - accuracy:
0.8938 - val loss: 0.6365 - val accuracy: 0.8711
Epoch 192/220
1/750 [.....] - ETA: 0s - loss: 0.5851 - accuracy:
70/750 [=>.....] - ETA: 0s - loss: 0.5596 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.5688 - accuracy:
0.8998
213/750 [======>.....] - ETA: 0s - loss: 0.5709 - accuracy:
0.8963
281/750 [=======>.....] - ETA: 0s - loss: 0.5721 - accuracy:
0.8965
354/750 [=======>...... - ETA: 0s - loss: 0.5776 - accuracy:
427/750 [========>.....] - ETA: 0s - loss: 0.5769 - accuracy:
0.8933
499/750 [==========>.....] - ETA: 0s - loss: 0.5752 - accuracy:
0.8938
569/750 [==========>.....] - ETA: 0s - loss: 0.5763 - accuracy:
0.8938
```

```
0.8941
0.8940 - val loss: 0.6311 - val accuracy: 0.8723
Epoch 193/220
1/750 [.....] - ETA: 0s - loss: 0.4611 - accuracy:
0.9531
69/750 [=>.....] - ETA: 0s - loss: 0.5794 - accuracy:
0.8947
140/750 [====>.....] - ETA: 0s - loss: 0.5759 - accuracy:
0.8941
208/750 [======>.....] - ETA: 0s - loss: 0.5809 - accuracy:
280/750 [=======>..... - ETA: 0s - loss: 0.5772 - accuracy:
0.8932
353/750 [========>.....] - ETA: 0s - loss: 0.5770 - accuracy:
423/750 [=========>...............] - ETA: 0s - loss: 0.5782 - accuracy:
0.8928
497/750 [=========>.....] - ETA: 0s - loss: 0.5784 - accuracy:
569/750 [============>.....] - ETA: 0s - loss: 0.5788 - accuracy:
0.8923
635/750 [============>.....] - ETA: 0s - loss: 0.5767 - accuracy:
0.8936 - val_loss: 0.6298 - val_accuracy: 0.8723
Epoch 194/220
1/750 [...... 0.5875 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5745 - accuracy:
0.8911
144/750 [====>...... - ETA: 0s - loss: 0.5740 - accuracy:
0.8937
216/750 [======>.....] - ETA: 0s - loss: 0.5711 - accuracy:
0.8985
288/750 [=======>.....] - ETA: 0s - loss: 0.5702 - accuracy:
0.8976
361/750 [=======>..... - ETA: 0s - loss: 0.5711 - accuracy:
0.8966
432/750 [=========>..... - ETA: 0s - loss: 0.5733 - accuracy:
504/750 [===========>.....] - ETA: 0s - loss: 0.5742 - accuracy:
0.8948
577/750 [===========>.....] - ETA: 0s - loss: 0.5735 - accuracy:
0.8943
```

```
0.8941
0.8941
750/750 [================ ] - 1s 852us/step - loss: 0.5737 - accuracy:
0.8946 - val_loss: 0.6291 - val_accuracy: 0.8728
Epoch 195/220
1/750 [.....] - ETA: 0s - loss: 0.4686 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5489 - accuracy:
138/750 [====>.....] - ETA: 0s - loss: 0.5632 - accuracy:
207/750 [=====>.....] - ETA: 0s - loss: 0.5721 - accuracy:
278/750 [=======>.....] - ETA: 0s - loss: 0.5705 - accuracy:
346/750 [========>.....] - ETA: 0s - loss: 0.5737 - accuracy:
0.8940
418/750 [========>..... - ETA: 0s - loss: 0.5727 - accuracy:
0.8943
490/750 [=========>.....] - ETA: 0s - loss: 0.5736 - accuracy:
0.8941
563/750 [==========>.....] - ETA: 0s - loss: 0.5717 - accuracy:
0.8946
636/750 [============>....] - ETA: 0s - loss: 0.5715 - accuracy:
0.8945
750/750 [=============== ] - 1s 866us/step - loss: 0.5718 - accuracy:
0.8945 - val_loss: 0.6311 - val_accuracy: 0.8696
Epoch 196/220
1/750 [.....] - ETA: 0s - loss: 0.6706 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5769 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5740 - accuracy:
0.8923
217/750 [======>.....] - ETA: 0s - loss: 0.5719 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 0.5747 - accuracy:
0.8948
361/750 [=======>.....] - ETA: 0s - loss: 0.5730 - accuracy:
432/750 [=========>..... - ETA: 0s - loss: 0.5715 - accuracy:
504/750 [=========>.....] - ETA: 0s - loss: 0.5716 - accuracy:
```

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576/750 [============>.....] - ETA: 0s - loss: 0.5703 - accuracy:
0.8958
0.8955 - val_loss: 0.6302 - val_accuracy: 0.8715
Epoch 197/220
1/750 [.....] - ETA: 0s - loss: 0.6098 - accuracy:
0.8906
64/750 [=>.....] - ETA: 0s - loss: 0.5708 - accuracy:
0.8928
136/750 [====>...... - ETA: 0s - loss: 0.5669 - accuracy:
209/750 [======>.....] - ETA: 0s - loss: 0.5633 - accuracy:
279/750 [=======>.....] - ETA: 0s - loss: 0.5663 - accuracy:
351/750 [========>...... - ETA: 0s - loss: 0.5681 - accuracy:
0.8954
422/750 [========>.....] - ETA: 0s - loss: 0.5686 - accuracy:
0.8947
494/750 [==========>.....] - ETA: 0s - loss: 0.5679 - accuracy:
0.8951
566/750 [==========>.....] - ETA: 0s - loss: 0.5698 - accuracy:
637/750 [===============>.....] - ETA: 0s - loss: 0.5694 - accuracy:
750/750 [================ ] - 1s 865us/step - loss: 0.5702 - accuracy:
0.8944 - val loss: 0.6283 - val accuracy: 0.8719
Epoch 198/220
1/750 [.....] - ETA: 0s - loss: 0.6718 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5812 - accuracy:
0.8891
145/750 [====>...... - accuracy:
217/750 [=====>..... - ETA: 0s - loss: 0.5716 - accuracy:
0.8917
286/750 [=======>..... - ETA: 0s - loss: 0.5758 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5757 - accuracy:
0.8929
428/750 [=========>..... - ETA: 0s - loss: 0.5761 - accuracy:
0.8926
```

```
498/750 [==========>.....] - ETA: 0s - loss: 0.5740 - accuracy:
0.8925
568/750 [============>.....] - ETA: 0s - loss: 0.5712 - accuracy:
0.8941
0.8951
0.8954 - val loss: 0.6328 - val accuracy: 0.8713
Epoch 199/220
1/750 [.....] - ETA: 0s - loss: 0.5833 - accuracy:
0.8906
74/750 [=>.....] - ETA: 0s - loss: 0.5646 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5583 - accuracy:
0.8997
218/750 [======>.....] - ETA: 0s - loss: 0.5620 - accuracy:
291/750 [=======>..... - ETA: 0s - loss: 0.5633 - accuracy:
0.8982
361/750 [=======>.....] - ETA: 0s - loss: 0.5664 - accuracy:
0.8968
432/750 [=========>.....] - ETA: 0s - loss: 0.5694 - accuracy:
0.8951
504/750 [=========>.....] - ETA: 0s - loss: 0.5672 - accuracy:
576/750 [=============>.....] - ETA: 0s - loss: 0.5667 - accuracy:
0.8961
0.8958 - val_loss: 0.6317 - val_accuracy: 0.8711
Epoch 200/220
1/750 [.....] - ETA: 0s - loss: 0.5203 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8987
136/750 [====>.....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8967
208/750 [======>.....] - ETA: 0s - loss: 0.5623 - accuracy:
0.8984
275/750 [=======>.....] - ETA: 0s - loss: 0.5625 - accuracy:
0.8976
341/750 [=======>.....] - ETA: 0s - loss: 0.5642 - accuracy:
0.8979
```

```
411/750 [=========>.....] - ETA: 0s - loss: 0.5655 - accuracy:
0.8970
481/750 [==========>.....] - ETA: 0s - loss: 0.5656 - accuracy:
0.8974
553/750 [=============>.....] - ETA: 0s - loss: 0.5663 - accuracy:
0.8971
624/750 [===========>.....] - ETA: 0s - loss: 0.5656 - accuracy:
0.8973
697/750 [============>...] - ETA: 0s - loss: 0.5664 - accuracy:
0.8966
750/750 [============= ] - 1s 880us/step - loss: 0.5667 - accuracy:
0.8962 - val_loss: 0.6269 - val_accuracy: 0.8736
Epoch 201/220
 1/750 [.....] - ETA: 0s - loss: 0.6053 - accuracy:
72/750 [=>...... - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5604 - accuracy:
218/750 [======>.....] - ETA: 0s - loss: 0.5614 - accuracy:
0.8974
290/750 [=======>.....] - ETA: 0s - loss: 0.5636 - accuracy:
0.8959
361/750 [=======>.....] - ETA: 0s - loss: 0.5643 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5669 - accuracy:
500/750 [========>>.....] - ETA: 0s - loss: 0.5663 - accuracy:
0.8946
570/750 [===========>.....] - ETA: 0s - loss: 0.5658 - accuracy:
644/750 [============>.....] - ETA: 0s - loss: 0.5659 - accuracy:
750/750 [============ ] - 1s 852us/step - loss: 0.5661 - accuracy:
0.8951 - val_loss: 0.6249 - val_accuracy: 0.8714
Epoch 202/220
1/750 [.....] - ETA: 0s - loss: 0.6068 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5520 - accuracy:
0.8963
143/750 [====>...... - ETA: 0s - loss: 0.5608 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.5615 - accuracy:
288/750 [=======>..... - ETA: 0s - loss: 0.5606 - accuracy:
0.8967
```

```
360/750 [========>.....] - ETA: 0s - loss: 0.5603 - accuracy:
0.8977
430/750 [=========>.....] - ETA: 0s - loss: 0.5603 - accuracy:
0.8979
502/750 [=========>.....] - ETA: 0s - loss: 0.5631 - accuracy:
0.8970
574/750 [==========>.....] - ETA: 0s - loss: 0.5660 - accuracy:
0.8956
645/750 [============>....] - ETA: 0s - loss: 0.5659 - accuracy:
0.8952
716/750 [==============>..] - ETA: 0s - loss: 0.5661 - accuracy:
0.8952 - val loss: 0.6282 - val accuracy: 0.8708
Epoch 203/220
1/750 [.....] - ETA: 0s - loss: 0.5599 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5498 - accuracy:
140/750 [====>...... - ETA: 0s - loss: 0.5525 - accuracy:
212/750 [======>.....] - ETA: 0s - loss: 0.5544 - accuracy:
0.9004
283/750 [=======>.....] - ETA: 0s - loss: 0.5570 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.5594 - accuracy:
427/750 [==========>.....] - ETA: 0s - loss: 0.5604 - accuracy:
0.8974
500/750 [==========>.....] - ETA: 0s - loss: 0.5597 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.5615 - accuracy:
643/750 [============>....] - ETA: 0s - loss: 0.5625 - accuracy:
716/750 [==============>..] - ETA: 0s - loss: 0.5636 - accuracy:
0.8961
750/750 [============= ] - 1s 854us/step - loss: 0.5641 - accuracy:
0.8962 - val loss: 0.6242 - val accuracy: 0.8711
Epoch 204/220
1/750 [...... os. 6.6173 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5666 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5675 - accuracy:
219/750 [======>.....] - ETA: 0s - loss: 0.5664 - accuracy:
0.8923
```

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289/750 [=======>.....] - ETA: 0s - loss: 0.5654 - accuracy:
0.8928
362/750 [=======>.....] - ETA: 0s - loss: 0.5670 - accuracy:
430/750 [=========>..... - ETA: 0s - loss: 0.5658 - accuracy:
500/750 [=========>.....] - ETA: 0s - loss: 0.5636 - accuracy:
571/750 [==========>.....] - ETA: 0s - loss: 0.5633 - accuracy:
0.8956
639/750 [===========>....] - ETA: 0s - loss: 0.5633 - accuracy:
0.8956
750/750 [================ ] - 1s 860us/step - loss: 0.5633 - accuracy:
0.8959 - val loss: 0.6233 - val accuracy: 0.8733
Epoch 205/220
 1/750 [.....] - ETA: 0s - loss: 0.5634 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5680 - accuracy:
0.8951
144/750 [====>.....] - ETA: 0s - loss: 0.5619 - accuracy:
0.8968
216/750 [======>.....] - ETA: 0s - loss: 0.5636 - accuracy:
289/750 [=======>.....] - ETA: 0s - loss: 0.5621 - accuracy:
0.8961
361/750 [=======>.....] - ETA: 0s - loss: 0.5614 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5616 - accuracy:
0.8973
505/750 [=========>.....] - ETA: 0s - loss: 0.5624 - accuracy:
577/750 [===========>.....] - ETA: 0s - loss: 0.5605 - accuracy:
0.8974
649/750 [============>....] - ETA: 0s - loss: 0.5626 - accuracy:
0.8958
721/750 [===============>..] - ETA: 0s - loss: 0.5621 - accuracy:
0.8963
750/750 [================ ] - 1s 848us/step - loss: 0.5621 - accuracy:
0.8964 - val loss: 0.6384 - val accuracy: 0.8677
Epoch 206/220
 1/750 [.....] - ETA: 0s - loss: 0.5012 - accuracy:
0.9219
71/750 [=>...... - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.5718 - accuracy:
0.8925
```

```
211/750 [======>...... - ETA: 0s - loss: 0.5649 - accuracy:
0.8943
280/750 [=======>.....] - ETA: 0s - loss: 0.5685 - accuracy:
353/750 [========>.....] - ETA: 0s - loss: 0.5650 - accuracy:
0.8948
425/750 [========>...... - ETA: 0s - loss: 0.5651 - accuracy:
0.8953
496/750 [=========>.....] - ETA: 0s - loss: 0.5637 - accuracy:
0.8954
568/750 [==========>.....] - ETA: 0s - loss: 0.5635 - accuracy:
0.8957
0.8964 - val_loss: 0.6253 - val_accuracy: 0.8723
Epoch 207/220
1/750 [.....] - ETA: 0s - loss: 0.4407 - accuracy:
0.9531
72/750 [=>.....] - ETA: 0s - loss: 0.5469 - accuracy:
144/750 [====>.....] - ETA: 0s - loss: 0.5582 - accuracy:
0.8963
215/750 [======>.....] - ETA: 0s - loss: 0.5653 - accuracy:
0.8939
287/750 [=======>.....] - ETA: 0s - loss: 0.5628 - accuracy:
0.8949
359/750 [=======>.....] - ETA: 0s - loss: 0.5633 - accuracy:
431/750 [========>..... - ETA: 0s - loss: 0.5615 - accuracy:
0.8964
501/750 [=========>.....] - ETA: 0s - loss: 0.5595 - accuracy:
0.8974
572/750 [==========>.....] - ETA: 0s - loss: 0.5607 - accuracy:
0.8966
645/750 [============>....] - ETA: 0s - loss: 0.5603 - accuracy:
0.8973
0.8964 - val loss: 0.6212 - val accuracy: 0.8752
Epoch 208/220
1/750 [.....] - ETA: 0s - loss: 0.4367 - accuracy:
74/750 [=>.....] - ETA: 0s - loss: 0.5811 - accuracy:
0.8834
```

```
146/750 [====>...... - ETA: 0s - loss: 0.5685 - accuracy:
0.8891
219/750 [======>.....] - ETA: 0s - loss: 0.5644 - accuracy:
0.8926
291/750 [=======>.....] - ETA: 0s - loss: 0.5603 - accuracy:
0.8947
363/750 [=======>.....] - ETA: 0s - loss: 0.5602 - accuracy:
0.8949
434/750 [=========>..... - ETA: 0s - loss: 0.5617 - accuracy:
0.8952
507/750 [===========>.....] - ETA: 0s - loss: 0.5604 - accuracy:
0.8954
580/750 [==============>.....] - ETA: 0s - loss: 0.5598 - accuracy:
0.8963
651/750 [============>....] - ETA: 0s - loss: 0.5602 - accuracy:
0.8967
0.8967 - val loss: 0.6240 - val accuracy: 0.8727
Epoch 209/220
1/750 [...... - ETA: 0s - loss: 0.5045 - accuracy:
0.9375
70/750 [=>.....] - ETA: 0s - loss: 0.5474 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.5520 - accuracy:
0.8994
216/750 [======>.....] - ETA: 0s - loss: 0.5482 - accuracy:
0.8989
287/750 [=======>.....] - ETA: 0s - loss: 0.5534 - accuracy:
358/750 [=======>.....] - ETA: 0s - loss: 0.5537 - accuracy:
0.8973
428/750 [=========>.....] - ETA: 0s - loss: 0.5550 - accuracy:
0.8974
501/750 [========>.....] - ETA: 0s - loss: 0.5564 - accuracy:
0.8973
569/750 [==========>.....] - ETA: 0s - loss: 0.5571 - accuracy:
0.8971
0.8973
0.8967 - val loss: 0.6255 - val accuracy: 0.8719
Epoch 210/220
1/750 [.....] - ETA: 0s - loss: 0.5122 - accuracy:
```

```
72/750 [=>.....] - ETA: 0s - loss: 0.5656 - accuracy:
0.8932
143/750 [====>.....] - ETA: 0s - loss: 0.5626 - accuracy:
214/750 [=====>..... - ETA: 0s - loss: 0.5610 - accuracy:
0.8966
286/750 [=======>.....] - ETA: 0s - loss: 0.5628 - accuracy:
0.8964
356/750 [========>.....] - ETA: 0s - loss: 0.5602 - accuracy:
0.8962
428/750 [=========>.....] - ETA: 0s - loss: 0.5595 - accuracy:
499/750 [==========>.....] - ETA: 0s - loss: 0.5595 - accuracy:
0.8963
569/750 [==============>.....] - ETA: 0s - loss: 0.5580 - accuracy:
640/750 [============>....] - ETA: 0s - loss: 0.5575 - accuracy:
750/750 [================ ] - 1s 866us/step - loss: 0.5571 - accuracy:
0.8976 - val_loss: 0.6193 - val_accuracy: 0.8729
Epoch 211/220
1/750 [.....] - ETA: 0s - loss: 0.4946 - accuracy:
73/750 [=>.....] - ETA: 0s - loss: 0.5548 - accuracy:
0.8951
144/750 [====>...... - accuracy:
0.8978
216/750 [======>.....] - ETA: 0s - loss: 0.5543 - accuracy:
0.8976
288/750 [=======>..... - ETA: 0s - loss: 0.5540 - accuracy:
0.8971
359/750 [=======>.....] - ETA: 0s - loss: 0.5527 - accuracy:
0.8981
430/750 [========>.....] - ETA: 0s - loss: 0.5546 - accuracy:
0.8980
503/750 [=========>.....] - ETA: 0s - loss: 0.5549 - accuracy:
0.8979
572/750 [===============>.....] - ETA: 0s - loss: 0.5575 - accuracy:
644/750 [============>.....] - ETA: 0s - loss: 0.5564 - accuracy:
716/750 [===============>..] - ETA: 0s - loss: 0.5557 - accuracy:
0.8977
0.8972 - val_loss: 0.6209 - val_accuracy: 0.8736
Epoch 212/220
```

```
1/750 [.....] - ETA: 0s - loss: 0.5549 - accuracy:
0.8906
72/750 [=>.....] - ETA: 0s - loss: 0.5372 - accuracy:
0.9041
143/750 [====>.....] - ETA: 0s - loss: 0.5400 - accuracy:
215/750 [======>.....] - ETA: 0s - loss: 0.5422 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.5440 - accuracy:
0.9024
356/750 [========>.....] - ETA: 0s - loss: 0.5504 - accuracy:
417/750 [========>.....] - ETA: 0s - loss: 0.5491 - accuracy:
486/750 [==========>.....] - ETA: 0s - loss: 0.5483 - accuracy:
556/750 [============>.....] - ETA: 0s - loss: 0.5496 - accuracy:
625/750 [===============>.....] - ETA: 0s - loss: 0.5527 - accuracy:
0.8977 - val_loss: 0.6240 - val_accuracy: 0.8717
Epoch 213/220
1/750 [.....] - ETA: 0s - loss: 0.4452 - accuracy:
0.9219
72/750 [=>.....] - ETA: 0s - loss: 0.5512 - accuracy:
143/750 [====>.....] - ETA: 0s - loss: 0.5506 - accuracy:
0.9011
214/750 [=====>..... - ETA: 0s - loss: 0.5541 - accuracy:
0.8986
284/750 [=======>.....] - ETA: 0s - loss: 0.5538 - accuracy:
0.8984
356/750 [=======>.....] - ETA: 0s - loss: 0.5572 - accuracy:
0.8968
427/750 [=========>.....] - ETA: 0s - loss: 0.5559 - accuracy:
0.8977
498/750 [==========>.....] - ETA: 0s - loss: 0.5565 - accuracy:
554/750 [==========>.....] - ETA: 0s - loss: 0.5561 - accuracy:
0.8982
696/750 [============>...] - ETA: 0s - loss: 0.5549 - accuracy:
0.8976
0.8976 - val_loss: 0.6178 - val_accuracy: 0.8746
```

```
1/750 [.....] - ETA: 0s - loss: 0.4358 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.5353 - accuracy:
142/750 [====>.....] - ETA: 0s - loss: 0.5434 - accuracy:
0.9003
212/750 [======>...... - ETA: 0s - loss: 0.5468 - accuracy:
0.8992
284/750 [=======>.....] - ETA: 0s - loss: 0.5452 - accuracy:
0.8998
353/750 [=======>.....] - ETA: 0s - loss: 0.5498 - accuracy:
0.8987
426/750 [==========>.....] - ETA: 0s - loss: 0.5493 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.5481 - accuracy:
570/750 [===============>.....] - ETA: 0s - loss: 0.5506 - accuracy:
642/750 [============>....] - ETA: 0s - loss: 0.5512 - accuracy:
0.8982 - val loss: 0.6194 - val accuracy: 0.8746
Epoch 215/220
1/750 [.................] - ETA: 0s - loss: 0.4089 - accuracy:
0.9688
72/750 [=>.....] - ETA: 0s - loss: 0.5641 - accuracy:
142/750 [====>...... - ETA: 0s - loss: 0.5525 - accuracy:
0.8990
213/750 [======>...... - ETA: 0s - loss: 0.5500 - accuracy:
284/750 [=======>..... - ETA: 0s - loss: 0.5488 - accuracy:
357/750 [=======>.....] - ETA: 0s - loss: 0.5512 - accuracy:
0.9001
428/750 [=========>...... - ETA: 0s - loss: 0.5506 - accuracy:
0.8996
498/750 [=========>.....] - ETA: 0s - loss: 0.5532 - accuracy:
566/750 [============>.....] - ETA: 0s - loss: 0.5544 - accuracy:
0.8982
637/750 [============>....] - ETA: 0s - loss: 0.5543 - accuracy:
0.8985
0.8983
```

```
0.8984 - val loss: 0.6148 - val accuracy: 0.8742
Epoch 216/220
1/750 [.....] - ETA: 0s - loss: 0.5797 - accuracy:
72/750 [=>.....] - ETA: 0s - loss: 0.5357 - accuracy:
0.9067
144/750 [====>...... - ETA: 0s - loss: 0.5456 - accuracy:
0.9017
216/750 [======>.....] - ETA: 0s - loss: 0.5443 - accuracy:
0.9029
288/750 [=======>.....] - ETA: 0s - loss: 0.5455 - accuracy:
0.9026
362/750 [=======>.....] - ETA: 0s - loss: 0.5474 - accuracy:
434/750 [=========>.....] - ETA: 0s - loss: 0.5495 - accuracy:
0.8994
504/750 [============>.....] - ETA: 0s - loss: 0.5518 - accuracy:
0.8983
577/750 [===========>.....] - ETA: 0s - loss: 0.5523 - accuracy:
0.8983
0.8986
0.8981 - val loss: 0.6221 - val accuracy: 0.8721
Epoch 217/220
1/750 [.....] - ETA: 0s - loss: 0.4640 - accuracy:
68/750 [=>.....] - ETA: 0s - loss: 0.5485 - accuracy:
140/750 [====>.....] - ETA: 0s - loss: 0.5497 - accuracy:
0.9006
212/750 [=====>.....] - ETA: 0s - loss: 0.5485 - accuracy:
0.8995
282/750 [=======>.....] - ETA: 0s - loss: 0.5478 - accuracy:
0.8999
354/750 [=======>...... - ETA: 0s - loss: 0.5500 - accuracy:
426/750 [=========>.....] - ETA: 0s - loss: 0.5504 - accuracy:
497/750 [==========>.....] - ETA: 0s - loss: 0.5513 - accuracy:
0.8984
568/750 [==========>.....] - ETA: 0s - loss: 0.5528 - accuracy:
0.8977
0.8975
```

```
0.8987
0.8984 - val loss: 0.6140 - val accuracy: 0.8750
Epoch 218/220
1/750 [.....] - ETA: 0s - loss: 0.4719 - accuracy:
0.9531
73/750 [=>.....] - ETA: 0s - loss: 0.5352 - accuracy:
145/750 [====>.....] - ETA: 0s - loss: 0.5415 - accuracy:
0.8997
215/750 [======>.....] - ETA: 0s - loss: 0.5473 - accuracy:
0.8990
285/750 [=======>..... - ETA: 0s - loss: 0.5498 - accuracy:
0.8986
354/750 [========>.....] - ETA: 0s - loss: 0.5533 - accuracy:
424/750 [=========>...............] - ETA: 0s - loss: 0.5527 - accuracy:
0.8978
496/750 [=========>.....] - ETA: 0s - loss: 0.5510 - accuracy:
0.8989
559/750 [============>.....] - ETA: 0s - loss: 0.5474 - accuracy:
629/750 [============>....] - ETA: 0s - loss: 0.5495 - accuracy:
0.9003
700/750 [===============>..] - ETA: 0s - loss: 0.5502 - accuracy:
0.9001 - val_loss: 0.6138 - val_accuracy: 0.8733
Epoch 219/220
1/750 [.....] - ETA: 0s - loss: 0.3915 - accuracy:
71/750 [=>.....] - ETA: 0s - loss: 0.5413 - accuracy:
143/750 [====>...... - ETA: 0s - loss: 0.5415 - accuracy:
0.9036
213/750 [======>.....] - ETA: 0s - loss: 0.5426 - accuracy:
0.9021
284/750 [=======>.....] - ETA: 0s - loss: 0.5465 - accuracy:
355/750 [=======>.....] - ETA: 0s - loss: 0.5488 - accuracy:
0.8989
423/750 [========>..... - ETA: 0s - loss: 0.5513 - accuracy:
496/750 [=========>.....] - ETA: 0s - loss: 0.5502 - accuracy:
0.8978
568/750 [==========>.....] - ETA: 0s - loss: 0.5487 - accuracy:
0.8986
```

```
0.8985
0.8988
0.8990 - val_loss: 0.6144 - val_accuracy: 0.8753
Epoch 220/220
1/750 [.....] - ETA: 0s - loss: 0.5911 - accuracy:
0.8281
71/750 [=>.....] - ETA: 0s - loss: 0.5405 - accuracy:
138/750 [====>.....] - ETA: 0s - loss: 0.5399 - accuracy:
209/750 [=====>.....] - ETA: 0s - loss: 0.5480 - accuracy:
0.8983
279/750 [=======>.....] - ETA: 0s - loss: 0.5460 - accuracy:
350/750 [========>.....] - ETA: 0s - loss: 0.5431 - accuracy:
0.8999
420/750 [========>..... - ETA: 0s - loss: 0.5443 - accuracy:
0.8997
490/750 [==========>.....] - ETA: 0s - loss: 0.5457 - accuracy:
562/750 [==========>.....] - ETA: 0s - loss: 0.5476 - accuracy:
0.8985
0.8993 - val_loss: 0.6125 - val_accuracy: 0.8742
1/313 [...... 0.4861 - accuracy:
102/313 [======>.....] - ETA: 0s - loss: 0.6386 - accuracy:
203/313 [=========>.....] - ETA: 0s - loss: 0.6505 - accuracy:
0.8666
Testing loss: 0.6402713656425476
Testing accuracy: 86.6599977016449%
```