```
Epoch 1/200
35/35 [==============================] - 16s 318ms/step - loss: 0.6922 - acc
uracy: 0.5468 - val_loss: 0.6672 - val_accuracy: 0.6818
Epoch 2/200
35/35 [==============================] - 13s 363ms/step - loss: 0.6766 - acc
uracy: 0.5840 - val_loss: 0.6549 - val_accuracy: 0.6982
Epoch 3/200
35/35 [==============================] - 8s 242ms/step - loss: 0.6628 - accu
racy: 0.6294 - val_loss: 0.6405 - val_accuracy: 0.7745
Epoch 4/200
35/35 [==============================] - 9s 252ms/step - loss: 0.6528 - accu
racy: 0.6585 - val_loss: 0.6290 - val_accuracy: 0.7836
Epoch 5/200
35/35 [==============================] - 13s 369ms/step - loss: 0.6433 - acc
uracy: 0.6698 - val_loss: 0.6172 - val_accuracy: 0.7655
Epoch 6/200
35/35 [==============================] - 9s 243ms/step - loss: 0.6347 - accu
racy: 0.6835 - val_loss: 0.6083 - val_accuracy: 0.7727
Epoch 7/200
35/35 [==============================] - 9s 247ms/step - loss: 0.6309 - accu
racy: 0.6762 - val_loss: 0.6014 - val_accuracy: 0.7327
Epoch 8/200
35/35 [==============================] - 11s 312ms/step - loss: 0.6197 - acc
uracy: 0.6857 - val_loss: 0.5939 - val_accuracy: 0.7255
Epoch 9/200
35/35 [==============================] - 7s 211ms/step - loss: 0.6177 - accu
racy: 0.6876 - val_loss: 0.5972 - val_accuracy: 0.6782
Epoch 10/200
35/35 [==============================] - 7s 210ms/step - loss: 0.6087 - accu
racy: 0.6912 - val_loss: 0.5717 - val_accuracy: 0.7836
Epoch 11/200
35/35 [==============================] - 8s 236ms/step - loss: 0.5968 - accu
racy: 0.7148 - val_loss: 0.5656 - val_accuracy: 0.7764
Epoch 12/200
35/35 [==============================] - 7s 209ms/step - loss: 0.5992 - accu
racy: 0.6971 - val_loss: 0.5569 - val_accuracy: 0.8055
Epoch 13/200
35/35 [==============================] - 7s 210ms/step - loss: 0.6003 - accu
racy: 0.6939 - val_loss: 0.5708 - val_accuracy: 0.7127
Epoch 14/200
35/35 [==============================] - 7s 208ms/step - loss: 0.5885 - accu
racy: 0.7175 - val_loss: 0.5568 - val_accuracy: 0.7382
Epoch 15/200
35/35 [==============================] - 8s 218ms/step - loss: 0.5809 - accu
racy: 0.7230 - val_loss: 0.5431 - val_accuracy: 0.7764
Epoch 16/200
35/35 [==============================] - 8s 240ms/step - loss: 0.5817 - accu
racy: 0.7207 - val_loss: 0.5357 - val_accuracy: 0.7927
Epoch 17/200
35/35 [==============================] - 231s 7s/step - loss: 0.5834 - accur
acy: 0.7148 - val_loss: 0.5393 - val_accuracy: 0.7709
Epoch 18/200
35/35 [==============================] - 8s 216ms/step - loss: 0.5770 - accu
racy: 0.7257 - val_loss: 0.5338 - val_accuracy: 0.7818
Epoch 19/200
35/35 [==============================] - 7s 212ms/step - loss: 0.5657 - accu
racy: 0.7275 - val_loss: 0.5201 - val_accuracy: 0.8109
Epoch 20/200
35/35 [==============================] - 644s 19s/step - loss: 0.5624 - accu
racy: 0.7380 - val_loss: 0.5159 - val_accuracy: 0.8182
```

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Epoch 21/200
35/35 [==============================] - 369s 10s/step - loss: 0.5645 - accu
racy: 0.7280 - val_loss: 0.5162 - val_accuracy: 0.7909
Epoch 22/200
35/35 [==============================] - 8s 214ms/step - loss: 0.5577 - accu
racy: 0.7416 - val_loss: 0.5187 - val_accuracy: 0.7727
Epoch 23/200
35/35 [==============================] - 7s 209ms/step - loss: 0.5555 - accu
racy: 0.7389 - val_loss: 0.5036 - val_accuracy: 0.8218
Epoch 24/200
35/35 [==============================] - 7s 209ms/step - loss: 0.5540 - accu
racy: 0.7425 - val_loss: 0.5047 - val_accuracy: 0.7982
Epoch 25/200
35/35 [==============================] - 8s 216ms/step - loss: 0.5498 - accu
racy: 0.7452 - val_loss: 0.4974 - val_accuracy: 0.8127
Epoch 26/200
35/35 [==============================] - 8s 231ms/step - loss: 0.5459 - accu
racy: 0.7361 - val_loss: 0.4930 - val_accuracy: 0.8218
Epoch 27/200
35/35 [==============================] - 7s 213ms/step - loss: 0.5377 - accu
racy: 0.7516 - val_loss: 0.4971 - val_accuracy: 0.7891
Epoch 28/200
35/35 [==============================] - 7s 209ms/step - loss: 0.5371 - accu
racy: 0.7493 - val_loss: 0.4863 - val_accuracy: 0.8291
Epoch 29/200
35/35 [==============================] - 7s 212ms/step - loss: 0.5318 - accu
racy: 0.7661 - val_loss: 0.4811 - val_accuracy: 0.8473
Epoch 30/200
35/35 [==============================] - 7s 211ms/step - loss: 0.5291 - accu
racy: 0.7629 - val_loss: 0.4916 - val_accuracy: 0.7927
Epoch 31/200
35/35 [==============================] - 7s 210ms/step - loss: 0.5298 - accu
racy: 0.7625 - val_loss: 0.4823 - val_accuracy: 0.8109
Epoch 32/200
35/35 [==============================] - 7s 211ms/step - loss: 0.5194 - accu
racy: 0.7757 - val_loss: 0.4699 - val_accuracy: 0.8618
Epoch 33/200
35/35 [==============================] - 9s 257ms/step - loss: 0.5154 - accu
racy: 0.7679 - val_loss: 0.4654 - val_accuracy: 0.8600
Epoch 34/200
35/35 [==============================] - 10s 283ms/step - loss: 0.5121 - acc
uracy: 0.7784 - val_loss: 0.4633 - val_accuracy: 0.8527
Epoch 35/200
35/35 [==============================] - 7s 213ms/step - loss: 0.5081 - accu
racy: 0.7784 - val_loss: 0.4587 - val_accuracy: 0.8618
Epoch 36/200
35/35 [==============================] - 8s 223ms/step - loss: 0.5044 - accu
racy: 0.7825 - val_loss: 0.4595 - val_accuracy: 0.8382
Epoch 37/200
35/35 [==============================] - 7s 212ms/step - loss: 0.5021 - accu
racy: 0.7884 - val_loss: 0.4532 - val_accuracy: 0.8709
Epoch 38/200
35/35 [==============================] - 8s 216ms/step - loss: 0.4946 - accu
racy: 0.7925 - val_loss: 0.4483 - val_accuracy: 0.8764
Epoch 39/200
35/35 [==============================] - 7s 212ms/step - loss: 0.4953 - accu
racy: 0.7979 - val_loss: 0.4479 - val_accuracy: 0.8527
Epoch 40/200
35/35 [==============================] - 8s 218ms/step - loss: 0.4928 - accu
racy: 0.8015 - val_loss: 0.4437 - val_accuracy: 0.8727
Epoch 41/200
```

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35/35 [==============================] - 7s 213ms/step - loss: 0.4954 - accu
racy: 0.7888 - val_loss: 0.4398 - val_accuracy: 0.8764
Epoch 42/200
35/35 [==============================] - 7s 210ms/step - loss: 0.4815 - accu
racy: 0.7970 - val_loss: 0.4365 - val_accuracy: 0.8727
Epoch 43/200
35/35 [==============================] - 7s 211ms/step - loss: 0.4782 - accu
racy: 0.8006 - val_loss: 0.4342 - val_accuracy: 0.8618
Epoch 44/200
35/35 [==============================] - 7s 213ms/step - loss: 0.4751 - accu
racy: 0.8038 - val_loss: 0.4323 - val_accuracy: 0.8636
Epoch 45/200
35/35 [==============================] - 7s 208ms/step - loss: 0.4666 - accu
racy: 0.8134 - val_loss: 0.4250 - val_accuracy: 0.8727
Epoch 46/200
35/35 [==============================] - 7s 210ms/step - loss: 0.4700 - accu
racy: 0.8074 - val_loss: 0.4227 - val_accuracy: 0.8709
Epoch 47/200
35/35 [==============================] - 7s 208ms/step - loss: 0.4626 - accu
racy: 0.8079 - val_loss: 0.4195 - val_accuracy: 0.8691
Epoch 48/200
35/35 [==============================] - 7s 208ms/step - loss: 0.4635 - accu
racy: 0.8134 - val_loss: 0.4182 - val_accuracy: 0.8655
Epoch 49/200
35/35 [==============================] - 7s 209ms/step - loss: 0.4655 - accu
racy: 0.8061 - val_loss: 0.4156 - val_accuracy: 0.8655
Epoch 50/200
35/35 [==============================] - 7s 208ms/step - loss: 0.4641 - accu
racy: 0.8038 - val_loss: 0.4213 - val_accuracy: 0.8345
Epoch 51/200
35/35 [==============================] - 7s 208ms/step - loss: 0.4532 - accu
racy: 0.8115 - val_loss: 0.4125 - val_accuracy: 0.8636
Epoch 52/200
35/35 [==============================] - 7s 216ms/step - loss: 0.4528 - accu
racy: 0.8143 - val_loss: 0.4093 - val_accuracy: 0.8655
Epoch 53/200
35/35 [==============================] - 7s 212ms/step - loss: 0.4532 - accu
racy: 0.8170 - val_loss: 0.4083 - val_accuracy: 0.8691
Epoch 54/200
35/35 [==============================] - 8s 217ms/step - loss: 0.4539 - accu
racy: 0.8161 - val_loss: 0.4060 - val_accuracy: 0.8691
Epoch 55/200
35/35 [==============================] - 8s 227ms/step - loss: 0.4526 - accu
racy: 0.8170 - val_loss: 0.4053 - val_accuracy: 0.8691
Epoch 56/200
35/35 [==============================] - 9s 245ms/step - loss: 0.4460 - accu
racy: 0.8215 - val_loss: 0.4024 - val_accuracy: 0.8655
Epoch 57/200
35/35 [==============================] - 8s 219ms/step - loss: 0.4444 - accu
racy: 0.8220 - val_loss: 0.4026 - val_accuracy: 0.8564
```

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Epoch 58/200
35/35 [==============================] - 7s 214ms/step - loss: 0.4485 - accu
racy: 0.8115 - val_loss: 0.4005 - val_accuracy: 0.8636
Epoch 59/200
35/35 [==============================] - 13s 378ms/step - loss: 0.4435 - acc
uracy: 0.8197 - val_loss: 0.3967 - val_accuracy: 0.8673
Epoch 60/200
35/35 [==============================] - 16s 462ms/step - loss: 0.4396 - acc
uracy: 0.8220 - val_loss: 0.3976 - val_accuracy: 0.8636
Epoch 61/200
35/35 [==============================] - 8s 227ms/step - loss: 0.4421 - accu
racy: 0.8152 - val_loss: 0.3972 - val_accuracy: 0.8673
Epoch 62/200
35/35 [==============================] - 8s 216ms/step - loss: 0.4364 - accu
racy: 0.8243 - val_loss: 0.3943 - val_accuracy: 0.8618
Epoch 63/200
35/35 [==============================] - 8s 218ms/step - loss: 0.4348 - accu
racy: 0.8147 - val_loss: 0.3915 - val_accuracy: 0.8673
Epoch 64/200
35/35 [==============================] - 8s 216ms/step - loss: 0.4372 - accu
racy: 0.8288 - val_loss: 0.3950 - val_accuracy: 0.8527
Epoch 65/200
35/35 [==============================] - 8s 216ms/step - loss: 0.4282 - accu
racy: 0.8274 - val_loss: 0.3874 - val_accuracy: 0.8727
Epoch 66/200
35/35 [==============================] - 8s 224ms/step - loss: 0.4246 - accu
racy: 0.8361 - val_loss: 0.3944 - val_accuracy: 0.8418
Epoch 67/200
35/35 [==============================] - 8s 226ms/step - loss: 0.4299 - accu
racy: 0.8279 - val_loss: 0.3860 - val_accuracy: 0.8691
Epoch 68/200
35/35 [==============================] - 9s 255ms/step - loss: 0.4275 - accu
racy: 0.8283 - val_loss: 0.3868 - val_accuracy: 0.8673
Epoch 69/200
35/35 [==============================] - 9s 258ms/step - loss: 0.4265 - accu
racy: 0.8279 - val_loss: 0.3886 - val_accuracy: 0.8545
Epoch 70/200
35/35 [==============================] - 8s 239ms/step - loss: 0.4242 - accu
racy: 0.8279 - val_loss: 0.3835 - val_accuracy: 0.8655
Epoch 71/200
35/35 [==============================] - 9s 212ms/step - loss: 0.4240 - accu
racy: 0.8351 - val_loss: 0.3922 - val_accuracy: 0.8309
Epoch 72/200
35/35 [==============================] - 7s 212ms/step - loss: 0.4211 - accu
racy: 0.8238 - val_loss: 0.3824 - val_accuracy: 0.8673
Epoch 73/200
35/35 [==============================] - 7s 212ms/step - loss: 0.4214 - accu
racy: 0.8252 - val_loss: 0.3804 - val_accuracy: 0.8691
Epoch 74/200
35/35 [==============================] - 8s 222ms/step - loss: 0.4137 - accu
racy: 0.8356 - val_loss: 0.3847 - val_accuracy: 0.8473
Epoch 75/200
35/35 [==============================] - 7s 210ms/step - loss: 0.4137 - accu
racy: 0.8397 - val_loss: 0.3877 - val_accuracy: 0.8327
Epoch 76/200
35/35 [==============================] - 7s 213ms/step - loss: 0.4180 - accu
racy: 0.8315 - val_loss: 0.3809 - val_accuracy: 0.8491
Epoch 77/200
35/35 [==============================] - 8s 217ms/step - loss: 0.4085 - accu
racy: 0.8415 - val_loss: 0.3764 - val_accuracy: 0.8673
Epoch 78/200
```

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35/35 [==============================] - 8s 229ms/step - loss: 0.4147 - accu
racy: 0.8379 - val_loss: 0.3907 - val_accuracy: 0.8200
Epoch 79/200
35/35 [==============================] - 9s 246ms/step - loss: 0.4117 - accu
racy: 0.8315 - val_loss: 0.3805 - val_accuracy: 0.8527
Epoch 80/200
35/35 [==============================] - 10s 284ms/step - loss: 0.4122 - acc
uracy: 0.8311 - val_loss: 0.3749 - val_accuracy: 0.8709
Epoch 81/200
35/35 [==============================] - 8s 223ms/step - loss: 0.4077 - accu
racy: 0.8420 - val_loss: 0.3843 - val_accuracy: 0.8364
Epoch 82/200
35/35 [==============================] - 8s 239ms/step - loss: 0.4143 - accu
racy: 0.8361 - val_loss: 0.3757 - val_accuracy: 0.8545
Epoch 83/200
35/35 [==============================] - 7s 215ms/step - loss: 0.4030 - accu
racy: 0.8365 - val_loss: 0.3724 - val_accuracy: 0.8673
Epoch 84/200
35/35 [==============================] - 7s 214ms/step - loss: 0.4016 - accu
racy: 0.8397 - val_loss: 0.3735 - val_accuracy: 0.8509
Epoch 85/200
35/35 [==============================] - 8s 218ms/step - loss: 0.4036 - accu
racy: 0.8311 - val_loss: 0.3728 - val_accuracy: 0.8509
Epoch 86/200
35/35 [==============================] - 16s 459ms/step - loss: 0.3994 - acc
uracy: 0.8488 - val_loss: 0.3737 - val_accuracy: 0.8509
Epoch 87/200
35/35 [==============================] - 9s 255ms/step - loss: 0.3995 - accu
racy: 0.8442 - val_loss: 0.3697 - val_accuracy: 0.8582
Epoch 88/200
35/35 [==============================] - 7s 213ms/step - loss: 0.4023 - accu
racy: 0.8383 - val_loss: 0.3994 - val_accuracy: 0.8055
Epoch 89/200
35/35 [==============================] - 7s 212ms/step - loss: 0.4063 - accu
racy: 0.8356 - val_loss: 0.3687 - val_accuracy: 0.8673
Epoch 90/200
35/35 [==============================] - 7s 212ms/step - loss: 0.4007 - accu
racy: 0.8420 - val_loss: 0.3800 - val_accuracy: 0.8345
Epoch 91/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3922 - accu
racy: 0.8488 - val_loss: 0.3681 - val_accuracy: 0.8636
Epoch 92/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3923 - accu
racy: 0.8438 - val_loss: 0.3660 - val_accuracy: 0.8527
Epoch 93/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3903 - accu
racy: 0.8442 - val_loss: 0.3726 - val_accuracy: 0.8636
Epoch 94/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3952 - accu
racy: 0.8474 - val_loss: 0.3666 - val_accuracy: 0.8527
Epoch 95/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3905 - accu
racy: 0.8479 - val_loss: 0.3649 - val_accuracy: 0.8636
Epoch 96/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3932 - accu
racy: 0.8447 - val_loss: 0.3654 - val_accuracy: 0.8491
Epoch 97/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3862 - accu
racy: 0.8488 - val_loss: 0.3627 - val_accuracy: 0.8673
Epoch 98/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3891 - accu
```

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racy: 0.8415 - val_loss: 0.3633 - val_accuracy: 0.8582
Epoch 99/200
35/35 [==============================] - 7s 212ms/step - loss: 0.3863 - accu
racy: 0.8529 - val_loss: 0.3624 - val_accuracy: 0.8691
Epoch 100/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3869 - accu
racy: 0.8515 - val_loss: 0.3678 - val_accuracy: 0.8473
Epoch 101/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3844 - accu
racy: 0.8506 - val_loss: 0.3646 - val_accuracy: 0.8473
Epoch 102/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3834 - accu
racy: 0.8488 - val_loss: 0.3608 - val_accuracy: 0.8709
Epoch 103/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3783 - accu
racy: 0.8529 - val_loss: 0.3627 - val_accuracy: 0.8527
Epoch 104/200
35/35 [==============================] - 15s 432ms/step - loss: 0.3840 - acc
uracy: 0.8515 - val_loss: 0.3655 - val_accuracy: 0.8455
Epoch 105/200
35/35 [==============================] - 8s 225ms/step - loss: 0.3839 - accu
racy: 0.8520 - val_loss: 0.3634 - val_accuracy: 0.8473
Epoch 106/200
35/35 [==============================] - 8s 221ms/step - loss: 0.3821 - accu
racy: 0.8547 - val_loss: 0.3626 - val_accuracy: 0.8473
Epoch 107/200
35/35 [==============================] - 9s 230ms/step - loss: 0.3792 - accu
racy: 0.8569 - val_loss: 0.3658 - val_accuracy: 0.8455
Epoch 108/200
35/35 [==============================] - 8s 215ms/step - loss: 0.3766 - accu
racy: 0.8501 - val_loss: 0.3588 - val_accuracy: 0.8564
Epoch 109/200
35/35 [==============================] - 9s 252ms/step - loss: 0.3819 - accu
racy: 0.8501 - val_loss: 0.3707 - val_accuracy: 0.8273
Epoch 110/200
35/35 [==============================] - 8s 240ms/step - loss: 0.3717 - accu
racy: 0.8538 - val_loss: 0.3592 - val_accuracy: 0.8455
Epoch 111/200
35/35 [==============================] - 8s 215ms/step - loss: 0.3713 - accu
racy: 0.8492 - val_loss: 0.3607 - val_accuracy: 0.8473
Epoch 112/200
35/35 [==============================] - 8s 217ms/step - loss: 0.3735 - accu
racy: 0.8588 - val_loss: 0.3579 - val_accuracy: 0.8455
Epoch 113/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3726 - accu
racy: 0.8547 - val_loss: 0.3591 - val_accuracy: 0.8455
Epoch 114/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3759 - accu
racy: 0.8479 - val_loss: 0.3566 - val_accuracy: 0.8655
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Epoch 115/200
35/35 [==============================] - 8s 210ms/step - loss: 0.3710 - accu
racy: 0.8592 - val_loss: 0.3532 - val_accuracy: 0.8636
Epoch 116/200
35/35 [==============================] - 9s 259ms/step - loss: 0.3673 - accu
racy: 0.8606 - val_loss: 0.3528 - val_accuracy: 0.8564
Epoch 117/200
35/35 [==============================] - 11s 321ms/step - loss: 0.3643 - acc
uracy: 0.8588 - val_loss: 0.3623 - val_accuracy: 0.8400
Epoch 118/200
35/35 [==============================] - 8s 218ms/step - loss: 0.3657 - accu
racy: 0.8601 - val_loss: 0.3588 - val_accuracy: 0.8455
Epoch 119/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3617 - accu
racy: 0.8674 - val_loss: 0.3527 - val_accuracy: 0.8564
Epoch 120/200
35/35 [==============================] - 8s 235ms/step - loss: 0.3661 - accu
racy: 0.8551 - val_loss: 0.3527 - val_accuracy: 0.8509
Epoch 121/200
35/35 [==============================] - 9s 248ms/step - loss: 0.3598 - accu
racy: 0.8579 - val_loss: 0.3491 - val_accuracy: 0.8582
Epoch 122/200
35/35 [==============================] - 9s 259ms/step - loss: 0.3667 - accu
racy: 0.8588 - val_loss: 0.3615 - val_accuracy: 0.8364
Epoch 123/200
35/35 [==============================] - 31s 912ms/step - loss: 0.3666 - acc
uracy: 0.8606 - val_loss: 0.3513 - val_accuracy: 0.8545
Epoch 124/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3656 - accu
racy: 0.8615 - val_loss: 0.3504 - val_accuracy: 0.8673
Epoch 125/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3664 - accu
racy: 0.8547 - val_loss: 0.3491 - val_accuracy: 0.8545
Epoch 126/200
35/35 [==============================] - 7s 212ms/step - loss: 0.3586 - accu
racy: 0.8597 - val_loss: 0.3656 - val_accuracy: 0.8273
Epoch 127/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3600 - accu
racy: 0.8660 - val_loss: 0.3463 - val_accuracy: 0.8545
Epoch 128/200
35/35 [==============================] - 10s 292ms/step - loss: 0.3553 - acc
uracy: 0.8656 - val_loss: 0.3544 - val_accuracy: 0.8455
Epoch 129/200
35/35 [==============================] - 8s 229ms/step - loss: 0.3661 - accu
racy: 0.8615 - val_loss: 0.3527 - val_accuracy: 0.8491
Epoch 130/200
35/35 [==============================] - 9s 249ms/step - loss: 0.3584 - accu
racy: 0.8665 - val_loss: 0.3546 - val_accuracy: 0.8455
Epoch 131/200
35/35 [==============================] - 8s 230ms/step - loss: 0.3573 - accu
racy: 0.8629 - val_loss: 0.3436 - val_accuracy: 0.8618
Epoch 132/200
35/35 [==============================] - 12s 333ms/step - loss: 0.3548 - acc
uracy: 0.8656 - val_loss: 0.3514 - val_accuracy: 0.8473
Epoch 133/200
35/35 [==============================] - 8s 232ms/step - loss: 0.3534 - accu
racy: 0.8619 - val_loss: 0.3439 - val_accuracy: 0.8582
Epoch 134/200
35/35 [==============================] - 8s 220ms/step - loss: 0.3500 - accu
racy: 0.8642 - val_loss: 0.3485 - val_accuracy: 0.8473
Epoch 135/200
```

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35/35 [==============================] - 8s 232ms/step - loss: 0.3504 - accu
racy: 0.8660 - val_loss: 0.3426 - val_accuracy: 0.8582
Epoch 136/200
35/35 [==============================] - 8s 227ms/step - loss: 0.3575 - accu
racy: 0.8629 - val_loss: 0.3480 - val_accuracy: 0.8527
Epoch 137/200
35/35 [==============================] - 11s 307ms/step - loss: 0.3516 - acc
uracy: 0.8606 - val_loss: 0.3423 - val_accuracy: 0.8527
Epoch 138/200
35/35 [==============================] - 8s 216ms/step - loss: 0.3584 - accu
racy: 0.8610 - val_loss: 0.3483 - val_accuracy: 0.8509
Epoch 139/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3468 - accu
racy: 0.8724 - val_loss: 0.3389 - val_accuracy: 0.8655
Epoch 140/200
35/35 [==============================] - 8s 218ms/step - loss: 0.3510 - accu
racy: 0.8674 - val_loss: 0.3451 - val_accuracy: 0.8509
Epoch 141/200
35/35 [==============================] - 12s 334ms/step - loss: 0.3483 - acc
uracy: 0.8588 - val_loss: 0.3473 - val_accuracy: 0.8473
Epoch 142/200
35/35 [==============================] - 8s 239ms/step - loss: 0.3476 - accu
racy: 0.8674 - val_loss: 0.3369 - val_accuracy: 0.8600
Epoch 143/200
35/35 [==============================] - 8s 219ms/step - loss: 0.3444 - accu
racy: 0.8674 - val_loss: 0.3401 - val_accuracy: 0.8582
Epoch 144/200
35/35 [==============================] - 8s 220ms/step - loss: 0.3449 - accu
racy: 0.8728 - val_loss: 0.3470 - val_accuracy: 0.8455
Epoch 145/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3396 - accu
racy: 0.8647 - val_loss: 0.3413 - val_accuracy: 0.8527
Epoch 146/200
35/35 [==============================] - 8s 216ms/step - loss: 0.3441 - accu
racy: 0.8697 - val_loss: 0.3404 - val_accuracy: 0.8527
Epoch 147/200
35/35 [==============================] - 7s 215ms/step - loss: 0.3449 - accu
racy: 0.8638 - val_loss: 0.3364 - val_accuracy: 0.8582
Epoch 148/200
35/35 [==============================] - 7s 212ms/step - loss: 0.3402 - accu
racy: 0.8651 - val_loss: 0.3401 - val_accuracy: 0.8509
Epoch 149/200
35/35 [==============================] - 8s 235ms/step - loss: 0.3352 - accu
racy: 0.8697 - val_loss: 0.3334 - val_accuracy: 0.8582
Epoch 150/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3426 - accu
racy: 0.8629 - val_loss: 0.3353 - val_accuracy: 0.8600
Epoch 151/200
35/35 [==============================] - 8s 220ms/step - loss: 0.3427 - accu
racy: 0.8747 - val_loss: 0.3394 - val_accuracy: 0.8509
Epoch 152/200
35/35 [==============================] - 8s 231ms/step - loss: 0.3396 - accu
racy: 0.8724 - val_loss: 0.3352 - val_accuracy: 0.8564
Epoch 153/200
35/35 [==============================] - 10s 299ms/step - loss: 0.3389 - acc
uracy: 0.8747 - val_loss: 0.3334 - val_accuracy: 0.8545
Epoch 154/200
35/35 [==============================] - 8s 216ms/step - loss: 0.3411 - accu
racy: 0.8747 - val_loss: 0.3335 - val_accuracy: 0.8545
Epoch 155/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3341 - accu
```

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racy: 0.8678 - val_loss: 0.3320 - val_accuracy: 0.8564
Epoch 156/200
35/35 [==============================] - 8s 218ms/step - loss: 0.3362 - accu
racy: 0.8760 - val_loss: 0.3450 - val_accuracy: 0.8436
Epoch 157/200
35/35 [==============================] - 8s 224ms/step - loss: 0.3393 - accu
racy: 0.8778 - val_loss: 0.3491 - val_accuracy: 0.8345
Epoch 158/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3384 - accu
racy: 0.8728 - val_loss: 0.3315 - val_accuracy: 0.8745
Epoch 159/200
35/35 [==============================] - 23s 658ms/step - loss: 0.3377 - acc
uracy: 0.8710 - val_loss: 0.3449 - val_accuracy: 0.8345
Epoch 160/200
35/35 [==============================] - 7s 217ms/step - loss: 0.3306 - accu
racy: 0.8751 - val_loss: 0.3403 - val_accuracy: 0.8455
Epoch 161/200
35/35 [==============================] - 8s 216ms/step - loss: 0.3341 - accu
racy: 0.8733 - val_loss: 0.3279 - val_accuracy: 0.8618
Epoch 162/200
35/35 [==============================] - 8s 217ms/step - loss: 0.3296 - accu
racy: 0.8751 - val_loss: 0.3412 - val_accuracy: 0.8436
Epoch 163/200
35/35 [==============================] - 8s 217ms/step - loss: 0.3277 - accu
racy: 0.8742 - val_loss: 0.3275 - val_accuracy: 0.8600
Epoch 164/200
35/35 [==============================] - 7s 214ms/step - loss: 0.3313 - accu
racy: 0.8710 - val_loss: 0.3332 - val_accuracy: 0.8545
Epoch 165/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3245 - accu
racy: 0.8774 - val_loss: 0.3268 - val_accuracy: 0.8564
Epoch 166/200
35/35 [==============================] - 7s 214ms/step - loss: 0.3322 - accu
racy: 0.8747 - val_loss: 0.3303 - val_accuracy: 0.8545
Epoch 167/200
35/35 [==============================] - 8s 233ms/step - loss: 0.3263 - accu
racy: 0.8810 - val_loss: 0.3238 - val_accuracy: 0.8636
Epoch 168/200
35/35 [==============================] - 8s 217ms/step - loss: 0.3237 - accu
racy: 0.8742 - val_loss: 0.3296 - val_accuracy: 0.8545
Epoch 169/200
35/35 [==============================] - 8s 219ms/step - loss: 0.3234 - accu
racy: 0.8769 - val_loss: 0.3382 - val_accuracy: 0.8418
Epoch 170/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3229 - accu
racy: 0.8833 - val_loss: 0.3288 - val_accuracy: 0.8564
Epoch 171/200
```

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35/35 [==============================] - 8s 215ms/step - loss: 0.3178 - accu
racy: 0.8819 - val_loss: 0.3258 - val_accuracy: 0.8582
Epoch 172/200
35/35 [==============================] - 7s 212ms/step - loss: 0.3342 - accu
racy: 0.8710 - val_loss: 0.3400 - val_accuracy: 0.8418
Epoch 173/200
35/35 [==============================] - 7s 210ms/step - loss: 0.3252 - accu
racy: 0.8760 - val_loss: 0.3257 - val_accuracy: 0.8618
Epoch 174/200
35/35 [==============================] - 7s 217ms/step - loss: 0.3271 - accu
racy: 0.8710 - val_loss: 0.3281 - val_accuracy: 0.8582
Epoch 175/200
35/35 [==============================] - 8s 225ms/step - loss: 0.3242 - accu
racy: 0.8747 - val_loss: 0.3325 - val_accuracy: 0.8491
Epoch 176/200
35/35 [==============================] - 8s 227ms/step - loss: 0.3163 - accu
racy: 0.8828 - val_loss: 0.3234 - val_accuracy: 0.8564
Epoch 177/200
35/35 [==============================] - 19s 543ms/step - loss: 0.3252 - acc
uracy: 0.8738 - val_loss: 0.3244 - val_accuracy: 0.8600
Epoch 178/200
35/35 [==============================] - 8s 231ms/step - loss: 0.3165 - accu
racy: 0.8860 - val_loss: 0.3241 - val_accuracy: 0.8582
Epoch 179/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3207 - accu
racy: 0.8792 - val_loss: 0.3442 - val_accuracy: 0.8291
Epoch 180/200
35/35 [==============================] - 8s 223ms/step - loss: 0.3164 - accu
racy: 0.8792 - val_loss: 0.3183 - val_accuracy: 0.8691
Epoch 181/200
35/35 [==============================] - 8s 228ms/step - loss: 0.3198 - accu
racy: 0.8751 - val_loss: 0.3316 - val_accuracy: 0.8473
Epoch 182/200
35/35 [==============================] - 8s 211ms/step - loss: 0.3198 - accu
racy: 0.8769 - val_loss: 0.3276 - val_accuracy: 0.8473
Epoch 183/200
35/35 [==============================] - 7s 212ms/step - loss: 0.3167 - accu
racy: 0.8765 - val_loss: 0.3229 - val_accuracy: 0.8564
Epoch 184/200
35/35 [==============================] - 8s 218ms/step - loss: 0.3141 - accu
racy: 0.8760 - val_loss: 0.3215 - val_accuracy: 0.8582
Epoch 185/200
35/35 [==============================] - 8s 218ms/step - loss: 0.3113 - accu
racy: 0.8837 - val_loss: 0.3168 - val_accuracy: 0.8636
Epoch 186/200
35/35 [==============================] - 255s 7s/step - loss: 0.3212 - accur
acy: 0.8719 - val_loss: 0.3533 - val_accuracy: 0.8236
Epoch 187/200
35/35 [==============================] - 25s 556ms/step - loss: 0.3185 - acc
uracy: 0.8774 - val_loss: 0.3214 - val_accuracy: 0.8600
Epoch 188/200
35/35 [==============================] - 16s 441ms/step - loss: 0.3091 - acc
uracy: 0.8819 - val_loss: 0.3153 - val_accuracy: 0.8618
Epoch 189/200
35/35 [==============================] - 9s 249ms/step - loss: 0.3141 - accu
racy: 0.8815 - val_loss: 0.3389 - val_accuracy: 0.8309
Epoch 190/200
35/35 [==============================] - 20s 584ms/step - loss: 0.3150 - acc
uracy: 0.8842 - val_loss: 0.3353 - val_accuracy: 0.8345
Epoch 191/200
35/35 [==============================] - 8s 219ms/step - loss: 0.3158 - accu
```

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racy: 0.8819 - val_loss: 0.3191 - val_accuracy: 0.8600
Epoch 192/200
35/35 [==============================] - 7s 210ms/step - loss: 0.3085 - accu
racy: 0.8792 - val_loss: 0.3150 - val_accuracy: 0.8636
Epoch 193/200
35/35 [==============================] - 8s 235ms/step - loss: 0.3100 - accu
racy: 0.8856 - val_loss: 0.3301 - val_accuracy: 0.8436
Epoch 194/200
35/35 [==============================] - 8s 215ms/step - loss: 0.3059 - accu
racy: 0.8896 - val_loss: 0.3120 - val_accuracy: 0.8836
Epoch 195/200
35/35 [==============================] - 7s 214ms/step - loss: 0.3033 - accu
racy: 0.8851 - val_loss: 0.3124 - val_accuracy: 0.8655
Epoch 196/200
35/35 [==============================] - 7s 213ms/step - loss: 0.3081 - accu
racy: 0.8760 - val_loss: 0.3170 - val_accuracy: 0.8636
Epoch 197/200
35/35 [==============================] - 7s 211ms/step - loss: 0.3130 - accu
racy: 0.8819 - val_loss: 0.3096 - val_accuracy: 0.8709
Epoch 198/200
35/35 [==============================] - 7s 216ms/step - loss: 0.3022 - accu
racy: 0.8887 - val_loss: 0.3085 - val_accuracy: 0.8709
Epoch 199/200
35/35 [==============================] - 7s 214ms/step - loss: 0.3037 - accu
racy: 0.8837 - val_loss: 0.3108 - val_accuracy: 0.8655
Epoch 200/200
35/35 [==============================] - 7s 212ms/step - loss: 0.3049 - accu
racy: 0.8828 - val_loss: 0.3168 - val_accuracy: 0.8600
```