

```
1 "C:\Program Files\Python38\python.exe" G:/GIEyA/TFG/
meteor_classification/cnnTraining.py
2 2021-02-26 22:40:55.295924: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library cudart64_101.dll
3 2021-02-26 22:40:57.559329: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library cudart64_101.dll
4 total training meteors images: 19740
5 total training non-meteors images: 19740
6 total validation meteors images: 4936
7 total validation non-meteors images: 4936
8 Found 39480 images belonging to 2 classes.
9 Found 9872 images belonging to 2 classes.
10 2021-02-26 22:41:00.750148: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library nvcuda.dll
11 2021-02-26 22:41:00.761039: I tensorflow/core/
common_runtime/gpu/gpu_device.cc:1716] Found device 0
with properties:
12 pciBusID: 0000:06:00.0 name: GeForce GTX 1050 Ti
computeCapability: 6.1
13 coreClock: 1.43GHz coreCount: 6 deviceMemorySize: 4.
00GiB deviceMemoryBandwidth: 104.43GiB/s
14 2021-02-26 22:41:00.761304: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library cudart64_101.dll
15 2021-02-26 22:41:00.765740: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library cublas64_10.dll
16 2021-02-26 22:41:00.769186: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library cufft64_10.dll
17 2021-02-26 22:41:00.770181: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library curand64_10.dll
18 2021-02-26 22:41:00.774019: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library cusolver64_10.dll
19 2021-02-26 22:41:00.775892: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
Successfully opened dynamic library cusparse64_10.dll
20 2021-02-26 22:41:00.783247: I tensorflow/
stream_executor/platform/default/dso_loader.cc:48]
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20 Successfully opened dynamic library cudnn64_7.dll
21 2021-02-26 22:41:00.783439: I tensorflow/core/
    common_runtime/gpu/gpu_device.cc:1858] Adding visible
    gpu devices: 0
22 2021-02-26 22:41:00.783904: I tensorflow/core/
    platform/cpu_feature_guard.cc:142] This TensorFlow
    binary is optimized with oneAPI Deep Neural Network
    Library (oneDNN)to use the following CPU instructions
    in performance-critical operations: AVX2
23 To enable them in other operations, rebuild
    TensorFlow with the appropriate compiler flags.
24 2021-02-26 22:41:00.791337: I tensorflow/compiler/xla
    /service/service.cc:168] XLA service 0x236b9432b10
    initialized for platform Host (this does not
    guarantee that XLA will be used). Devices:
25 2021-02-26 22:41:00.791519: I tensorflow/compiler/xla
    /service/service.cc:176] StreamExecutor device (0
    ): Host, Default Version
26 2021-02-26 22:41:00.791748: I tensorflow/core/
    common_runtime/gpu/gpu_device.cc:1716] Found device 0
    with properties:
27 pciBusID: 0000:06:00.0 name: GeForce GTX 1050 Ti
    computeCapability: 6.1
28 coreClock: 1.43GHz coreCount: 6 deviceMemorySize: 4.
    00GiB deviceMemoryBandwidth: 104.43GiB/s
29 2021-02-26 22:41:00.792006: I tensorflow/
    stream_executor/platform/default/dso_loader.cc:48]
    Successfully opened dynamic library cudart64_101.dll
30 2021-02-26 22:41:00.792140: I tensorflow/
    stream_executor/platform/default/dso_loader.cc:48]
    Successfully opened dynamic library cublas64_10.dll
31 2021-02-26 22:41:00.792273: I tensorflow/
    stream_executor/platform/default/dso_loader.cc:48]
    Successfully opened dynamic library cufft64_10.dll
32 2021-02-26 22:41:00.792404: I tensorflow/
    stream_executor/platform/default/dso_loader.cc:48]
    Successfully opened dynamic library curand64_10.dll
33 2021-02-26 22:41:00.792535: I tensorflow/
    stream_executor/platform/default/dso_loader.cc:48]
    Successfully opened dynamic library cusolver64_10.dll
34 2021-02-26 22:41:00.792669: I tensorflow/
    stream_executor/platform/default/dso_loader.cc:48]
    Successfully opened dynamic library cusparse64_10.dll
35 2021-02-26 22:41:00.792799: I tensorflow/
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35 stream_executor/platform/default/dso_loader.cc:48]
  Successfully opened dynamic library cudnn64_7.dll
36 2021-02-26 22:41:00.792953: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1858] Adding visible
  gpu devices: 0
37 2021-02-26 22:41:01.246713: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1257] Device
  interconnect StreamExecutor with strength 1 edge
  matrix:
38 2021-02-26 22:41:01.246865: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1263]      0
39 2021-02-26 22:41:01.246956: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1276] 0:  N
40 2021-02-26 22:41:01.247164: I tensorflow/core/
  common_runtime/gpu/gpu_device.cc:1402] Created
  TensorFlow device (/job:localhost/replica:0/task:0/
  device:GPU:0 with 2982 MB memory) -> physical GPU (
  device: 0, name: GeForce GTX 1050 Ti, pci bus id:
  0000:06:00.0, compute capability: 6.1)
41 2021-02-26 22:41:01.249741: I tensorflow/compiler/xla
  /service/service.cc:168] XLA service 0x236e0292c90
  initialized for platform CUDA (this does not
  guarantee that XLA will be used). Devices:
42 2021-02-26 22:41:01.249918: I tensorflow/compiler/xla
  /service/service.cc:176] StreamExecutor device (0
  ): GeForce GTX 1050 Ti, Compute Capability 6.1
43 Model: "sequential"
44 -----
-----
45 Layer (type)          Output Shape
  Param #
46 =====
  =====
47 conv2d (Conv2D)        (None, 315, 175, 16
  )           1952
48 -----
-----
49 max_pooling2d (MaxPooling2D) (None, 105, 58, 16
  )           0
50 -----
-----
51 dropout (Dropout)      (None, 105, 58, 16
  )           0
52 -----
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52 -----
53 conv2d_1 (Conv2D)           (None, 99, 52, 12
54 )      9420
55 -----
56 max_pooling2d_1 (MaxPooling2 (None, 49, 26, 12
57 )      0
58 -----
59 dropout_1 (Dropout)        (None, 49, 26, 12
60 )      0
61 -----
62 max_pooling2d_2 (MaxPooling2 (None, 22, 11, 12
63 )      0
64 -----
65 dropout_2 (Dropout)        (None, 22, 11, 12
66 )      0
67 -----
68 max_pooling2d_3 (MaxPooling2 (None, 10, 4, 12
69 )      0
70 -----
71 flatten (Flatten)          (None, 480
72 )      0
73 -----
74 dense (Dense)              (None, 480
75 )      230880
76 -----
77 dropout_3 (Dropout)        (None, 480
78 )      0
79 -----
80 -----
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74 -----
75 dense_1 (Dense)           (None, 16
76 )                      7696
76 -----
77 dropout_4 (Dropout)       (None, 16
78 )                      0
78 -----
79 dense_2 (Dense)           (None, 1
80 )                      17
80 =====
80 =====
81 Total params: 254,885
82 Trainable params: 254,885
83 Non-trainable params: 0
84 -----
84 -----
85 None
86 Epoch 1/150
87 2021-02-26 22:41:02.137617: I tensorflow/
     stream_executor/platform/default/dso_loader.cc:48]
     Successfully opened dynamic library cublas64_10.dll
88 2021-02-26 22:41:02.351203: I tensorflow/
     stream_executor/platform/default/dso_loader.cc:48]
     Successfully opened dynamic library cudnn64_7.dll
89 2021-02-26 22:41:02.971106: W tensorflow/
     stream_executor/gpu/redzone_allocator.cc:314]
     Internal: Invoking GPU asm compilation is supported
     on Cuda non-Windows platforms only
90 Relying on driver to perform ptx compilation.
91 Modify $PATH to customize ptxas location.
92 This message will be only logged once.
93 2467/2467 [=====] - 121s
     49ms/step - loss: 0.3249 - accuracy: 0.8710 -
     val_loss: 0.6123 - val_accuracy: 0.7926
94 Epoch 2/150
95 2467/2467 [=====] - 119s
     48ms/step - loss: 0.2423 - accuracy: 0.9163 -
     val_loss: 0.6133 - val_accuracy: 0.8067
96 Epoch 3/150
97 2467/2467 [=====] - 121s
     49ms/step - loss: 0.2326 - accuracy: 0.9215 -
     val_loss: 0.5748 - val_accuracy: 0.8139
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98 Epoch 4/150
99 2467/2467 [=====] - 121s
    49ms/step - loss: 0.2225 - accuracy: 0.9251 -
    val_loss: 0.5874 - val_accuracy: 0.8041
100 Epoch 5/150
101 2467/2467 [=====] - 121s
    49ms/step - loss: 0.2164 - accuracy: 0.9267 -
    val_loss: 0.5136 - val_accuracy: 0.8223
102 Epoch 6/150
103 2467/2467 [=====] - 118s
    48ms/step - loss: 0.2113 - accuracy: 0.9290 -
    val_loss: 0.6156 - val_accuracy: 0.7868
104 Epoch 7/150
105 2467/2467 [=====] - 120s
    49ms/step - loss: 0.2068 - accuracy: 0.9313 -
    val_loss: 0.6966 - val_accuracy: 0.7744
106 Epoch 8/150
107 2467/2467 [=====] - 121s
    49ms/step - loss: 0.1999 - accuracy: 0.9312 -
    val_loss: 0.6064 - val_accuracy: 0.7857
108 Epoch 9/150
109 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1943 - accuracy: 0.9334 -
    val_loss: 0.8341 - val_accuracy: 0.7242
110 Epoch 10/150
111 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1909 - accuracy: 0.9362 -
    val_loss: 0.9581 - val_accuracy: 0.6779
112 Epoch 11/150
113 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1865 - accuracy: 0.9369 -
    val_loss: 0.9584 - val_accuracy: 0.6739
114 Epoch 12/150
115 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1836 - accuracy: 0.9377 -
    val_loss: 1.2068 - val_accuracy: 0.6622
116 Epoch 13/150
117 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1781 - accuracy: 0.9399 -
    val_loss: 1.0809 - val_accuracy: 0.6738
118 Epoch 14/150
119 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1742 - accuracy: 0.9399 -
    val_loss: 1.0768 - val_accuracy: 0.6929
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120 Epoch 15/150
121 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1742 - accuracy: 0.9401 -
    val_loss: 1.0237 - val_accuracy: 0.6869
122 Epoch 16/150
123 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1687 - accuracy: 0.9420 -
    val_loss: 0.8383 - val_accuracy: 0.7482
124 Epoch 17/150
125 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1654 - accuracy: 0.9429 -
    val_loss: 1.1038 - val_accuracy: 0.6974
126 Epoch 18/150
127 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1591 - accuracy: 0.9444 -
    val_loss: 1.2293 - val_accuracy: 0.6762
128 Epoch 19/150
129 2467/2467 [=====] - 120s
    48ms/step - loss: 0.1582 - accuracy: 0.9445 -
    val_loss: 1.4543 - val_accuracy: 0.6503
130 Epoch 20/150
131 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1554 - accuracy: 0.9462 -
    val_loss: 1.1161 - val_accuracy: 0.6905
132 Epoch 21/150
133 2467/2467 [=====] - 118s
    48ms/step - loss: 0.1511 - accuracy: 0.9470 -
    val_loss: 1.2157 - val_accuracy: 0.6882
134 Epoch 22/150
135 2467/2467 [=====] - 213s
    86ms/step - loss: 0.1487 - accuracy: 0.9456 -
    val_loss: 1.3662 - val_accuracy: 0.6510
136 Epoch 23/150
137 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1471 - accuracy: 0.9474 -
    val_loss: 1.1009 - val_accuracy: 0.6908
138 Epoch 24/150
139 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1439 - accuracy: 0.9495 -
    val_loss: 1.2458 - val_accuracy: 0.6876
140 Epoch 25/150
141 2467/2467 [=====] - 121s
    49ms/step - loss: 0.1419 - accuracy: 0.9487 -
    val_loss: 1.3304 - val_accuracy: 0.6482
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142 Epoch 26/150
143 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1379 - accuracy: 0.9509 -
    val_loss: 1.2557 - val_accuracy: 0.6721
144 Epoch 27/150
145 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1363 - accuracy: 0.9501 -
    val_loss: 1.7508 - val_accuracy: 0.6563
146 Epoch 28/150
147 2467/2467 [=====] - 897s
    364ms/step - loss: 0.1392 - accuracy: 0.9512 -
    val_loss: 1.6935 - val_accuracy: 0.6541
148 Epoch 29/150
149 2467/2467 [=====] - 131s
    53ms/step - loss: 0.1335 - accuracy: 0.9526 -
    val_loss: 1.4648 - val_accuracy: 0.6794
150 Epoch 30/150
151 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1282 - accuracy: 0.9536 -
    val_loss: 1.7337 - val_accuracy: 0.6583
152 Epoch 31/150
153 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1285 - accuracy: 0.9536 -
    val_loss: 1.8529 - val_accuracy: 0.6518
154 Epoch 32/150
155 2467/2467 [=====] - 121s
    49ms/step - loss: 0.1298 - accuracy: 0.9554 -
    val_loss: 1.7057 - val_accuracy: 0.6531
156 Epoch 33/150
157 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1234 - accuracy: 0.9564 -
    val_loss: 1.8807 - val_accuracy: 0.6604
158 Epoch 34/150
159 2467/2467 [=====] - 123s
    50ms/step - loss: 0.1249 - accuracy: 0.9547 -
    val_loss: 2.6875 - val_accuracy: 0.6151
160 Epoch 35/150
161 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1206 - accuracy: 0.9563 -
    val_loss: 1.9927 - val_accuracy: 0.6330
162 Epoch 36/150
163 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1189 - accuracy: 0.9580 -
    val_loss: 1.7643 - val_accuracy: 0.6558
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164 Epoch 37/150
165 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1204 - accuracy: 0.9567 -
    val_loss: 2.1644 - val_accuracy: 0.6346
166 Epoch 38/150
167 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1169 - accuracy: 0.9580 -
    val_loss: 1.7474 - val_accuracy: 0.6627
168 Epoch 39/150
169 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1163 - accuracy: 0.9591 -
    val_loss: 1.8983 - val_accuracy: 0.6450
170 Epoch 40/150
171 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1118 - accuracy: 0.9601 -
    val_loss: 2.2383 - val_accuracy: 0.6420
172 Epoch 41/150
173 2467/2467 [=====] - 337s
    137ms/step - loss: 0.1116 - accuracy: 0.9615 -
    val_loss: 1.9688 - val_accuracy: 0.6459
174 Epoch 42/150
175 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1093 - accuracy: 0.9605 -
    val_loss: 1.4578 - val_accuracy: 0.6800
176 Epoch 43/150
177 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1099 - accuracy: 0.9609 -
    val_loss: 2.3819 - val_accuracy: 0.6449
178 Epoch 44/150
179 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1063 - accuracy: 0.9620 -
    val_loss: 1.6175 - val_accuracy: 0.6815
180 Epoch 45/150
181 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1081 - accuracy: 0.9623 -
    val_loss: 2.1202 - val_accuracy: 0.6391
182 Epoch 46/150
183 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1026 - accuracy: 0.9635 -
    val_loss: 1.7432 - val_accuracy: 0.6499
184 Epoch 47/150
185 2467/2467 [=====] - 120s
    48ms/step - loss: 0.1022 - accuracy: 0.9639 -
    val_loss: 2.5701 - val_accuracy: 0.6389
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186 Epoch 48/150
187 2467/2467 [=====] - 120s
    49ms/step - loss: 0.1034 - accuracy: 0.9645 -
    val_loss: 2.8115 - val_accuracy: 0.6273
188 Epoch 49/150
189 2467/2467 [=====] - 120s
    48ms/step - loss: 0.1047 - accuracy: 0.9633 -
    val_loss: 2.8020 - val_accuracy: 0.6408
190 Epoch 50/150
191 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1026 - accuracy: 0.9639 -
    val_loss: 1.8948 - val_accuracy: 0.6503
192 Epoch 51/150
193 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0991 - accuracy: 0.9653 -
    val_loss: 1.9880 - val_accuracy: 0.6465
194 Epoch 52/150
195 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0965 - accuracy: 0.9662 -
    val_loss: 2.0413 - val_accuracy: 0.6426
196 Epoch 53/150
197 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0982 - accuracy: 0.9652 -
    val_loss: 2.1801 - val_accuracy: 0.6408
198 Epoch 54/150
199 2467/2467 [=====] - 119s
    48ms/step - loss: 0.1003 - accuracy: 0.9656 -
    val_loss: 2.0200 - val_accuracy: 0.6471
200 Epoch 55/150
201 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0941 - accuracy: 0.9671 -
    val_loss: 2.4712 - val_accuracy: 0.6420
202 Epoch 56/150
203 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0955 - accuracy: 0.9664 -
    val_loss: 2.5579 - val_accuracy: 0.6297
204 Epoch 57/150
205 2467/2467 [=====] - 131s
    53ms/step - loss: 0.0927 - accuracy: 0.9680 -
    val_loss: 2.1907 - val_accuracy: 0.6569
206 Epoch 58/150
207 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0951 - accuracy: 0.9670 -
    val_loss: 2.4236 - val_accuracy: 0.6570
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208 Epoch 59/150
209 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0900 - accuracy: 0.9689 -
    val_loss: 2.0443 - val_accuracy: 0.6509
210 Epoch 60/150
211 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0919 - accuracy: 0.9679 -
    val_loss: 2.0611 - val_accuracy: 0.6713
212 Epoch 61/150
213 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0875 - accuracy: 0.9684 -
    val_loss: 2.9182 - val_accuracy: 0.6569
214 Epoch 62/150
215 2467/2467 [=====] - 118s
    48ms/step - loss: 0.0894 - accuracy: 0.9698 -
    val_loss: 3.1675 - val_accuracy: 0.6172
216 Epoch 63/150
217 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0910 - accuracy: 0.9687 -
    val_loss: 3.6327 - val_accuracy: 0.6126
218 Epoch 64/150
219 2467/2467 [=====] - 118s
    48ms/step - loss: 0.0877 - accuracy: 0.9705 -
    val_loss: 2.8330 - val_accuracy: 0.6498
220 Epoch 65/150
221 2467/2467 [=====] - 118s
    48ms/step - loss: 0.0845 - accuracy: 0.9707 -
    val_loss: 3.5480 - val_accuracy: 0.6482
222 Epoch 66/150
223 2467/2467 [=====] - 159s
    65ms/step - loss: 0.0847 - accuracy: 0.9718 -
    val_loss: 3.3752 - val_accuracy: 0.6456
224 Epoch 67/150
225 2467/2467 [=====] - 232s
    94ms/step - loss: 0.0857 - accuracy: 0.9700 -
    val_loss: 3.5346 - val_accuracy: 0.6272
226 Epoch 68/150
227 2467/2467 [=====] - 122s
    50ms/step - loss: 0.0847 - accuracy: 0.9720 -
    val_loss: 3.1287 - val_accuracy: 0.6404
228 Epoch 69/150
229 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0878 - accuracy: 0.9702 -
    val_loss: 5.9481 - val_accuracy: 0.5920
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230 Epoch 70/150
231 2467/2467 [=====] - 133s
    54ms/step - loss: 0.0852 - accuracy: 0.9712 -
    val_loss: 2.9273 - val_accuracy: 0.6596
232 Epoch 71/150
233 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0835 - accuracy: 0.9704 -
    val_loss: 3.2899 - val_accuracy: 0.6241
234 Epoch 72/150
235 2467/2467 [=====] - 120s
    48ms/step - loss: 0.0871 - accuracy: 0.9710 -
    val_loss: 3.8207 - val_accuracy: 0.6286
236 Epoch 73/150
237 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0811 - accuracy: 0.9725 -
    val_loss: 3.7286 - val_accuracy: 0.6458
238 Epoch 74/150
239 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0776 - accuracy: 0.9745 -
    val_loss: 4.3809 - val_accuracy: 0.6346
240 Epoch 75/150
241 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0789 - accuracy: 0.9739 -
    val_loss: 3.0756 - val_accuracy: 0.6581
242 Epoch 76/150
243 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0788 - accuracy: 0.9726 -
    val_loss: 3.4113 - val_accuracy: 0.6447
244 Epoch 77/150
245 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0782 - accuracy: 0.9743 -
    val_loss: 3.0034 - val_accuracy: 0.6611
246 Epoch 78/150
247 2467/2467 [=====] - 120s
    49ms/step - loss: 0.0780 - accuracy: 0.9742 -
    val_loss: 4.5374 - val_accuracy: 0.6549
248 Epoch 79/150
249 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0781 - accuracy: 0.9729 -
    val_loss: 2.8074 - val_accuracy: 0.6664
250 Epoch 80/150
251 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0796 - accuracy: 0.9744 -
    val_loss: 2.9310 - val_accuracy: 0.6690
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252 Epoch 81/150
253 2467/2467 [=====] - 120s
    49ms/step - loss: 0.0768 - accuracy: 0.9746 -
    val_loss: 4.3752 - val_accuracy: 0.6174
254 Epoch 82/150
255 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0774 - accuracy: 0.9744 -
    val_loss: 4.2500 - val_accuracy: 0.6338
256 Epoch 83/150
257 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0790 - accuracy: 0.9739 -
    val_loss: 5.0440 - val_accuracy: 0.6170
258 Epoch 84/150
259 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0768 - accuracy: 0.9749 -
    val_loss: 3.9054 - val_accuracy: 0.6283
260 Epoch 85/150
261 2467/2467 [=====] - 125s
    51ms/step - loss: 0.0735 - accuracy: 0.9760 -
    val_loss: 4.3755 - val_accuracy: 0.6197
262 Epoch 86/150
263 2467/2467 [=====] - 133s
    54ms/step - loss: 0.0727 - accuracy: 0.9744 -
    val_loss: 3.8788 - val_accuracy: 0.6404
264 Epoch 87/150
265 2467/2467 [=====] - 125s
    51ms/step - loss: 0.0724 - accuracy: 0.9756 -
    val_loss: 6.6640 - val_accuracy: 0.6080
266 Epoch 88/150
267 2467/2467 [=====] - 124s
    50ms/step - loss: 0.0766 - accuracy: 0.9753 -
    val_loss: 3.1183 - val_accuracy: 0.6352
268 Epoch 89/150
269 2467/2467 [=====] - 123s
    50ms/step - loss: 0.0758 - accuracy: 0.9744 -
    val_loss: 5.5888 - val_accuracy: 0.5980
270 Epoch 90/150
271 2467/2467 [=====] - 124s
    50ms/step - loss: 0.0728 - accuracy: 0.9761 -
    val_loss: 3.8356 - val_accuracy: 0.6312
272 Epoch 91/150
273 2467/2467 [=====] - 122s
    50ms/step - loss: 0.0739 - accuracy: 0.9755 -
    val_loss: 3.7335 - val_accuracy: 0.6282
```

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274 Epoch 92/150
275 2467/2467 [=====] - 124s
    50ms/step - loss: 0.0731 - accuracy: 0.9766 -
    val_loss: 4.1742 - val_accuracy: 0.6294
276 Epoch 93/150
277 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0730 - accuracy: 0.9767 -
    val_loss: 5.7074 - val_accuracy: 0.6155
278 Epoch 94/150
279 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0694 - accuracy: 0.9776 -
    val_loss: 3.7386 - val_accuracy: 0.6238
280 Epoch 95/150
281 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0671 - accuracy: 0.9770 -
    val_loss: 3.8676 - val_accuracy: 0.6325
282 Epoch 96/150
283 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0687 - accuracy: 0.9763 -
    val_loss: 5.7315 - val_accuracy: 0.6266
284 Epoch 97/150
285 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0690 - accuracy: 0.9765 -
    val_loss: 3.8685 - val_accuracy: 0.6259
286 Epoch 98/150
287 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0688 - accuracy: 0.9781 -
    val_loss: 4.2328 - val_accuracy: 0.6338
288 Epoch 99/150
289 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0671 - accuracy: 0.9778 -
    val_loss: 4.9811 - val_accuracy: 0.6227
290 Epoch 100/150
291 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0695 - accuracy: 0.9783 -
    val_loss: 3.8527 - val_accuracy: 0.6306
292 Epoch 101/150
293 2467/2467 [=====] - 124s
    50ms/step - loss: 0.0694 - accuracy: 0.9770 -
    val_loss: 3.6825 - val_accuracy: 0.6382
294 Epoch 102/150
295 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0661 - accuracy: 0.9782 -
    val_loss: 4.1172 - val_accuracy: 0.6348
```

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296 Epoch 103/150
297 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0681 - accuracy: 0.9777 -
    val_loss: 3.0305 - val_accuracy: 0.6378
298 Epoch 104/150
299 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0632 - accuracy: 0.9788 -
    val_loss: 4.2505 - val_accuracy: 0.6224
300 Epoch 105/150
301 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0640 - accuracy: 0.9788 -
    val_loss: 4.4821 - val_accuracy: 0.6406
302 Epoch 106/150
303 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0666 - accuracy: 0.9783 -
    val_loss: 4.3153 - val_accuracy: 0.6430
304 Epoch 107/150
305 2467/2467 [=====] - 120s
    49ms/step - loss: 0.0657 - accuracy: 0.9790 -
    val_loss: 5.7978 - val_accuracy: 0.6059
306 Epoch 108/150
307 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0638 - accuracy: 0.9791 -
    val_loss: 4.0700 - val_accuracy: 0.6614
308 Epoch 109/150
309 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0651 - accuracy: 0.9786 -
    val_loss: 4.6550 - val_accuracy: 0.6349
310 Epoch 110/150
311 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0647 - accuracy: 0.9787 -
    val_loss: 4.7389 - val_accuracy: 0.6206
312 Epoch 111/150
313 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0658 - accuracy: 0.9787 -
    val_loss: 4.5438 - val_accuracy: 0.6399
314 Epoch 112/150
315 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0618 - accuracy: 0.9792 -
    val_loss: 5.5137 - val_accuracy: 0.6146
316 Epoch 113/150
317 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0611 - accuracy: 0.9799 -
    val_loss: 6.1912 - val_accuracy: 0.6138
```

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318 Epoch 114/150
319 2467/2467 [=====] - 118s
    48ms/step - loss: 0.0635 - accuracy: 0.9788 -
    val_loss: 7.1292 - val_accuracy: 0.6176
320 Epoch 115/150
321 2467/2467 [=====] - 120s
    49ms/step - loss: 0.0617 - accuracy: 0.9796 -
    val_loss: 4.0904 - val_accuracy: 0.6464
322 Epoch 116/150
323 2467/2467 [=====] - 130s
    53ms/step - loss: 0.0610 - accuracy: 0.9809 -
    val_loss: 5.1277 - val_accuracy: 0.6052
324 Epoch 117/150
325 2467/2467 [=====] - 124s
    50ms/step - loss: 0.0630 - accuracy: 0.9791 -
    val_loss: 3.4323 - val_accuracy: 0.6276
326 Epoch 118/150
327 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0608 - accuracy: 0.9804 -
    val_loss: 4.7894 - val_accuracy: 0.6654
328 Epoch 119/150
329 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0631 - accuracy: 0.9797 -
    val_loss: 6.7097 - val_accuracy: 0.6115
330 Epoch 120/150
331 2467/2467 [=====] - 120s
    49ms/step - loss: 0.0609 - accuracy: 0.9804 -
    val_loss: 5.4584 - val_accuracy: 0.6508
332 Epoch 121/150
333 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0601 - accuracy: 0.9801 -
    val_loss: 4.9049 - val_accuracy: 0.6322
334 Epoch 122/150
335 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0595 - accuracy: 0.9804 -
    val_loss: 5.0016 - val_accuracy: 0.6342
336 Epoch 123/150
337 2467/2467 [=====] - 118s
    48ms/step - loss: 0.0606 - accuracy: 0.9806 -
    val_loss: 7.8177 - val_accuracy: 0.6135
338 Epoch 124/150
339 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0610 - accuracy: 0.9803 -
    val_loss: 7.0797 - val_accuracy: 0.6109
```

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340 Epoch 125/150
341 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0611 - accuracy: 0.9805 -
    val_loss: 6.7451 - val_accuracy: 0.6154
342 Epoch 126/150
343 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0626 - accuracy: 0.9807 -
    val_loss: 3.8075 - val_accuracy: 0.6438
344 Epoch 127/150
345 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0620 - accuracy: 0.9805 -
    val_loss: 5.4805 - val_accuracy: 0.6182
346 Epoch 128/150
347 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0580 - accuracy: 0.9814 -
    val_loss: 6.2043 - val_accuracy: 0.6260
348 Epoch 129/150
349 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0591 - accuracy: 0.9806 -
    val_loss: 6.2141 - val_accuracy: 0.6201
350 Epoch 130/150
351 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0588 - accuracy: 0.9804 -
    val_loss: 6.7665 - val_accuracy: 0.6165
352 Epoch 131/150
353 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0584 - accuracy: 0.9811 -
    val_loss: 7.5001 - val_accuracy: 0.6031
354 Epoch 132/150
355 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0548 - accuracy: 0.9817 -
    val_loss: 6.7143 - val_accuracy: 0.6164
356 Epoch 133/150
357 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0588 - accuracy: 0.9808 -
    val_loss: 6.6634 - val_accuracy: 0.6161
358 Epoch 134/150
359 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0585 - accuracy: 0.9811 -
    val_loss: 5.8040 - val_accuracy: 0.6297
360 Epoch 135/150
361 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0567 - accuracy: 0.9815 -
    val_loss: 6.2331 - val_accuracy: 0.6260
```

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362 Epoch 136/150
363 2467/2467 [=====] - 120s
    48ms/step - loss: 0.0568 - accuracy: 0.9825 -
    val_loss: 6.0708 - val_accuracy: 0.6332
364 Epoch 137/150
365 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0591 - accuracy: 0.9809 -
    val_loss: 6.2713 - val_accuracy: 0.6087
366 Epoch 138/150
367 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0537 - accuracy: 0.9828 -
    val_loss: 7.4036 - val_accuracy: 0.6070
368 Epoch 139/150
369 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0569 - accuracy: 0.9823 -
    val_loss: 5.2722 - val_accuracy: 0.6181
370 Epoch 140/150
371 2467/2467 [=====] - 119s
    48ms/step - loss: 0.0546 - accuracy: 0.9824 -
    val_loss: 5.5492 - val_accuracy: 0.6222
372 Epoch 141/150
373 2467/2467 [=====] - 120s
    48ms/step - loss: 0.0563 - accuracy: 0.9825 -
    val_loss: 7.5997 - val_accuracy: 0.5911
374 Epoch 142/150
375 2467/2467 [=====] - 123s
    50ms/step - loss: 0.0556 - accuracy: 0.9824 -
    val_loss: 5.8851 - val_accuracy: 0.5921
376 Epoch 143/150
377 2467/2467 [=====] - 121s
    49ms/step - loss: 0.0551 - accuracy: 0.9830 -
    val_loss: 6.6799 - val_accuracy: 0.6102
378 Epoch 144/150
379 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0565 - accuracy: 0.9827 -
    val_loss: 5.5967 - val_accuracy: 0.6249
380 Epoch 145/150
381 2467/2467 [=====] - 122s
    50ms/step - loss: 0.0559 - accuracy: 0.9826 -
    val_loss: 8.3795 - val_accuracy: 0.5925
382 Epoch 146/150
383 2467/2467 [=====] - 131s
    53ms/step - loss: 0.0522 - accuracy: 0.9827 -
    val_loss: 7.6755 - val_accuracy: 0.5900
```

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384 Epoch 147/150
385 2467/2467 [=====] - 135s
    55ms/step - loss: 0.0555 - accuracy: 0.9827 -
    val_loss: 9.8561 - val_accuracy: 0.5970
386 Epoch 148/150
387 2467/2467 [=====] - 127s
    51ms/step - loss: 0.0551 - accuracy: 0.9825 -
    val_loss: 10.5178 - val_accuracy: 0.6061
388 Epoch 149/150
389 2467/2467 [=====] - 122s
    49ms/step - loss: 0.0538 - accuracy: 0.9831 -
    val_loss: 5.4127 - val_accuracy: 0.6131
390 Epoch 150/150
391 2467/2467 [=====] - 123s
    50ms/step - loss: 0.0552 - accuracy: 0.9823 -
    val_loss: 5.8987 - val_accuracy: 0.6041
392
```