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1 /usr/local/bin/python3.8 "/Users/surajvaddi/Desktop
/TarPrint Full Journey/Machine Learning Code/Neural
-Network-NO-test.py"
2 ['norm_imperVIOUS' 'tan_imperVIOUS' '
norm_imperVIOUS' ...]
3 ['norm_imperVIOUS' 'dry_pervious' 'norm_pervious']
4 [2 5 2 ... 2 0 3]
5 2020-09-03 18:40:50.336986: 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 FMA
6 To enable them in other operations, rebuild
TensorFlow with the appropriate compiler flags.
7 2020-09-03 18:40:50.346483: I tensorflow/compiler/
xla/service/service.cc:168] XLA service
0x7fe76c98e580 initialized for platform Host (this
does not guarantee that XLA will be used). Devices:
8 2020-09-03 18:40:50.346507: I tensorflow/compiler/
xla/service/service.cc:176] StreamExecutor device
(0): Host, Default Version
9 [[0.30362644 0.32236881 0.29612949 ... 0.37484746 0
.38234441 0.32236881]
10 [0.38498641 0.33609925 0.26582395 ... 0.35748738 0
.32998835 0.25665761]
11 [0.32926562 0.33627127 0.29774019 ... 0.37830518 0
.381808 0.31875714]
12 ...
13 [0.31306804 0.32338897 0.28554558 ... 0.40251605 0
.40595636 0.35435174]
14 [0.42824723 0.39255996 0.27955027 ... 0.26765452 0
.28549815 0.19925392]
15 [0.21592634 0.31118796 0.19052324 ... 0.38739725 0
.450905 0.28578486]]
16 (2138, 9)
17 (2138, 7)
18 Epoch 1/250
19 143/143 [=====] - 0s 638us
/step - loss: 1.5770 - accuracy: 0.4097
20 Epoch 2/250
21 143/143 [=====] - 0s 575us
/step - loss: 0.9916 - accuracy: 0.6810
22 Epoch 3/250

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23 143/143 [=====] - 0s 608us
  /step - loss: 0.7021 - accuracy: 0.7582
24 Epoch 4/250
25 143/143 [=====] - 0s 601us
  /step - loss: 0.6439 - accuracy: 0.7755
26 Epoch 5/250
27 143/143 [=====] - 0s 578us
  /step - loss: 0.5960 - accuracy: 0.7933
28 Epoch 6/250
29 143/143 [=====] - 0s 650us
  /step - loss: 0.6065 - accuracy: 0.7755
30 Epoch 7/250
31 143/143 [=====] - 0s 572us
  /step - loss: 0.5607 - accuracy: 0.7970
32 Epoch 8/250
33 143/143 [=====] - 0s 661us
  /step - loss: 0.5560 - accuracy: 0.8068
34 Epoch 9/250
35 143/143 [=====] - 0s 608us
  /step - loss: 0.5408 - accuracy: 0.8124
36 Epoch 10/250
37 143/143 [=====] - 0s 852us
  /step - loss: 0.5096 - accuracy: 0.8190
38 Epoch 11/250
39 143/143 [=====] - 0s 635us
  /step - loss: 0.5099 - accuracy: 0.8162
40 Epoch 12/250
41 143/143 [=====] - 0s 597us
  /step - loss: 0.5003 - accuracy: 0.8251
42 Epoch 13/250
43 143/143 [=====] - 0s 690us
  /step - loss: 0.5017 - accuracy: 0.8265
44 Epoch 14/250
45 143/143 [=====] - 0s 574us
  /step - loss: 0.5051 - accuracy: 0.8162
46 Epoch 15/250
47 143/143 [=====] - 0s 573us
  /step - loss: 0.4911 - accuracy: 0.8148
48 Epoch 16/250
49 143/143 [=====] - 0s 629us
  /step - loss: 0.4736 - accuracy: 0.8349
50 Epoch 17/250
51 143/143 [=====] - 0s 589us
  /step - loss: 0.4780 - accuracy: 0.8349
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52 Epoch 18/250
53 143/143 [=====] - 0s 666us
    /step - loss: 0.4837 - accuracy: 0.8246
54 Epoch 19/250
55 143/143 [=====] - 0s 601us
    /step - loss: 0.4609 - accuracy: 0.8349
56 Epoch 20/250
57 143/143 [=====] - 0s 588us
    /step - loss: 0.4814 - accuracy: 0.8274
58 Epoch 21/250
59 143/143 [=====] - 0s 599us
    /step - loss: 0.4726 - accuracy: 0.8354
60 Epoch 22/250
61 143/143 [=====] - 0s 566us
    /step - loss: 0.4601 - accuracy: 0.8396
62 Epoch 23/250
63 143/143 [=====] - 0s 722us
    /step - loss: 0.4613 - accuracy: 0.8297
64 Epoch 24/250
65 143/143 [=====] - 0s 616us
    /step - loss: 0.4736 - accuracy: 0.8251
66 Epoch 25/250
67 143/143 [=====] - 0s 599us
    /step - loss: 0.4690 - accuracy: 0.8283
68 Epoch 26/250
69 143/143 [=====] - 0s 603us
    /step - loss: 0.4356 - accuracy: 0.8405
70 Epoch 27/250
71 143/143 [=====] - 0s 569us
    /step - loss: 0.4499 - accuracy: 0.8475
72 Epoch 28/250
73 143/143 [=====] - 0s 638us
    /step - loss: 0.4320 - accuracy: 0.8499
74 Epoch 29/250
75 143/143 [=====] - 0s 646us
    /step - loss: 0.4519 - accuracy: 0.8358
76 Epoch 30/250
77 143/143 [=====] - 0s 597us
    /step - loss: 0.4384 - accuracy: 0.8354
78 Epoch 31/250
79 143/143 [=====] - 0s 641us
    /step - loss: 0.4314 - accuracy: 0.8414
80 Epoch 32/250
81 143/143 [=====] - 0s 612us
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81 /step - loss: 0.4341 - accuracy: 0.8452
82 Epoch 33/250
83 143/143 [=====] - 0s
    686us/step - loss: 0.4204 - accuracy: 0.8447
84 Epoch 34/250
85 143/143 [=====] - 0s
    620us/step - loss: 0.4227 - accuracy: 0.8452
86 Epoch 35/250
87 143/143 [=====] - 0s
    598us/step - loss: 0.4126 - accuracy: 0.8466
88 Epoch 36/250
89 143/143 [=====] - 0s
    606us/step - loss: 0.4509 - accuracy: 0.8302
90 Epoch 37/250
91 143/143 [=====] - 0s
    575us/step - loss: 0.4140 - accuracy: 0.8517
92 Epoch 38/250
93 143/143 [=====] - 0s
    636us/step - loss: 0.4070 - accuracy: 0.8522
94 Epoch 39/250
95 143/143 [=====] - 0s
    618us/step - loss: 0.4222 - accuracy: 0.8466
96 Epoch 40/250
97 143/143 [=====] - 0s
    618us/step - loss: 0.4155 - accuracy: 0.8494
98 Epoch 41/250
99 143/143 [=====] - 0s
    609us/step - loss: 0.4062 - accuracy: 0.8489
100 Epoch 42/250
101 143/143 [=====] - 0s
    571us/step - loss: 0.4044 - accuracy: 0.8555
102 Epoch 43/250
103 143/143 [=====] - 0s
    639us/step - loss: 0.4170 - accuracy: 0.8428
104 Epoch 44/250
105 143/143 [=====] - 0s
    621us/step - loss: 0.3975 - accuracy: 0.8569
106 Epoch 45/250
107 143/143 [=====] - 0s
    622us/step - loss: 0.4084 - accuracy: 0.8489
108 Epoch 46/250
109 143/143 [=====] - 0s
    602us/step - loss: 0.3980 - accuracy: 0.8559
110 Epoch 47/250
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111 143/143 [=====] - 0s
    571us/step - loss: 0.4084 - accuracy: 0.8471
112 Epoch 48/250
113 143/143 [=====] - 0s
    636us/step - loss: 0.4001 - accuracy: 0.8517
114 Epoch 49/250
115 143/143 [=====] - 0s
    630us/step - loss: 0.3988 - accuracy: 0.8559
116 Epoch 50/250
117 143/143 [=====] - 0s
    589us/step - loss: 0.3890 - accuracy: 0.8550
118 Epoch 51/250
119 143/143 [=====] - 0s
    623us/step - loss: 0.4005 - accuracy: 0.8508
120 Epoch 52/250
121 143/143 [=====] - 0s
    573us/step - loss: 0.3948 - accuracy: 0.8531
122 Epoch 53/250
123 143/143 [=====] - 0s
    652us/step - loss: 0.3929 - accuracy: 0.8522
124 Epoch 54/250
125 143/143 [=====] - 0s
    610us/step - loss: 0.3961 - accuracy: 0.8578
126 Epoch 55/250
127 143/143 [=====] - 0s
    589us/step - loss: 0.3704 - accuracy: 0.8620
128 Epoch 56/250
129 143/143 [=====] - 0s
    607us/step - loss: 0.3777 - accuracy: 0.8601
130 Epoch 57/250
131 143/143 [=====] - 0s
    596us/step - loss: 0.3713 - accuracy: 0.8686
132 Epoch 58/250
133 143/143 [=====] - 0s
    647us/step - loss: 0.3814 - accuracy: 0.8606
134 Epoch 59/250
135 143/143 [=====] - 0s
    611us/step - loss: 0.3680 - accuracy: 0.8630
136 Epoch 60/250
137 143/143 [=====] - 0s
    567us/step - loss: 0.4116 - accuracy: 0.8438
138 Epoch 61/250
139 143/143 [=====] - 0s
    607us/step - loss: 0.3984 - accuracy: 0.8447
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140 Epoch 62/250
141 143/143 [=====] - 0s
    602us/step - loss: 0.3763 - accuracy: 0.8662
142 Epoch 63/250
143 143/143 [=====] - 0s
    678us/step - loss: 0.3792 - accuracy: 0.8648
144 Epoch 64/250
145 143/143 [=====] - 0s
    597us/step - loss: 0.3711 - accuracy: 0.8559
146 Epoch 65/250
147 143/143 [=====] - 0s
    589us/step - loss: 0.3736 - accuracy: 0.8625
148 Epoch 66/250
149 143/143 [=====] - 0s
    609us/step - loss: 0.3689 - accuracy: 0.8639
150 Epoch 67/250
151 143/143 [=====] - 0s
    573us/step - loss: 0.3663 - accuracy: 0.8620
152 Epoch 68/250
153 143/143 [=====] - 0s
    699us/step - loss: 0.3738 - accuracy: 0.8620
154 Epoch 69/250
155 143/143 [=====] - 0s
    607us/step - loss: 0.3570 - accuracy: 0.8728
156 Epoch 70/250
157 143/143 [=====] - 0s
    603us/step - loss: 0.3531 - accuracy: 0.8672
158 Epoch 71/250
159 143/143 [=====] - 0s
    605us/step - loss: 0.3630 - accuracy: 0.8714
160 Epoch 72/250
161 143/143 [=====] - 0s
    570us/step - loss: 0.3667 - accuracy: 0.8620
162 Epoch 73/250
163 143/143 [=====] - 0s
    619us/step - loss: 0.3580 - accuracy: 0.8630
164 Epoch 74/250
165 143/143 [=====] - 0s
    651us/step - loss: 0.3610 - accuracy: 0.8644
166 Epoch 75/250
167 143/143 [=====] - 0s
    642us/step - loss: 0.3440 - accuracy: 0.8732
168 Epoch 76/250
169 143/143 [=====] - 0s
```

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169 604us/step - loss: 0.3493 - accuracy: 0.8718
170 Epoch 77/250
171 143/143 [=====] - 0s
    568us/step - loss: 0.3421 - accuracy: 0.8775
172 Epoch 78/250
173 143/143 [=====] - 0s
    640us/step - loss: 0.3614 - accuracy: 0.8630
174 Epoch 79/250
175 143/143 [=====] - 0s
    635us/step - loss: 0.3419 - accuracy: 0.8732
176 Epoch 80/250
177 143/143 [=====] - 0s
    594us/step - loss: 0.3442 - accuracy: 0.8751
178 Epoch 81/250
179 143/143 [=====] - 0s
    605us/step - loss: 0.3306 - accuracy: 0.8737
180 Epoch 82/250
181 143/143 [=====] - 0s
    575us/step - loss: 0.3422 - accuracy: 0.8718
182 Epoch 83/250
183 143/143 [=====] - 0s
    642us/step - loss: 0.3556 - accuracy: 0.8714
184 Epoch 84/250
185 143/143 [=====] - 0s
    607us/step - loss: 0.3387 - accuracy: 0.8746
186 Epoch 85/250
187 143/143 [=====] - 0s
    618us/step - loss: 0.3544 - accuracy: 0.8620
188 Epoch 86/250
189 143/143 [=====] - 0s
    587us/step - loss: 0.3378 - accuracy: 0.8770
190 Epoch 87/250
191 143/143 [=====] - 0s
    591us/step - loss: 0.3420 - accuracy: 0.8681
192 Epoch 88/250
193 143/143 [=====] - 0s
    685us/step - loss: 0.3422 - accuracy: 0.8775
194 Epoch 89/250
195 143/143 [=====] - 0s
    582us/step - loss: 0.3365 - accuracy: 0.8718
196 Epoch 90/250
197 143/143 [=====] - 0s
    559us/step - loss: 0.3389 - accuracy: 0.8704
198 Epoch 91/250
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199 143/143 [=====] - 0s
    633us/step - loss: 0.3367 - accuracy: 0.8728
200 Epoch 92/250
201 143/143 [=====] - 0s
    597us/step - loss: 0.3355 - accuracy: 0.8751
202 Epoch 93/250
203 143/143 [=====] - 0s
    670us/step - loss: 0.3236 - accuracy: 0.8807
204 Epoch 94/250
205 143/143 [=====] - 0s
    591us/step - loss: 0.3209 - accuracy: 0.8817
206 Epoch 95/250
207 143/143 [=====] - 0s
    557us/step - loss: 0.3482 - accuracy: 0.8667
208 Epoch 96/250
209 143/143 [=====] - 0s
    630us/step - loss: 0.3262 - accuracy: 0.8746
210 Epoch 97/250
211 143/143 [=====] - 0s
    553us/step - loss: 0.3200 - accuracy: 0.8756
212 Epoch 98/250
213 143/143 [=====] - 0s
    639us/step - loss: 0.3318 - accuracy: 0.8770
214 Epoch 99/250
215 143/143 [=====] - 0s
    630us/step - loss: 0.3298 - accuracy: 0.8732
216 Epoch 100/250
217 143/143 [=====] - 0s
    576us/step - loss: 0.3172 - accuracy: 0.8807
218 Epoch 101/250
219 143/143 [=====] - 0s
    591us/step - loss: 0.3291 - accuracy: 0.8789
220 Epoch 102/250
221 143/143 [=====] - 0s
    576us/step - loss: 0.3334 - accuracy: 0.8803
222 Epoch 103/250
223 143/143 [=====] - 0s
    611us/step - loss: 0.3196 - accuracy: 0.8789
224 Epoch 104/250
225 143/143 [=====] - 0s
    643us/step - loss: 0.3242 - accuracy: 0.8709
226 Epoch 105/250
227 143/143 [=====] - 0s
    632us/step - loss: 0.3250 - accuracy: 0.8761
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228 Epoch 106/250
229 143/143 [=====] - 0s
    586us/step - loss: 0.3170 - accuracy: 0.8798
230 Epoch 107/250
231 143/143 [=====] - 0s
    561us/step - loss: 0.3170 - accuracy: 0.8817
232 Epoch 108/250
233 143/143 [=====] - 0s
    660us/step - loss: 0.3181 - accuracy: 0.8746
234 Epoch 109/250
235 143/143 [=====] - 0s
    591us/step - loss: 0.3242 - accuracy: 0.8821
236 Epoch 110/250
237 143/143 [=====] - 0s
    563us/step - loss: 0.3395 - accuracy: 0.8765
238 Epoch 111/250
239 143/143 [=====] - 0s
    608us/step - loss: 0.3186 - accuracy: 0.8835
240 Epoch 112/250
241 143/143 [=====] - 0s
    553us/step - loss: 0.3199 - accuracy: 0.8849
242 Epoch 113/250
243 143/143 [=====] - 0s
    677us/step - loss: 0.3040 - accuracy: 0.8845
244 Epoch 114/250
245 143/143 [=====] - 0s
    617us/step - loss: 0.3086 - accuracy: 0.8821
246 Epoch 115/250
247 143/143 [=====] - 0s
    601us/step - loss: 0.3265 - accuracy: 0.8784
248 Epoch 116/250
249 143/143 [=====] - 0s
    607us/step - loss: 0.3122 - accuracy: 0.8868
250 Epoch 117/250
251 143/143 [=====] - 0s
    567us/step - loss: 0.3100 - accuracy: 0.8845
252 Epoch 118/250
253 143/143 [=====] - 0s
    638us/step - loss: 0.3195 - accuracy: 0.8793
254 Epoch 119/250
255 143/143 [=====] - 0s
    645us/step - loss: 0.3132 - accuracy: 0.8812
256 Epoch 120/250
257 143/143 [=====] - 0s
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257 601us/step - loss: 0.3168 - accuracy: 0.8849
258 Epoch 121/250
259 143/143 [=====] - 0s
    605us/step - loss: 0.3191 - accuracy: 0.8756
260 Epoch 122/250
261 143/143 [=====] - 0s
    569us/step - loss: 0.3203 - accuracy: 0.8728
262 Epoch 123/250
263 143/143 [=====] - 0s
    660us/step - loss: 0.3072 - accuracy: 0.8789
264 Epoch 124/250
265 143/143 [=====] - 0s
    589us/step - loss: 0.3031 - accuracy: 0.8821
266 Epoch 125/250
267 143/143 [=====] - 0s
    580us/step - loss: 0.2975 - accuracy: 0.8868
268 Epoch 126/250
269 143/143 [=====] - 0s
    642us/step - loss: 0.3014 - accuracy: 0.8845
270 Epoch 127/250
271 143/143 [=====] - 0s
    554us/step - loss: 0.2901 - accuracy: 0.8863
272 Epoch 128/250
273 143/143 [=====] - 0s
    661us/step - loss: 0.2989 - accuracy: 0.8831
274 Epoch 129/250
275 143/143 [=====] - 0s
    633us/step - loss: 0.3018 - accuracy: 0.8868
276 Epoch 130/250
277 143/143 [=====] - 0s
    648us/step - loss: 0.3007 - accuracy: 0.8831
278 Epoch 131/250
279 143/143 [=====] - 0s
    621us/step - loss: 0.2937 - accuracy: 0.8831
280 Epoch 132/250
281 143/143 [=====] - 0s
    582us/step - loss: 0.2988 - accuracy: 0.8854
282 Epoch 133/250
283 143/143 [=====] - 0s
    663us/step - loss: 0.3075 - accuracy: 0.8812
284 Epoch 134/250
285 143/143 [=====] - 0s
    601us/step - loss: 0.2996 - accuracy: 0.8868
286 Epoch 135/250
```

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287 143/143 [=====] - 0s
    567us/step - loss: 0.2943 - accuracy: 0.8957
288 Epoch 136/250
289 143/143 [=====] - 0s
    649us/step - loss: 0.2872 - accuracy: 0.8901
290 Epoch 137/250
291 143/143 [=====] - 0s
    611us/step - loss: 0.2905 - accuracy: 0.8868
292 Epoch 138/250
293 143/143 [=====] - 0s
    687us/step - loss: 0.3021 - accuracy: 0.8854
294 Epoch 139/250
295 143/143 [=====] - 0s
    610us/step - loss: 0.2961 - accuracy: 0.8854
296 Epoch 140/250
297 143/143 [=====] - 0s
    594us/step - loss: 0.2935 - accuracy: 0.8952
298 Epoch 141/250
299 143/143 [=====] - 0s
    630us/step - loss: 0.3080 - accuracy: 0.8812
300 Epoch 142/250
301 143/143 [=====] - 0s
    573us/step - loss: 0.2951 - accuracy: 0.8826
302 Epoch 143/250
303 143/143 [=====] - 0s
    630us/step - loss: 0.2946 - accuracy: 0.8873
304 Epoch 144/250
305 143/143 [=====] - 0s
    623us/step - loss: 0.2901 - accuracy: 0.8920
306 Epoch 145/250
307 143/143 [=====] - 0s
    572us/step - loss: 0.2966 - accuracy: 0.8877
308 Epoch 146/250
309 143/143 [=====] - 0s
    628us/step - loss: 0.3022 - accuracy: 0.8812
310 Epoch 147/250
311 143/143 [=====] - 0s
    591us/step - loss: 0.2838 - accuracy: 0.8920
312 Epoch 148/250
313 143/143 [=====] - 0s
    663us/step - loss: 0.2760 - accuracy: 0.8952
314 Epoch 149/250
315 143/143 [=====] - 0s
    604us/step - loss: 0.2872 - accuracy: 0.8891
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316 Epoch 150/250
317 143/143 [=====] - 0s
      594us/step - loss: 0.2861 - accuracy: 0.8882
318 Epoch 151/250
319 143/143 [=====] - 0s
      585us/step - loss: 0.2839 - accuracy: 0.8948
320 Epoch 152/250
321 143/143 [=====] - 0s
      573us/step - loss: 0.2921 - accuracy: 0.8877
322 Epoch 153/250
323 143/143 [=====] - 0s
      697us/step - loss: 0.2838 - accuracy: 0.8910
324 Epoch 154/250
325 143/143 [=====] - 0s
      617us/step - loss: 0.2933 - accuracy: 0.8943
326 Epoch 155/250
327 143/143 [=====] - 0s
      619us/step - loss: 0.2821 - accuracy: 0.8971
328 Epoch 156/250
329 143/143 [=====] - 0s
      607us/step - loss: 0.2845 - accuracy: 0.8877
330 Epoch 157/250
331 143/143 [=====] - 0s
      568us/step - loss: 0.2838 - accuracy: 0.8906
332 Epoch 158/250
333 143/143 [=====] - 0s
      685us/step - loss: 0.3063 - accuracy: 0.8854
334 Epoch 159/250
335 143/143 [=====] - 0s
      609us/step - loss: 0.2760 - accuracy: 0.8952
336 Epoch 160/250
337 143/143 [=====] - 0s
      595us/step - loss: 0.2934 - accuracy: 0.8840
338 Epoch 161/250
339 143/143 [=====] - 0s
      610us/step - loss: 0.2672 - accuracy: 0.9032
340 Epoch 162/250
341 143/143 [=====] - 0s
      567us/step - loss: 0.2829 - accuracy: 0.8924
342 Epoch 163/250
343 143/143 [=====] - 0s
      644us/step - loss: 0.2720 - accuracy: 0.9018
344 Epoch 164/250
345 143/143 [=====] - 0s
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345 636us/step - loss: 0.2836 - accuracy: 0.8934
346 Epoch 165/250
347 143/143 [=====] - 0s
595us/step - loss: 0.2692 - accuracy: 0.8948
348 Epoch 166/250
349 143/143 [=====] - 0s
604us/step - loss: 0.2818 - accuracy: 0.8915
350 Epoch 167/250
351 143/143 [=====] - 0s
569us/step - loss: 0.2647 - accuracy: 0.8957
352 Epoch 168/250
353 143/143 [=====] - 0s
660us/step - loss: 0.2684 - accuracy: 0.8976
354 Epoch 169/250
355 143/143 [=====] - 0s
623us/step - loss: 0.2806 - accuracy: 0.8910
356 Epoch 170/250
357 143/143 [=====] - 0s
585us/step - loss: 0.2802 - accuracy: 0.8980
358 Epoch 171/250
359 143/143 [=====] - 0s
607us/step - loss: 0.2829 - accuracy: 0.8901
360 Epoch 172/250
361 143/143 [=====] - 0s
571us/step - loss: 0.2740 - accuracy: 0.8910
362 Epoch 173/250
363 143/143 [=====] - 0s
630us/step - loss: 0.2788 - accuracy: 0.8938
364 Epoch 174/250
365 143/143 [=====] - 0s
605us/step - loss: 0.2731 - accuracy: 0.8966
366 Epoch 175/250
367 143/143 [=====] - 0s
650us/step - loss: 0.2631 - accuracy: 0.9022
368 Epoch 176/250
369 143/143 [=====] - 0s
609us/step - loss: 0.2706 - accuracy: 0.8999
370 Epoch 177/250
371 143/143 [=====] - 0s
570us/step - loss: 0.2681 - accuracy: 0.8980
372 Epoch 178/250
373 143/143 [=====] - 0s
646us/step - loss: 0.2651 - accuracy: 0.8999
374 Epoch 179/250
```

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375 143/143 [=====] - 0s
    608us/step - loss: 0.2721 - accuracy: 0.8962
376 Epoch 180/250
377 143/143 [=====] - 0s
    587us/step - loss: 0.2618 - accuracy: 0.8990
378 Epoch 181/250
379 143/143 [=====] - 0s
    639us/step - loss: 0.2634 - accuracy: 0.9004
380 Epoch 182/250
381 143/143 [=====] - 0s
    569us/step - loss: 0.2553 - accuracy: 0.9083
382 Epoch 183/250
383 143/143 [=====] - 0s
    645us/step - loss: 0.2598 - accuracy: 0.9018
384 Epoch 184/250
385 143/143 [=====] - 0s
    606us/step - loss: 0.2755 - accuracy: 0.8924
386 Epoch 185/250
387 143/143 [=====] - 0s
    630us/step - loss: 0.2674 - accuracy: 0.8994
388 Epoch 186/250
389 143/143 [=====] - 0s
    633us/step - loss: 0.2689 - accuracy: 0.8901
390 Epoch 187/250
391 143/143 [=====] - 0s
    568us/step - loss: 0.2520 - accuracy: 0.9069
392 Epoch 188/250
393 143/143 [=====] - 0s
    655us/step - loss: 0.2672 - accuracy: 0.8971
394 Epoch 189/250
395 143/143 [=====] - 0s
    605us/step - loss: 0.2832 - accuracy: 0.8910
396 Epoch 190/250
397 143/143 [=====] - 0s
    575us/step - loss: 0.2743 - accuracy: 0.8976
398 Epoch 191/250
399 143/143 [=====] - 0s
    621us/step - loss: 0.2625 - accuracy: 0.9018
400 Epoch 192/250
401 143/143 [=====] - 0s
    595us/step - loss: 0.2542 - accuracy: 0.9130
402 Epoch 193/250
403 143/143 [=====] - 0s
    651us/step - loss: 0.2549 - accuracy: 0.9032
```

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404 Epoch 194/250
405 143/143 [=====] - 0s
      599us/step - loss: 0.2464 - accuracy: 0.9074
406 Epoch 195/250
407 143/143 [=====] - 0s
      597us/step - loss: 0.2655 - accuracy: 0.8980
408 Epoch 196/250
409 143/143 [=====] - 0s
      612us/step - loss: 0.2530 - accuracy: 0.9074
410 Epoch 197/250
411 143/143 [=====] - 0s
      567us/step - loss: 0.2578 - accuracy: 0.9027
412 Epoch 198/250
413 143/143 [=====] - 0s
      683us/step - loss: 0.2741 - accuracy: 0.8920
414 Epoch 199/250
415 143/143 [=====] - 0s
      603us/step - loss: 0.2463 - accuracy: 0.9079
416 Epoch 200/250
417 143/143 [=====] - 0s
      595us/step - loss: 0.2458 - accuracy: 0.9083
418 Epoch 201/250
419 143/143 [=====] - 0s
      607us/step - loss: 0.2685 - accuracy: 0.8971
420 Epoch 202/250
421 143/143 [=====] - 0s
      569us/step - loss: 0.2446 - accuracy: 0.9041
422 Epoch 203/250
423 143/143 [=====] - 0s
      645us/step - loss: 0.2417 - accuracy: 0.9107
424 Epoch 204/250
425 143/143 [=====] - 0s
      615us/step - loss: 0.2669 - accuracy: 0.8957
426 Epoch 205/250
427 143/143 [=====] - 0s
      601us/step - loss: 0.2535 - accuracy: 0.9022
428 Epoch 206/250
429 143/143 [=====] - 0s
      606us/step - loss: 0.2434 - accuracy: 0.9125
430 Epoch 207/250
431 143/143 [=====] - 0s
      568us/step - loss: 0.2496 - accuracy: 0.9013
432 Epoch 208/250
433 143/143 [=====] - 0s
```

```
433 657us/step - loss: 0.2639 - accuracy: 0.9027
434 Epoch 209/250
435 143/143 [=====] - 0s
    631us/step - loss: 0.2364 - accuracy: 0.9069
436 Epoch 210/250
437 143/143 [=====] - 0s
    592us/step - loss: 0.2372 - accuracy: 0.9130
438 Epoch 211/250
439 143/143 [=====] - 0s
    607us/step - loss: 0.2582 - accuracy: 0.8962
440 Epoch 212/250
441 143/143 [=====] - 0s
    569us/step - loss: 0.2581 - accuracy: 0.8985
442 Epoch 213/250
443 143/143 [=====] - 0s
    639us/step - loss: 0.2575 - accuracy: 0.9004
444 Epoch 214/250
445 143/143 [=====] - 0s
    621us/step - loss: 0.2354 - accuracy: 0.9060
446 Epoch 215/250
447 143/143 [=====] - 0s
    622us/step - loss: 0.2465 - accuracy: 0.9041
448 Epoch 216/250
449 143/143 [=====] - 0s
    606us/step - loss: 0.2298 - accuracy: 0.9107
450 Epoch 217/250
451 143/143 [=====] - 0s
    566us/step - loss: 0.2575 - accuracy: 0.9083
452 Epoch 218/250
453 143/143 [=====] - 0s
    643us/step - loss: 0.2489 - accuracy: 0.9055
454 Epoch 219/250
455 143/143 [=====] - 0s
    615us/step - loss: 0.2476 - accuracy: 0.9022
456 Epoch 220/250
457 143/143 [=====] - 0s
    598us/step - loss: 0.2358 - accuracy: 0.9046
458 Epoch 221/250
459 143/143 [=====] - 0s
    596us/step - loss: 0.2282 - accuracy: 0.9144
460 Epoch 222/250
461 143/143 [=====] - 0s
    582us/step - loss: 0.2412 - accuracy: 0.9041
462 Epoch 223/250
```

```
463 143/143 [=====] - 0s
    658us/step - loss: 0.2336 - accuracy: 0.9060
464 Epoch 224/250
465 143/143 [=====] - 0s
    595us/step - loss: 0.2369 - accuracy: 0.9074
466 Epoch 225/250
467 143/143 [=====] - 0s
    577us/step - loss: 0.2430 - accuracy: 0.9107
468 Epoch 226/250
469 143/143 [=====] - 0s
    693us/step - loss: 0.2277 - accuracy: 0.9083
470 Epoch 227/250
471 143/143 [=====] - 0s
    569us/step - loss: 0.2416 - accuracy: 0.9069
472 Epoch 228/250
473 143/143 [=====] - 0s
    662us/step - loss: 0.2346 - accuracy: 0.9041
474 Epoch 229/250
475 143/143 [=====] - 0s
    604us/step - loss: 0.2372 - accuracy: 0.9135
476 Epoch 230/250
477 143/143 [=====] - 0s
    573us/step - loss: 0.2255 - accuracy: 0.9135
478 Epoch 231/250
479 143/143 [=====] - 0s
    621us/step - loss: 0.2331 - accuracy: 0.9088
480 Epoch 232/250
481 143/143 [=====] - 0s
    596us/step - loss: 0.2399 - accuracy: 0.9097
482 Epoch 233/250
483 143/143 [=====] - 0s
    661us/step - loss: 0.2397 - accuracy: 0.9097
484 Epoch 234/250
485 143/143 [=====] - 0s
    609us/step - loss: 0.2233 - accuracy: 0.9135
486 Epoch 235/250
487 143/143 [=====] - 0s
    596us/step - loss: 0.2359 - accuracy: 0.9097
488 Epoch 236/250
489 143/143 [=====] - 0s
    602us/step - loss: 0.2247 - accuracy: 0.9130
490 Epoch 237/250
491 143/143 [=====] - 0s
    574us/step - loss: 0.2311 - accuracy: 0.9139
```

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492 Epoch 238/250
493 143/143 [=====] - 0s
    682us/step - loss: 0.2206 - accuracy: 0.9102
494 Epoch 239/250
495 143/143 [=====] - 0s
    629us/step - loss: 0.2334 - accuracy: 0.9046
496 Epoch 240/250
497 143/143 [=====] - 0s
    594us/step - loss: 0.2356 - accuracy: 0.9107
498 Epoch 241/250
499 143/143 [=====] - 0s
    602us/step - loss: 0.2416 - accuracy: 0.9088
500 Epoch 242/250
501 143/143 [=====] - 0s
    568us/step - loss: 0.2390 - accuracy: 0.9079
502 Epoch 243/250
503 143/143 [=====] - 0s
    685us/step - loss: 0.2323 - accuracy: 0.9107
504 Epoch 244/250
505 143/143 [=====] - 0s
    602us/step - loss: 0.2104 - accuracy: 0.9186
506 Epoch 245/250
507 143/143 [=====] - 0s
    581us/step - loss: 0.2275 - accuracy: 0.9144
508 Epoch 246/250
509 143/143 [=====] - 0s
    603us/step - loss: 0.2150 - accuracy: 0.9186
510 Epoch 247/250
511 143/143 [=====] - 0s
    597us/step - loss: 0.2301 - accuracy: 0.9102
512 Epoch 248/250
513 143/143 [=====] - 0s
    687us/step - loss: 0.2365 - accuracy: 0.9079
514 Epoch 249/250
515 143/143 [=====] - 0s
    612us/step - loss: 0.2129 - accuracy: 0.9135
516 Epoch 250/250
517 143/143 [=====] - 0s
    601us/step - loss: 0.2125 - accuracy: 0.9167
518 WARNING:tensorflow:From /Library/Frameworks/Python
.framework/Versions/3.8/lib/python3.8/site-
packages/tensorflow/python/training/tracking/
tracking.py:111: Model.state_updates (from
tensorflow.python.keras.engine.training) is
```

```
518 deprecated and will be removed in a future version
.
519 Instructions for updating:
520 This property should not be used in TensorFlow 2.0
, as updates are applied automatically.
521 2020-09-03 18:41:13.106134: W tensorflow/python/
util/util.cc:348] Sets are not currently
considered sequences, but this may change in the
future, so consider avoiding using them.
522 WARNING:tensorflow:From /Library/Frameworks/Python
.framework/Versions/3.8/lib/python3.8/site-
packages/tensorflow/python/training/tracking/
tracking.py:111: Layer.updates (from tensorflow.
python.keras.engine.base_layer) is deprecated and
will be removed in a future version.
523 Instructions for updating:
524 This property should not be used in TensorFlow 2.0
, as updates are applied automatically.
525
526 Process finished with exit code 0
527
```