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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 2020-09-03 19:39:36.083925: 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
3 To enable them in other operations, rebuild TensorFlow with the appropriate compiler flags.
4 2020-09-03 19:39:36.093645: I tensorflow/compiler/xla/service/service.cc:168] XLA service 0x7ff48c7e4ce0 initialized for platform Host (this does not guarantee that XLA will be used). Devices:
5 2020-09-03 19:39:36.093655: I tensorflow/compiler/xla/service/service.cc:176] StreamExecutor device (0): Host, Default Version
6 Epoch 1/350
7 136/136 [=====] - 0s 614us /step - loss: 1.4682 - accuracy: 0.4069
8 Epoch 2/350
9 136/136 [=====] - 0s 598us /step - loss: 0.8800 - accuracy: 0.6868
10 Epoch 3/350
11 136/136 [=====] - 0s 597us /step - loss: 0.6436 - accuracy: 0.7725
12 Epoch 4/350
13 136/136 [=====] - 0s 566us /step - loss: 0.5946 - accuracy: 0.7809
14 Epoch 5/350
15 136/136 [=====] - 0s 567us /step - loss: 0.5866 - accuracy: 0.7902
16 Epoch 6/350
17 136/136 [=====] - 0s 646us /step - loss: 0.5515 - accuracy: 0.7966
18 Epoch 7/350
19 136/136 [=====] - 0s 569us /step - loss: 0.5431 - accuracy: 0.8020
20 Epoch 8/350
21 136/136 [=====] - 0s 560us /step - loss: 0.5208 - accuracy: 0.8044
22 Epoch 9/350
23 136/136 [=====] - 0s 665us
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23 /step - loss: 0.5078 - accuracy: 0.8162
24 Epoch 10/350
25 136/136 [=====] - 0s 627us
    /step - loss: 0.5031 - accuracy: 0.8221
26 Epoch 11/350
27 136/136 [=====] - 0s 865us
    /step - loss: 0.5064 - accuracy: 0.8240
28 Epoch 12/350
29 136/136 [=====] - 0s 649us
    /step - loss: 0.4944 - accuracy: 0.8196
30 Epoch 13/350
31 136/136 [=====] - 0s 564us
    /step - loss: 0.4752 - accuracy: 0.8196
32 Epoch 14/350
33 136/136 [=====] - 0s 650us
    /step - loss: 0.4733 - accuracy: 0.8324
34 Epoch 15/350
35 136/136 [=====] - 0s 591us
    /step - loss: 0.4747 - accuracy: 0.8255
36 Epoch 16/350
37 136/136 [=====] - 0s 568us
    /step - loss: 0.4718 - accuracy: 0.8265
38 Epoch 17/350
39 136/136 [=====] - 0s 658us
    /step - loss: 0.4807 - accuracy: 0.8230
40 Epoch 18/350
41 136/136 [=====] - 0s 620us
    /step - loss: 0.4558 - accuracy: 0.8348
42 Epoch 19/350
43 136/136 [=====] - 0s 562us
    /step - loss: 0.4579 - accuracy: 0.8279
44 Epoch 20/350
45 136/136 [=====] - 0s 677us
    /step - loss: 0.4560 - accuracy: 0.8324
46 Epoch 21/350
47 136/136 [=====] - 0s 569us
    /step - loss: 0.4431 - accuracy: 0.8368
48 Epoch 22/350
49 136/136 [=====] - 0s 596us
    /step - loss: 0.4601 - accuracy: 0.8279
50 Epoch 23/350
51 136/136 [=====] - 0s 595us
    /step - loss: 0.4340 - accuracy: 0.8377
52 Epoch 24/350
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53 136/136 [=====] - 0s 587us
  /step - loss: 0.4671 - accuracy: 0.8319
54 Epoch 25/350
55 136/136 [=====] - 0s 652us
  /step - loss: 0.4646 - accuracy: 0.8353
56 Epoch 26/350
57 136/136 [=====] - 0s 592us
  /step - loss: 0.4316 - accuracy: 0.8471
58 Epoch 27/350
59 136/136 [=====] - 0s 562us
  /step - loss: 0.4249 - accuracy: 0.8485
60 Epoch 28/350
61 136/136 [=====] - 0s 646us
  /step - loss: 0.4339 - accuracy: 0.8402
62 Epoch 29/350
63 136/136 [=====] - 0s 592us
  /step - loss: 0.4237 - accuracy: 0.8436
64 Epoch 30/350
65 136/136 [=====] - 0s 580us
  /step - loss: 0.4306 - accuracy: 0.8387
66 Epoch 31/350
67 136/136 [=====] - 0s 650us
  /step - loss: 0.4223 - accuracy: 0.8412
68 Epoch 32/350
69 136/136 [=====] - 0s 590us
  /step - loss: 0.4268 - accuracy: 0.8407
70 Epoch 33/350
71 136/136 [=====] - 0s 583us
  /step - loss: 0.4112 - accuracy: 0.8544
72 Epoch 34/350
73 136/136 [=====] - 0s 664us
  /step - loss: 0.4264 - accuracy: 0.8382
74 Epoch 35/350
75 136/136 [=====] - 0s 571us
  /step - loss: 0.4294 - accuracy: 0.8402
76 Epoch 36/350
77 136/136 [=====] - 0s 586us
  /step - loss: 0.4153 - accuracy: 0.8471
78 Epoch 37/350
79 136/136 [=====] - 0s 630us
  /step - loss: 0.4433 - accuracy: 0.8402
80 Epoch 38/350
81 136/136 [=====] - 0s 559us
  /step - loss: 0.4172 - accuracy: 0.8417
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82 Epoch 39/350
83 136/136 [=====] - 0s
    618us/step - loss: 0.4081 - accuracy: 0.8510
84 Epoch 40/350
85 136/136 [=====] - 0s
    620us/step - loss: 0.4120 - accuracy: 0.8495
86 Epoch 41/350
87 136/136 [=====] - 0s
    563us/step - loss: 0.4110 - accuracy: 0.8436
88 Epoch 42/350
89 136/136 [=====] - 0s
    683us/step - loss: 0.4006 - accuracy: 0.8485
90 Epoch 43/350
91 136/136 [=====] - 0s
    569us/step - loss: 0.4019 - accuracy: 0.8505
92 Epoch 44/350
93 136/136 [=====] - 0s
    556us/step - loss: 0.4095 - accuracy: 0.8539
94 Epoch 45/350
95 136/136 [=====] - 0s
    694us/step - loss: 0.4158 - accuracy: 0.8471
96 Epoch 46/350
97 136/136 [=====] - 0s
    547us/step - loss: 0.4066 - accuracy: 0.8485
98 Epoch 47/350
99 136/136 [=====] - 0s
    565us/step - loss: 0.4089 - accuracy: 0.8466
100 Epoch 48/350
101 136/136 [=====] - 0s
    662us/step - loss: 0.4115 - accuracy: 0.8505
102 Epoch 49/350
103 136/136 [=====] - 0s
    560us/step - loss: 0.3964 - accuracy: 0.8466
104 Epoch 50/350
105 136/136 [=====] - 0s
    621us/step - loss: 0.4035 - accuracy: 0.8510
106 Epoch 51/350
107 136/136 [=====] - 0s
    622us/step - loss: 0.4006 - accuracy: 0.8495
108 Epoch 52/350
109 136/136 [=====] - 0s
    560us/step - loss: 0.3920 - accuracy: 0.8564
110 Epoch 53/350
111 136/136 [=====] - 0s
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111 667us/step - loss: 0.3861 - accuracy: 0.8593
112 Epoch 54/350
113 136/136 [=====] - 0s
    591us/step - loss: 0.3944 - accuracy: 0.8480
114 Epoch 55/350
115 136/136 [=====] - 0s
    560us/step - loss: 0.3857 - accuracy: 0.8598
116 Epoch 56/350
117 136/136 [=====] - 0s
    614us/step - loss: 0.3972 - accuracy: 0.8554
118 Epoch 57/350
119 136/136 [=====] - 0s
    560us/step - loss: 0.3826 - accuracy: 0.8593
120 Epoch 58/350
121 136/136 [=====] - 0s
    614us/step - loss: 0.3844 - accuracy: 0.8539
122 Epoch 59/350
123 136/136 [=====] - 0s
    627us/step - loss: 0.3819 - accuracy: 0.8564
124 Epoch 60/350
125 136/136 [=====] - 0s
    584us/step - loss: 0.3797 - accuracy: 0.8539
126 Epoch 61/350
127 136/136 [=====] - 0s
    659us/step - loss: 0.3952 - accuracy: 0.8554
128 Epoch 62/350
129 136/136 [=====] - 0s
    573us/step - loss: 0.3820 - accuracy: 0.8583
130 Epoch 63/350
131 136/136 [=====] - 0s
    560us/step - loss: 0.3749 - accuracy: 0.8588
132 Epoch 64/350
133 136/136 [=====] - 0s
    676us/step - loss: 0.3754 - accuracy: 0.8623
134 Epoch 65/350
135 136/136 [=====] - 0s
    565us/step - loss: 0.3769 - accuracy: 0.8574
136 Epoch 66/350
137 136/136 [=====] - 0s
    583us/step - loss: 0.3778 - accuracy: 0.8613
138 Epoch 67/350
139 136/136 [=====] - 0s
    670us/step - loss: 0.3585 - accuracy: 0.8657
140 Epoch 68/350
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141 136/136 [=====] - 0s
    566us/step - loss: 0.3797 - accuracy: 0.8564
142 Epoch 69/350
143 136/136 [=====] - 0s
    564us/step - loss: 0.3698 - accuracy: 0.8623
144 Epoch 70/350
145 136/136 [=====] - 0s
    651us/step - loss: 0.3637 - accuracy: 0.8613
146 Epoch 71/350
147 136/136 [=====] - 0s
    584us/step - loss: 0.3624 - accuracy: 0.8608
148 Epoch 72/350
149 136/136 [=====] - 0s
    578us/step - loss: 0.3761 - accuracy: 0.8593
150 Epoch 73/350
151 136/136 [=====] - 0s
    608us/step - loss: 0.3593 - accuracy: 0.8618
152 Epoch 74/350
153 136/136 [=====] - 0s
    566us/step - loss: 0.3650 - accuracy: 0.8662
154 Epoch 75/350
155 136/136 [=====] - 0s
    623us/step - loss: 0.3624 - accuracy: 0.8603
156 Epoch 76/350
157 136/136 [=====] - 0s
    624us/step - loss: 0.3624 - accuracy: 0.8593
158 Epoch 77/350
159 136/136 [=====] - 0s
    563us/step - loss: 0.3412 - accuracy: 0.8750
160 Epoch 78/350
161 136/136 [=====] - 0s
    729us/step - loss: 0.3650 - accuracy: 0.8681
162 Epoch 79/350
163 136/136 [=====] - 0s
    565us/step - loss: 0.3532 - accuracy: 0.8681
164 Epoch 80/350
165 136/136 [=====] - 0s
    560us/step - loss: 0.3514 - accuracy: 0.8623
166 Epoch 81/350
167 136/136 [=====] - 0s
    678us/step - loss: 0.3917 - accuracy: 0.8471
168 Epoch 82/350
169 136/136 [=====] - 0s
    574us/step - loss: 0.3465 - accuracy: 0.8681
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170 Epoch 83/350
171 136/136 [=====] - 0s
    546us/step - loss: 0.3480 - accuracy: 0.8706
172 Epoch 84/350
173 136/136 [=====] - 0s
    679us/step - loss: 0.3502 - accuracy: 0.8735
174 Epoch 85/350
175 136/136 [=====] - 0s
    559us/step - loss: 0.3434 - accuracy: 0.8691
176 Epoch 86/350
177 136/136 [=====] - 0s
    544us/step - loss: 0.3414 - accuracy: 0.8725
178 Epoch 87/350
179 136/136 [=====] - 0s
    647us/step - loss: 0.3436 - accuracy: 0.8745
180 Epoch 88/350
181 136/136 [=====] - 0s
    613us/step - loss: 0.3474 - accuracy: 0.8725
182 Epoch 89/350
183 136/136 [=====] - 0s
    563us/step - loss: 0.3453 - accuracy: 0.8706
184 Epoch 90/350
185 136/136 [=====] - 0s
    704us/step - loss: 0.3397 - accuracy: 0.8701
186 Epoch 91/350
187 136/136 [=====] - 0s
    566us/step - loss: 0.3404 - accuracy: 0.8701
188 Epoch 92/350
189 136/136 [=====] - 0s
    563us/step - loss: 0.3501 - accuracy: 0.8676
190 Epoch 93/350
191 136/136 [=====] - 0s
    677us/step - loss: 0.3435 - accuracy: 0.8716
192 Epoch 94/350
193 136/136 [=====] - 0s
    564us/step - loss: 0.3315 - accuracy: 0.8809
194 Epoch 95/350
195 136/136 [=====] - 0s
    594us/step - loss: 0.3375 - accuracy: 0.8711
196 Epoch 96/350
197 136/136 [=====] - 0s
    616us/step - loss: 0.3327 - accuracy: 0.8745
198 Epoch 97/350
199 136/136 [=====] - 0s
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199 562us/step - loss: 0.3587 - accuracy: 0.8608
200 Epoch 98/350
201 136/136 [=====] - 0s
    645us/step - loss: 0.3418 - accuracy: 0.8632
202 Epoch 99/350
203 136/136 [=====] - 0s
    588us/step - loss: 0.3589 - accuracy: 0.8662
204 Epoch 100/350
205 136/136 [=====] - 0s
    542us/step - loss: 0.3297 - accuracy: 0.8740
206 Epoch 101/350
207 136/136 [=====] - 0s
    677us/step - loss: 0.3196 - accuracy: 0.8721
208 Epoch 102/350
209 136/136 [=====] - 0s
    622us/step - loss: 0.3181 - accuracy: 0.8779
210 Epoch 103/350
211 136/136 [=====] - 0s
    560us/step - loss: 0.3437 - accuracy: 0.8662
212 Epoch 104/350
213 136/136 [=====] - 0s
    620us/step - loss: 0.3260 - accuracy: 0.8716
214 Epoch 105/350
215 136/136 [=====] - 0s
    563us/step - loss: 0.3249 - accuracy: 0.8779
216 Epoch 106/350
217 136/136 [=====] - 0s
    614us/step - loss: 0.3230 - accuracy: 0.8804
218 Epoch 107/350
219 136/136 [=====] - 0s
    616us/step - loss: 0.3301 - accuracy: 0.8711
220 Epoch 108/350
221 136/136 [=====] - 0s
    572us/step - loss: 0.3180 - accuracy: 0.8765
222 Epoch 109/350
223 136/136 [=====] - 0s
    714us/step - loss: 0.3135 - accuracy: 0.8794
224 Epoch 110/350
225 136/136 [=====] - 0s
    576us/step - loss: 0.3244 - accuracy: 0.8770
226 Epoch 111/350
227 136/136 [=====] - 0s
    573us/step - loss: 0.3292 - accuracy: 0.8730
228 Epoch 112/350
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229 136/136 [=====] - 0s
    701us/step - loss: 0.3145 - accuracy: 0.8877
230 Epoch 113/350
231 136/136 [=====] - 0s
    566us/step - loss: 0.3174 - accuracy: 0.8765
232 Epoch 114/350
233 136/136 [=====] - 0s
    585us/step - loss: 0.3205 - accuracy: 0.8716
234 Epoch 115/350
235 136/136 [=====] - 0s
    661us/step - loss: 0.3303 - accuracy: 0.8706
236 Epoch 116/350
237 136/136 [=====] - 0s
    576us/step - loss: 0.3300 - accuracy: 0.8706
238 Epoch 117/350
239 136/136 [=====] - 0s
    557us/step - loss: 0.3135 - accuracy: 0.8760
240 Epoch 118/350
241 136/136 [=====] - 0s
    670us/step - loss: 0.3103 - accuracy: 0.8775
242 Epoch 119/350
243 136/136 [=====] - 0s
    585us/step - loss: 0.3288 - accuracy: 0.8794
244 Epoch 120/350
245 136/136 [=====] - 0s
    581us/step - loss: 0.3231 - accuracy: 0.8745
246 Epoch 121/350
247 136/136 [=====] - 0s
    603us/step - loss: 0.3181 - accuracy: 0.8760
248 Epoch 122/350
249 136/136 [=====] - 0s
    598us/step - loss: 0.3045 - accuracy: 0.8877
250 Epoch 123/350
251 136/136 [=====] - 0s
    649us/step - loss: 0.3286 - accuracy: 0.8725
252 Epoch 124/350
253 136/136 [=====] - 0s
    632us/step - loss: 0.3048 - accuracy: 0.8868
254 Epoch 125/350
255 136/136 [=====] - 0s
    550us/step - loss: 0.3071 - accuracy: 0.8799
256 Epoch 126/350
257 136/136 [=====] - 0s
    729us/step - loss: 0.3065 - accuracy: 0.8858
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258 Epoch 127/350
259 136/136 [=====] - 0s
    599us/step - loss: 0.3092 - accuracy: 0.8760
260 Epoch 128/350
261 136/136 [=====] - 0s
    561us/step - loss: 0.3113 - accuracy: 0.8828
262 Epoch 129/350
263 136/136 [=====] - 0s
    611us/step - loss: 0.3078 - accuracy: 0.8809
264 Epoch 130/350
265 136/136 [=====] - 0s
    546us/step - loss: 0.3006 - accuracy: 0.8848
266 Epoch 131/350
267 136/136 [=====] - 0s
    652us/step - loss: 0.3018 - accuracy: 0.8892
268 Epoch 132/350
269 136/136 [=====] - 0s
    657us/step - loss: 0.3146 - accuracy: 0.8853
270 Epoch 133/350
271 136/136 [=====] - 0s
    559us/step - loss: 0.3032 - accuracy: 0.8858
272 Epoch 134/350
273 136/136 [=====] - 0s
    626us/step - loss: 0.3034 - accuracy: 0.8843
274 Epoch 135/350
275 136/136 [=====] - 0s
    561us/step - loss: 0.2965 - accuracy: 0.8848
276 Epoch 136/350
277 136/136 [=====] - 0s
    619us/step - loss: 0.2970 - accuracy: 0.8912
278 Epoch 137/350
279 136/136 [=====] - 0s
    621us/step - loss: 0.3135 - accuracy: 0.8804
280 Epoch 138/350
281 136/136 [=====] - 0s
    590us/step - loss: 0.2937 - accuracy: 0.8892
282 Epoch 139/350
283 136/136 [=====] - 0s
    693us/step - loss: 0.3090 - accuracy: 0.8804
284 Epoch 140/350
285 136/136 [=====] - 0s
    570us/step - loss: 0.2808 - accuracy: 0.8863
286 Epoch 141/350
287 136/136 [=====] - 0s
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287 562us/step - loss: 0.2904 - accuracy: 0.8926
288 Epoch 142/350
289 136/136 [=====] - 0s
    670us/step - loss: 0.3002 - accuracy: 0.8902
290 Epoch 143/350
291 136/136 [=====] - 0s
    570us/step - loss: 0.2919 - accuracy: 0.8882
292 Epoch 144/350
293 136/136 [=====] - 0s
    586us/step - loss: 0.2960 - accuracy: 0.8877
294 Epoch 145/350
295 136/136 [=====] - 0s
    686us/step - loss: 0.2805 - accuracy: 0.8926
296 Epoch 146/350
297 136/136 [=====] - 0s
    567us/step - loss: 0.2877 - accuracy: 0.8946
298 Epoch 147/350
299 136/136 [=====] - 0s
    561us/step - loss: 0.2819 - accuracy: 0.8922
300 Epoch 148/350
301 136/136 [=====] - 0s
    674us/step - loss: 0.2874 - accuracy: 0.8902
302 Epoch 149/350
303 136/136 [=====] - 0s
    574us/step - loss: 0.2933 - accuracy: 0.8828
304 Epoch 150/350
305 136/136 [=====] - 0s
    581us/step - loss: 0.2956 - accuracy: 0.8838
306 Epoch 151/350
307 136/136 [=====] - 0s
    675us/step - loss: 0.2924 - accuracy: 0.8877
308 Epoch 152/350
309 136/136 [=====] - 0s
    568us/step - loss: 0.2876 - accuracy: 0.8902
310 Epoch 153/350
311 136/136 [=====] - 0s
    560us/step - loss: 0.2850 - accuracy: 0.8922
312 Epoch 154/350
313 136/136 [=====] - 0s
    666us/step - loss: 0.2796 - accuracy: 0.8966
314 Epoch 155/350
315 136/136 [=====] - 0s
    582us/step - loss: 0.2836 - accuracy: 0.8887
316 Epoch 156/350
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317 136/136 [=====] - 0s
    572us/step - loss: 0.2877 - accuracy: 0.8848
318 Epoch 157/350
319 136/136 [=====] - 0s
    665us/step - loss: 0.2885 - accuracy: 0.8877
320 Epoch 158/350
321 136/136 [=====] - 0s
    591us/step - loss: 0.2890 - accuracy: 0.8926
322 Epoch 159/350
323 136/136 [=====] - 0s
    569us/step - loss: 0.3060 - accuracy: 0.8794
324 Epoch 160/350
325 136/136 [=====] - 0s
    620us/step - loss: 0.2791 - accuracy: 0.8907
326 Epoch 161/350
327 136/136 [=====] - 0s
    561us/step - loss: 0.2901 - accuracy: 0.8887
328 Epoch 162/350
329 136/136 [=====] - 0s
    638us/step - loss: 0.2877 - accuracy: 0.8882
330 Epoch 163/350
331 136/136 [=====] - 0s
    616us/step - loss: 0.2903 - accuracy: 0.8848
332 Epoch 164/350
333 136/136 [=====] - 0s
    560us/step - loss: 0.2666 - accuracy: 0.8946
334 Epoch 165/350
335 136/136 [=====] - 0s
    616us/step - loss: 0.2700 - accuracy: 0.9000
336 Epoch 166/350
337 136/136 [=====] - 0s
    559us/step - loss: 0.2798 - accuracy: 0.8951
338 Epoch 167/350
339 136/136 [=====] - 0s
    617us/step - loss: 0.2801 - accuracy: 0.8877
340 Epoch 168/350
341 136/136 [=====] - 0s
    667us/step - loss: 0.2741 - accuracy: 0.8877
342 Epoch 169/350
343 136/136 [=====] - 0s
    562us/step - loss: 0.2675 - accuracy: 0.8951
344 Epoch 170/350
345 136/136 [=====] - 0s
    623us/step - loss: 0.2628 - accuracy: 0.8961
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346 Epoch 171/350
347 136/136 [=====] - 0s
      560us/step - loss: 0.2725 - accuracy: 0.8961
348 Epoch 172/350
349 136/136 [=====] - 0s
      614us/step - loss: 0.2645 - accuracy: 0.8980
350 Epoch 173/350
351 136/136 [=====] - 0s
      625us/step - loss: 0.2799 - accuracy: 0.8956
352 Epoch 174/350
353 136/136 [=====] - 0s
      583us/step - loss: 0.2667 - accuracy: 0.8990
354 Epoch 175/350
355 136/136 [=====] - 0s
      653us/step - loss: 0.2810 - accuracy: 0.8907
356 Epoch 176/350
357 136/136 [=====] - 0s
      590us/step - loss: 0.2621 - accuracy: 0.8980
358 Epoch 177/350
359 136/136 [=====] - 0s
      551us/step - loss: 0.2607 - accuracy: 0.8975
360 Epoch 178/350
361 136/136 [=====] - 0s
      653us/step - loss: 0.2646 - accuracy: 0.8956
362 Epoch 179/350
363 136/136 [=====] - 0s
      589us/step - loss: 0.2615 - accuracy: 0.8951
364 Epoch 180/350
365 136/136 [=====] - 0s
      581us/step - loss: 0.2556 - accuracy: 0.8995
366 Epoch 181/350
367 136/136 [=====] - 0s
      679us/step - loss: 0.2723 - accuracy: 0.8961
368 Epoch 182/350
369 136/136 [=====] - 0s
      568us/step - loss: 0.2867 - accuracy: 0.8873
370 Epoch 183/350
371 136/136 [=====] - 0s
      557us/step - loss: 0.2681 - accuracy: 0.8926
372 Epoch 184/350
373 136/136 [=====] - 0s
      664us/step - loss: 0.2658 - accuracy: 0.8956
374 Epoch 185/350
375 136/136 [=====] - 0s
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375 575us/step - loss: 0.2587 - accuracy: 0.8961
376 Epoch 186/350
377 136/136 [=====] - 0s
    584us/step - loss: 0.2638 - accuracy: 0.9005
378 Epoch 187/350
379 136/136 [=====] - 0s
    660us/step - loss: 0.2570 - accuracy: 0.9059
380 Epoch 188/350
381 136/136 [=====] - 0s
    576us/step - loss: 0.2469 - accuracy: 0.9108
382 Epoch 189/350
383 136/136 [=====] - 0s
    559us/step - loss: 0.2513 - accuracy: 0.9044
384 Epoch 190/350
385 136/136 [=====] - 0s
    668us/step - loss: 0.2533 - accuracy: 0.8946
386 Epoch 191/350
387 136/136 [=====] - 0s
    566us/step - loss: 0.2783 - accuracy: 0.8985
388 Epoch 192/350
389 136/136 [=====] - 0s
    584us/step - loss: 0.2544 - accuracy: 0.9000
390 Epoch 193/350
391 136/136 [=====] - 0s
    623us/step - loss: 0.2544 - accuracy: 0.9025
392 Epoch 194/350
393 136/136 [=====] - 0s
    558us/step - loss: 0.2537 - accuracy: 0.9020
394 Epoch 195/350
395 136/136 [=====] - 0s
    609us/step - loss: 0.2438 - accuracy: 0.9113
396 Epoch 196/350
397 136/136 [=====] - 0s
    609us/step - loss: 0.2645 - accuracy: 0.8966
398 Epoch 197/350
399 136/136 [=====] - 0s
    572us/step - loss: 0.2576 - accuracy: 0.8971
400 Epoch 198/350
401 136/136 [=====] - 0s
    703us/step - loss: 0.2405 - accuracy: 0.9054
402 Epoch 199/350
403 136/136 [=====] - 0s
    553us/step - loss: 0.2578 - accuracy: 0.9010
404 Epoch 200/350
```

```
405 136/136 [=====] - 0s
    541us/step - loss: 0.2522 - accuracy: 0.9005
406 Epoch 201/350
407 136/136 [=====] - 0s
    637us/step - loss: 0.2439 - accuracy: 0.9083
408 Epoch 202/350
409 136/136 [=====] - 0s
    604us/step - loss: 0.2485 - accuracy: 0.9010
410 Epoch 203/350
411 136/136 [=====] - 0s
    562us/step - loss: 0.2442 - accuracy: 0.9098
412 Epoch 204/350
413 136/136 [=====] - 0s
    699us/step - loss: 0.2497 - accuracy: 0.9000
414 Epoch 205/350
415 136/136 [=====] - 0s
    572us/step - loss: 0.2324 - accuracy: 0.9137
416 Epoch 206/350
417 136/136 [=====] - 0s
    561us/step - loss: 0.2445 - accuracy: 0.9020
418 Epoch 207/350
419 136/136 [=====] - 0s
    680us/step - loss: 0.2479 - accuracy: 0.8985
420 Epoch 208/350
421 136/136 [=====] - 0s
    565us/step - loss: 0.2477 - accuracy: 0.9034
422 Epoch 209/350
423 136/136 [=====] - 0s
    561us/step - loss: 0.2502 - accuracy: 0.9059
424 Epoch 210/350
425 136/136 [=====] - 0s
    691us/step - loss: 0.2333 - accuracy: 0.9088
426 Epoch 211/350
427 136/136 [=====] - 0s
    565us/step - loss: 0.2331 - accuracy: 0.9127
428 Epoch 212/350
429 136/136 [=====] - 0s
    557us/step - loss: 0.2483 - accuracy: 0.9074
430 Epoch 213/350
431 136/136 [=====] - 0s
    611us/step - loss: 0.2339 - accuracy: 0.9142
432 Epoch 214/350
433 136/136 [=====] - 0s
    540us/step - loss: 0.2559 - accuracy: 0.8980
```

```
434 Epoch 215/350
435 136/136 [=====] - 0s
    629us/step - loss: 0.2248 - accuracy: 0.9113
436 Epoch 216/350
437 136/136 [=====] - 0s
    672us/step - loss: 0.2386 - accuracy: 0.9088
438 Epoch 217/350
439 136/136 [=====] - 0s
    561us/step - loss: 0.2443 - accuracy: 0.9069
440 Epoch 218/350
441 136/136 [=====] - 0s
    621us/step - loss: 0.2414 - accuracy: 0.9132
442 Epoch 219/350
443 136/136 [=====] - 0s
    562us/step - loss: 0.2283 - accuracy: 0.9162
444 Epoch 220/350
445 136/136 [=====] - 0s
    616us/step - loss: 0.2363 - accuracy: 0.9034
446 Epoch 221/350
447 136/136 [=====] - 0s
    620us/step - loss: 0.2537 - accuracy: 0.9039
448 Epoch 222/350
449 136/136 [=====] - 0s
    586us/step - loss: 0.2398 - accuracy: 0.9083
450 Epoch 223/350
451 136/136 [=====] - 0s
    665us/step - loss: 0.2445 - accuracy: 0.9034
452 Epoch 224/350
453 136/136 [=====] - 0s
    572us/step - loss: 0.2327 - accuracy: 0.9113
454 Epoch 225/350
455 136/136 [=====] - 0s
    561us/step - loss: 0.2349 - accuracy: 0.9103
456 Epoch 226/350
457 136/136 [=====] - 0s
    651us/step - loss: 0.2268 - accuracy: 0.9098
458 Epoch 227/350
459 136/136 [=====] - 0s
    589us/step - loss: 0.2277 - accuracy: 0.9132
460 Epoch 228/350
461 136/136 [=====] - 0s
    581us/step - loss: 0.2340 - accuracy: 0.9093
462 Epoch 229/350
463 136/136 [=====] - 0s
```

```
463 623us/step - loss: 0.2283 - accuracy: 0.9093
464 Epoch 230/350
465 136/136 [=====] - 0s
    559us/step - loss: 0.2340 - accuracy: 0.9044
466 Epoch 231/350
467 136/136 [=====] - 0s
    619us/step - loss: 0.2346 - accuracy: 0.9054
468 Epoch 232/350
469 136/136 [=====] - 0s
    606us/step - loss: 0.2424 - accuracy: 0.9049
470 Epoch 233/350
471 136/136 [=====] - 0s
    565us/step - loss: 0.2234 - accuracy: 0.9064
472 Epoch 234/350
473 136/136 [=====] - 0s
    689us/step - loss: 0.2442 - accuracy: 0.9005
474 Epoch 235/350
475 136/136 [=====] - 0s
    586us/step - loss: 0.2310 - accuracy: 0.9083
476 Epoch 236/350
477 136/136 [=====] - 0s
    558us/step - loss: 0.2642 - accuracy: 0.9000
478 Epoch 237/350
479 136/136 [=====] - 0s
    624us/step - loss: 0.2056 - accuracy: 0.9211
480 Epoch 238/350
481 136/136 [=====] - 0s
    559us/step - loss: 0.2422 - accuracy: 0.9088
482 Epoch 239/350
483 136/136 [=====] - 0s
    619us/step - loss: 0.2397 - accuracy: 0.9069
484 Epoch 240/350
485 136/136 [=====] - 0s
    648us/step - loss: 0.2310 - accuracy: 0.9123
486 Epoch 241/350
487 136/136 [=====] - 0s
    557us/step - loss: 0.2206 - accuracy: 0.9191
488 Epoch 242/350
489 136/136 [=====] - 0s
    681us/step - loss: 0.2350 - accuracy: 0.9078
490 Epoch 243/350
491 136/136 [=====] - 0s
    575us/step - loss: 0.2257 - accuracy: 0.9093
492 Epoch 244/350
```

```
493 136/136 [=====] - 0s
    571us/step - loss: 0.2138 - accuracy: 0.9162
494 Epoch 245/350
495 136/136 [=====] - 0s
    622us/step - loss: 0.2263 - accuracy: 0.9029
496 Epoch 246/350
497 136/136 [=====] - 0s
    584us/step - loss: 0.2135 - accuracy: 0.9216
498 Epoch 247/350
499 136/136 [=====] - 0s
    617us/step - loss: 0.2429 - accuracy: 0.9029
500 Epoch 248/350
501 136/136 [=====] - 0s
    624us/step - loss: 0.2166 - accuracy: 0.9235
502 Epoch 249/350
503 136/136 [=====] - 0s
    558us/step - loss: 0.2209 - accuracy: 0.9127
504 Epoch 250/350
505 136/136 [=====] - 0s
    657us/step - loss: 0.2256 - accuracy: 0.9078
506 Epoch 251/350
507 136/136 [=====] - 0s
    581us/step - loss: 0.2175 - accuracy: 0.9176
508 Epoch 252/350
509 136/136 [=====] - 0s
    582us/step - loss: 0.2233 - accuracy: 0.9157
510 Epoch 253/350
511 136/136 [=====] - 0s
    620us/step - loss: 0.2260 - accuracy: 0.9127
512 Epoch 254/350
513 136/136 [=====] - 0s
    558us/step - loss: 0.2009 - accuracy: 0.9275
514 Epoch 255/350
515 136/136 [=====] - 0s
    613us/step - loss: 0.2104 - accuracy: 0.9191
516 Epoch 256/350
517 136/136 [=====] - 0s
    608us/step - loss: 0.2186 - accuracy: 0.9250
518 Epoch 257/350
519 136/136 [=====] - 0s
    568us/step - loss: 0.2147 - accuracy: 0.9176
520 Epoch 258/350
521 136/136 [=====] - 0s
    709us/step - loss: 0.2105 - accuracy: 0.9152
```

```
522 Epoch 259/350
523 136/136 [=====] - 0s
    607us/step - loss: 0.2140 - accuracy: 0.9240
524 Epoch 260/350
525 136/136 [=====] - 0s
    562us/step - loss: 0.2356 - accuracy: 0.9054
526 Epoch 261/350
527 136/136 [=====] - 0s
    620us/step - loss: 0.2129 - accuracy: 0.9191
528 Epoch 262/350
529 136/136 [=====] - 0s
    557us/step - loss: 0.2145 - accuracy: 0.9176
530 Epoch 263/350
531 136/136 [=====] - 0s
    616us/step - loss: 0.2350 - accuracy: 0.9137
532 Epoch 264/350
533 136/136 [=====] - 0s
    648us/step - loss: 0.2069 - accuracy: 0.9201
534 Epoch 265/350
535 136/136 [=====] - 0s
    560us/step - loss: 0.2167 - accuracy: 0.9127
536 Epoch 266/350
537 136/136 [=====] - 0s
    606us/step - loss: 0.2147 - accuracy: 0.9103
538 Epoch 267/350
539 136/136 [=====] - 0s
    541us/step - loss: 0.2242 - accuracy: 0.9137
540 Epoch 268/350
541 136/136 [=====] - 0s
    577us/step - loss: 0.2307 - accuracy: 0.9044
542 Epoch 269/350
543 136/136 [=====] - 0s
    623us/step - loss: 0.2122 - accuracy: 0.9191
544 Epoch 270/350
545 136/136 [=====] - 0s
    564us/step - loss: 0.2005 - accuracy: 0.9245
546 Epoch 271/350
547 136/136 [=====] - 0s
    677us/step - loss: 0.1970 - accuracy: 0.9270
548 Epoch 272/350
549 136/136 [=====] - 0s
    592us/step - loss: 0.2145 - accuracy: 0.9147
550 Epoch 273/350
551 136/136 [=====] - 0s
```

```
551 559us/step - loss: 0.2108 - accuracy: 0.9167
552 Epoch 274/350
553 136/136 [=====] - 0s
    681us/step - loss: 0.2154 - accuracy: 0.9132
554 Epoch 275/350
555 136/136 [=====] - 0s
    564us/step - loss: 0.2043 - accuracy: 0.9176
556 Epoch 276/350
557 136/136 [=====] - 0s
    585us/step - loss: 0.2223 - accuracy: 0.9162
558 Epoch 277/350
559 136/136 [=====] - 0s
    675us/step - loss: 0.2128 - accuracy: 0.9181
560 Epoch 278/350
561 136/136 [=====] - 0s
    565us/step - loss: 0.1975 - accuracy: 0.9265
562 Epoch 279/350
563 136/136 [=====] - 0s
    554us/step - loss: 0.2037 - accuracy: 0.9152
564 Epoch 280/350
565 136/136 [=====] - 0s
    674us/step - loss: 0.1929 - accuracy: 0.9206
566 Epoch 281/350
567 136/136 [=====] - 0s
    561us/step - loss: 0.2053 - accuracy: 0.9191
568 Epoch 282/350
569 136/136 [=====] - 0s
    565us/step - loss: 0.2093 - accuracy: 0.9137
570 Epoch 283/350
571 136/136 [=====] - 0s
    715us/step - loss: 0.1949 - accuracy: 0.9235
572 Epoch 284/350
573 136/136 [=====] - 0s
    567us/step - loss: 0.2048 - accuracy: 0.9235
574 Epoch 285/350
575 136/136 [=====] - 0s
    556us/step - loss: 0.1973 - accuracy: 0.9284
576 Epoch 286/350
577 136/136 [=====] - 0s
    604us/step - loss: 0.2143 - accuracy: 0.9181
578 Epoch 287/350
579 136/136 [=====] - 0s
    570us/step - loss: 0.2213 - accuracy: 0.9157
580 Epoch 288/350
```

```
581 136/136 [=====] - 0s
    687us/step - loss: 0.1938 - accuracy: 0.9216
582 Epoch 289/350
583 136/136 [=====] - 0s
    630us/step - loss: 0.2145 - accuracy: 0.9137
584 Epoch 290/350
585 136/136 [=====] - 0s
    557us/step - loss: 0.1980 - accuracy: 0.9255
586 Epoch 291/350
587 136/136 [=====] - 0s
    626us/step - loss: 0.1968 - accuracy: 0.9230
588 Epoch 292/350
589 136/136 [=====] - 0s
    558us/step - loss: 0.2029 - accuracy: 0.9225
590 Epoch 293/350
591 136/136 [=====] - 0s
    620us/step - loss: 0.2024 - accuracy: 0.9201
592 Epoch 294/350
593 136/136 [=====] - 0s
    648us/step - loss: 0.1916 - accuracy: 0.9235
594 Epoch 295/350
595 136/136 [=====] - 0s
    557us/step - loss: 0.2154 - accuracy: 0.9118
596 Epoch 296/350
597 136/136 [=====] - 0s
    651us/step - loss: 0.1888 - accuracy: 0.9284
598 Epoch 297/350
599 136/136 [=====] - 0s
    582us/step - loss: 0.1995 - accuracy: 0.9191
600 Epoch 298/350
601 136/136 [=====] - 0s
    560us/step - loss: 0.1933 - accuracy: 0.9250
602 Epoch 299/350
603 136/136 [=====] - 0s
    662us/step - loss: 0.1942 - accuracy: 0.9230
604 Epoch 300/350
605 136/136 [=====] - 0s
    599us/step - loss: 0.1921 - accuracy: 0.9240
606 Epoch 301/350
607 136/136 [=====] - 0s
    541us/step - loss: 0.2057 - accuracy: 0.9260
608 Epoch 302/350
609 136/136 [=====] - 0s
    692us/step - loss: 0.2057 - accuracy: 0.9211
```

```
610 Epoch 303/350
611 136/136 [=====] - 0s
    592us/step - loss: 0.1898 - accuracy: 0.9304
612 Epoch 304/350
613 136/136 [=====] - 0s
    558us/step - loss: 0.2109 - accuracy: 0.9167
614 Epoch 305/350
615 136/136 [=====] - 0s
    673us/step - loss: 0.2153 - accuracy: 0.9132
616 Epoch 306/350
617 136/136 [=====] - 0s
    595us/step - loss: 0.1949 - accuracy: 0.9211
618 Epoch 307/350
619 136/136 [=====] - 0s
    564us/step - loss: 0.1981 - accuracy: 0.9201
620 Epoch 308/350
621 136/136 [=====] - 0s
    619us/step - loss: 0.1803 - accuracy: 0.9314
622 Epoch 309/350
623 136/136 [=====] - 0s
    560us/step - loss: 0.1958 - accuracy: 0.9201
624 Epoch 310/350
625 136/136 [=====] - 0s
    618us/step - loss: 0.1782 - accuracy: 0.9299
626 Epoch 311/350
627 136/136 [=====] - 0s
    628us/step - loss: 0.2005 - accuracy: 0.9240
628 Epoch 312/350
629 136/136 [=====] - 0s
    585us/step - loss: 0.1852 - accuracy: 0.9275
630 Epoch 313/350
631 136/136 [=====] - 0s
    664us/step - loss: 0.1886 - accuracy: 0.9294
632 Epoch 314/350
633 136/136 [=====] - 0s
    572us/step - loss: 0.1978 - accuracy: 0.9162
634 Epoch 315/350
635 136/136 [=====] - 0s
    559us/step - loss: 0.1813 - accuracy: 0.9314
636 Epoch 316/350
637 136/136 [=====] - 0s
    662us/step - loss: 0.1975 - accuracy: 0.9167
638 Epoch 317/350
639 136/136 [=====] - 0s
```

```
639 580us/step - loss: 0.1861 - accuracy: 0.9309
640 Epoch 318/350
641 136/136 [=====] - 0s
    582us/step - loss: 0.2142 - accuracy: 0.9221
642 Epoch 319/350
643 136/136 [=====] - 0s
    625us/step - loss: 0.1947 - accuracy: 0.9245
644 Epoch 320/350
645 136/136 [=====] - 0s
    549us/step - loss: 0.1930 - accuracy: 0.9245
646 Epoch 321/350
647 136/136 [=====] - 0s
    597us/step - loss: 0.1806 - accuracy: 0.9284
648 Epoch 322/350
649 136/136 [=====] - 0s
    649us/step - loss: 0.1757 - accuracy: 0.9333
650 Epoch 323/350
651 136/136 [=====] - 0s
    569us/step - loss: 0.1832 - accuracy: 0.9289
652 Epoch 324/350
653 136/136 [=====] - 0s
    715us/step - loss: 0.1833 - accuracy: 0.9265
654 Epoch 325/350
655 136/136 [=====] - 0s
    583us/step - loss: 0.1864 - accuracy: 0.9240
656 Epoch 326/350
657 136/136 [=====] - 0s
    565us/step - loss: 0.1829 - accuracy: 0.9245
658 Epoch 327/350
659 136/136 [=====] - 0s
    621us/step - loss: 0.1911 - accuracy: 0.9240
660 Epoch 328/350
661 136/136 [=====] - 0s
    545us/step - loss: 0.1729 - accuracy: 0.9324
662 Epoch 329/350
663 136/136 [=====] - 0s
    628us/step - loss: 0.2199 - accuracy: 0.9162
664 Epoch 330/350
665 136/136 [=====] - 0s
    672us/step - loss: 0.1733 - accuracy: 0.9265
666 Epoch 331/350
667 136/136 [=====] - 0s
    563us/step - loss: 0.1799 - accuracy: 0.9240
668 Epoch 332/350
```

```
669 136/136 [=====] - 0s
    626us/step - loss: 0.1971 - accuracy: 0.9196
670 Epoch 333/350
671 136/136 [=====] - 0s
    561us/step - loss: 0.1863 - accuracy: 0.9319
672 Epoch 334/350
673 136/136 [=====] - 0s
    619us/step - loss: 0.1764 - accuracy: 0.9279
674 Epoch 335/350
675 136/136 [=====] - 0s
    616us/step - loss: 0.2000 - accuracy: 0.9206
676 Epoch 336/350
677 136/136 [=====] - 0s
    581us/step - loss: 0.1791 - accuracy: 0.9309
678 Epoch 337/350
679 136/136 [=====] - 0s
    665us/step - loss: 0.1839 - accuracy: 0.9216
680 Epoch 338/350
681 136/136 [=====] - 0s
    567us/step - loss: 0.1817 - accuracy: 0.9279
682 Epoch 339/350
683 136/136 [=====] - 0s
    560us/step - loss: 0.1814 - accuracy: 0.9299
684 Epoch 340/350
685 136/136 [=====] - 0s
    662us/step - loss: 0.1961 - accuracy: 0.9275
686 Epoch 341/350
687 136/136 [=====] - 0s
    571us/step - loss: 0.1841 - accuracy: 0.9279
688 Epoch 342/350
689 136/136 [=====] - 0s
    582us/step - loss: 0.1827 - accuracy: 0.9270
690 Epoch 343/350
691 136/136 [=====] - 0s
    620us/step - loss: 0.1782 - accuracy: 0.9289
692 Epoch 344/350
693 136/136 [=====] - 0s
    555us/step - loss: 0.1679 - accuracy: 0.9348
694 Epoch 345/350
695 136/136 [=====] - 0s
    622us/step - loss: 0.1892 - accuracy: 0.9275
696 Epoch 346/350
697 136/136 [=====] - 0s
    624us/step - loss: 0.1988 - accuracy: 0.9230
```

```
698 Epoch 347/350
699 136/136 [=====] - 0s
    561us/step - loss: 0.1664 - accuracy: 0.9333
700 Epoch 348/350
701 136/136 [=====] - 0s
    712us/step - loss: 0.1749 - accuracy: 0.9279
702 Epoch 349/350
703 136/136 [=====] - 0s
    573us/step - loss: 0.1852 - accuracy: 0.9294
704 Epoch 350/350
705 136/136 [=====] - 0s
    560us/step - loss: 0.1905 - accuracy: 0.9245
706 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
deprecated and will be removed in a future version
.
707 Instructions for updating:
708 This property should not be used in TensorFlow 2.0
, as updates are applied automatically.
709 2020-09-03 19:40:05.829833: 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.
710 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.
711 Instructions for updating:
712 This property should not be used in TensorFlow 2.0
, as updates are applied automatically.
713
714 Process finished with exit code 0
715
```