Epoch 1/100

428/428 [==============================] - 941s 2s/step - loss: 0.3979 - accuracy: 0.8189 - val\_loss: 1.2288 - val\_accuracy: 0.7772 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 2/100

428/428 [==============================] - 396s 925ms/step - loss: 0.3261 - accuracy: 0.8628 - val\_loss: 2.2088 - val\_accuracy: 0.6550 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 3/100

428/428 [==============================] - 351s 820ms/step - loss: 0.3044 - accuracy: 0.8742 - val\_loss: 2.1014 - val\_accuracy: 0.5230 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 4/100

428/428 [==============================] - 351s 821ms/step - loss: 0.2858 - accuracy: 0.8825 - val\_loss: 1.3665 - val\_accuracy: 0.7519 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 5/100

428/428 [==============================] - 349s 816ms/step - loss: 0.2787 - accuracy: 0.8856 - val\_loss: 0.6605 - val\_accuracy: 0.8076 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 6/100

428/428 [==============================] - 349s 815ms/step - loss: 0.2711 - accuracy: 0.8894 - val\_loss: 0.6659 - val\_accuracy: 0.8306 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 7/100

428/428 [==============================] - 347s 811ms/step - loss: 0.2650 - accuracy: 0.8940 - val\_loss: 0.9823 - val\_accuracy: 0.7939 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 8/100

428/428 [==============================] - 348s 813ms/step - loss: 0.2638 - accuracy: 0.8926 - val\_loss: 0.6457 - val\_accuracy: 0.7662 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 9/100

428/428 [==============================] - 350s 817ms/step - loss: 0.2543 - accuracy: 0.8964 - val\_loss: 0.8009 - val\_accuracy: 0.7451 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 10/100

428/428 [==============================] - 349s 814ms/step - loss: 0.2555 - accuracy: 0.8977 - val\_loss: 0.3392 - val\_accuracy: 0.8546 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 11/100

428/428 [==============================] - 349s 818ms/step - loss: 0.2473 - accuracy: 0.9011 - val\_loss: 0.7360 - val\_accuracy: 0.8162 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 12/100

428/428 [==============================] - 349s 815ms/step - loss: 0.2479 - accuracy: 0.9005 - val\_loss: 0.5560 - val\_accuracy: 0.8663 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 13/100

428/428 [==============================] - 347s 811ms/step - loss: 0.2450 - accuracy: 0.9018 - val\_loss: 0.7926 - val\_accuracy: 0.7960 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 14/100

428/428 [==============================] - 350s 817ms/step - loss: 0.2423 - accuracy: 0.9036 - val\_loss: 0.5280 - val\_accuracy: 0.8379 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 15/100

428/428 [==============================] - 350s 817ms/step - loss: 0.2377 - accuracy: 0.9056 - val\_loss: 0.4234 - val\_accuracy: 0.8462 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 16/100

428/428 [==============================] - 348s 812ms/step - loss: 0.2367 - accuracy: 0.9054 - val\_loss: 0.4049 - val\_accuracy: 0.8623 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 17/100

428/428 [==============================] - 348s 813ms/step - loss: 0.2395 - accuracy: 0.9047 - val\_loss: 0.4973 - val\_accuracy: 0.8600 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 18/100

428/428 [==============================] - 349s 816ms/step - loss: 0.2325 - accuracy: 0.9075 - val\_loss: 0.3469 - val\_accuracy: 0.8818 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 19/100

428/428 [==============================] - 349s 814ms/step - loss: 0.2289 - accuracy: 0.9087 - val\_loss: 0.3400 - val\_accuracy: 0.8809 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 20/100

428/428 [==============================] - 347s 811ms/step - loss: 0.2277 - accuracy: 0.9096 - val\_loss: 0.3687 - val\_accuracy: 0.8705 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 21/100

428/428 [==============================] - 352s 822ms/step - loss: 0.2263 - accuracy: 0.9098 - val\_loss: 0.3578 - val\_accuracy: 0.8882 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 22/100

428/428 [==============================] - 350s 818ms/step - loss: 0.2230 - accuracy: 0.9120 - val\_loss: 0.3338 - val\_accuracy: 0.8714 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 23/100

428/428 [==============================] - 349s 814ms/step - loss: 0.2191 - accuracy: 0.9117 - val\_loss: 0.2951 - val\_accuracy: 0.8890 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 24/100

428/428 [==============================] - 348s 812ms/step - loss: 0.2183 - accuracy: 0.9134 - val\_loss: 0.3625 - val\_accuracy: 0.8619 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 25/100

428/428 [==============================] - 347s 811ms/step - loss: 0.2155 - accuracy: 0.9149 - val\_loss: 0.4648 - val\_accuracy: 0.8708 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 26/100

428/428 [==============================] - 348s 812ms/step - loss: 0.2165 - accuracy: 0.9139 - val\_loss: 0.3286 - val\_accuracy: 0.8752 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 27/100

428/428 [==============================] - 346s 809ms/step - loss: 0.2137 - accuracy: 0.9134 - val\_loss: 0.3380 - val\_accuracy: 0.8933 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 28/100

428/428 [==============================] - 348s 813ms/step - loss: 0.2094 - accuracy: 0.9161 - val\_loss: 0.3325 - val\_accuracy: 0.8786 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 29/100

428/428 [==============================] - 347s 811ms/step - loss: 0.2090 - accuracy: 0.9171 - val\_loss: 0.3155 - val\_accuracy: 0.8857 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 30/100

428/428 [==============================] - 349s 816ms/step - loss: 0.2056 - accuracy: 0.9159 - val\_loss: 0.3632 - val\_accuracy: 0.8612 - lr: 0.0010

Learning rate: 0.0010000000474974513

Epoch 31/100

428/428 [==============================] - 349s 815ms/step - loss: 0.2069 - accuracy: 0.9175 - val\_loss: 0.2885 - val\_accuracy: 0.8990 - lr: 0.0010

Learning rate: 0.00010000000474974513

Epoch 32/100

428/428 [==============================] - 351s 818ms/step - loss: 0.1850 - accuracy: 0.9276 - val\_loss: 0.2487 - val\_accuracy: 0.9103 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 33/100

428/428 [==============================] - 351s 819ms/step - loss: 0.1795 - accuracy: 0.9298 - val\_loss: 0.2363 - val\_accuracy: 0.9103 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 34/100

428/428 [==============================] - 352s 821ms/step - loss: 0.1728 - accuracy: 0.9316 - val\_loss: 0.2393 - val\_accuracy: 0.9080 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 35/100

428/428 [==============================] - 347s 811ms/step - loss: 0.1708 - accuracy: 0.9326 - val\_loss: 0.2374 - val\_accuracy: 0.9109 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 36/100

428/428 [==============================] - 346s 809ms/step - loss: 0.1677 - accuracy: 0.9343 - val\_loss: 0.2419 - val\_accuracy: 0.9068 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 37/100

428/428 [==============================] - 347s 809ms/step - loss: 0.1653 - accuracy: 0.9368 - val\_loss: 0.2492 - val\_accuracy: 0.9055 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 38/100

428/428 [==============================] - 349s 814ms/step - loss: 0.1661 - accuracy: 0.9351 - val\_loss: 0.2460 - val\_accuracy: 0.9075 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 39/100

428/428 [==============================] - 348s 813ms/step - loss: 0.1653 - accuracy: 0.9351 - val\_loss: 0.2454 - val\_accuracy: 0.9040 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 40/100

428/428 [==============================] - 347s 811ms/step - loss: 0.1629 - accuracy: 0.9369 - val\_loss: 0.2351 - val\_accuracy: 0.9106 - lr: 1.0000e-04

Learning rate: 0.00010000000474974513

Epoch 41/100

428/428 [==============================] - 347s 809ms/step - loss: 0.1597 - accuracy: 0.9383 - val\_loss: 0.2418 - val\_accuracy: 0.9072 - lr: 1.0000e-04

Learning rate: 1.0000000474974514e-05

Epoch 42/100

428/428 [==============================] - 348s 813ms/step - loss: 0.1556 - accuracy: 0.9394 - val\_loss: 0.2375 - val\_accuracy: 0.9109 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 43/100

428/428 [==============================] - 348s 812ms/step - loss: 0.1562 - accuracy: 0.9398 - val\_loss: 0.2363 - val\_accuracy: 0.9108 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 44/100

428/428 [==============================] - 345s 805ms/step - loss: 0.1551 - accuracy: 0.9407 - val\_loss: 0.2358 - val\_accuracy: 0.9115 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 45/100

428/428 [==============================] - 344s 804ms/step - loss: 0.1551 - accuracy: 0.9407 - val\_loss: 0.2357 - val\_accuracy: 0.9121 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 46/100

428/428 [==============================] - 348s 812ms/step - loss: 0.1564 - accuracy: 0.9393 - val\_loss: 0.2364 - val\_accuracy: 0.9119 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 47/100

428/428 [==============================] - 346s 809ms/step - loss: 0.1583 - accuracy: 0.9388 - val\_loss: 0.2357 - val\_accuracy: 0.9110 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 48/100

428/428 [==============================] - 347s 810ms/step - loss: 0.1543 - accuracy: 0.9401 - val\_loss: 0.2362 - val\_accuracy: 0.9103 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 49/100

428/428 [==============================] - 346s 809ms/step - loss: 0.1548 - accuracy: 0.9395 - val\_loss: 0.2369 - val\_accuracy: 0.9105 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 50/100

428/428 [==============================] - 347s 810ms/step - loss: 0.1519 - accuracy: 0.9409 - val\_loss: 0.2372 - val\_accuracy: 0.9103 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-05

Epoch 51/100

428/428 [==============================] - 345s 806ms/step - loss: 0.1537 - accuracy: 0.9413 - val\_loss: 0.2382 - val\_accuracy: 0.9103 - lr: 1.0000e-05

Learning rate: 1.0000000656873453e-06

Epoch 52/100

428/428 [==============================] - 346s 807ms/step - loss: 0.1543 - accuracy: 0.9404 - val\_loss: 0.2380 - val\_accuracy: 0.9102 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 53/100

428/428 [==============================] - 346s 807ms/step - loss: 0.1534 - accuracy: 0.9398 - val\_loss: 0.2377 - val\_accuracy: 0.9103 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 54/100

428/428 [==============================] - 345s 807ms/step - loss: 0.1536 - accuracy: 0.9405 - val\_loss: 0.2376 - val\_accuracy: 0.9106 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 55/100

428/428 [==============================] - 345s 806ms/step - loss: 0.1555 - accuracy: 0.9392 - val\_loss: 0.2376 - val\_accuracy: 0.9108 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 56/100

428/428 [==============================] - 345s 805ms/step - loss: 0.1545 - accuracy: 0.9399 - val\_loss: 0.2375 - val\_accuracy: 0.9108 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 57/100

428/428 [==============================] - 346s 807ms/step - loss: 0.1544 - accuracy: 0.9402 - val\_loss: 0.2373 - val\_accuracy: 0.9105 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 58/100

428/428 [==============================] - 345s 805ms/step - loss: 0.1536 - accuracy: 0.9405 - val\_loss: 0.2373 - val\_accuracy: 0.9108 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 59/100

428/428 [==============================] - 345s 807ms/step - loss: 0.1511 - accuracy: 0.9422 - val\_loss: 0.2373 - val\_accuracy: 0.9108 - lr: 1.0000e-06

Learning rate: 1.0000001111620804e-06

Epoch 60/100

428/428 [==============================] - 347s 810ms/step - loss: 0.1532 - accuracy: 0.9412 - val\_loss: 0.2372 - val\_accuracy: 0.9109 - lr: 1.0000e-06

107/107 [==============================] - 30s 268ms/step