Resnet50\_dis2:

Epoch: 0

Train Loss: 2.760 | Acc: 19.094% (9547/50000)

Test Loss: 1.846 | Acc: 30.220% (3022/10000)

Epoch: 1

Train Loss: 1.741 | Acc: 34.426% (17213/50000)

Test Loss: 1.580 | Acc: 41.160% (4116/10000)

Epoch: 2

Train Loss: 1.524 | Acc: 43.590% (21795/50000)

Test Loss: 1.437 | Acc: 48.020% (4802/10000)

Epoch: 3

Train Loss: 1.326 | Acc: 51.752% (25876/50000)

Test Loss: 1.236 | Acc: 56.380% (5638/10000)

Epoch: 4

Train Loss: 1.170 | Acc: 57.846% (28923/50000)

Test Loss: 1.155 | Acc: 58.670% (5867/10000)

Epoch: 5

Train Loss: 1.027 | Acc: 63.648% (31824/50000)

Test Loss: 1.283 | Acc: 61.180% (6118/10000)

Epoch: 6

Train Loss: 0.893 | Acc: 68.432% (34216/50000)

Test Loss: 0.922 | Acc: 69.060% (6906/10000)

Epoch: 7

Train Loss: 0.792 | Acc: 72.274% (36137/50000)

Test Loss: 0.993 | Acc: 67.040% (6704/10000)

Epoch: 8

Train Loss: 0.720 | Acc: 74.990% (37495/50000)

Test Loss: 0.893 | Acc: 69.590% (6959/10000)

Epoch: 9

Train Loss: 0.675 | Acc: 76.546% (38273/50000)

Test Loss: 0.792 | Acc: 72.900% (7290/10000)

Epoch: 10

Train Loss: 0.644 | Acc: 77.626% (38813/50000)

Test Loss: 1.018 | Acc: 68.950% (6895/10000)

Epoch: 11

Train Loss: 0.616 | Acc: 78.764% (39382/50000)

Test Loss: 0.804 | Acc: 73.510% (7351/10000)

Epoch: 12

Train Loss: 0.586 | Acc: 79.672% (39836/50000)

Test Loss: 0.680 | Acc: 77.320% (7732/10000)

Epoch: 13

Train Loss: 0.575 | Acc: 80.334% (40167/50000)

Test Loss: 0.670 | Acc: 77.610% (7761/10000)

Epoch: 14

Train Loss: 0.549 | Acc: 81.168% (40584/50000)

Test Loss: 0.720 | Acc: 77.190% (7719/10000)

Epoch: 15

Train Loss: 0.540 | Acc: 81.438% (40719/50000)

Test Loss: 1.240 | Acc: 66.800% (6680/10000)

Epoch: 16

Train Loss: 0.525 | Acc: 81.904% (40952/50000)

Test Loss: 0.740 | Acc: 74.910% (7491/10000)

Epoch: 17

Train Loss: 0.516 | Acc: 82.272% (41136/50000)

Test Loss: 0.678 | Acc: 77.610% (7761/10000)

Epoch: 18

Train Loss: 0.510 | Acc: 82.624% (41312/50000)

Test Loss: 0.791 | Acc: 74.480% (7448/10000)

Epoch: 19

Train Loss: 0.498 | Acc: 83.034% (41517/50000)

Test Loss: 0.741 | Acc: 76.340% (7634/10000)

Epoch: 20

Train Loss: 0.488 | Acc: 83.494% (41747/50000)

Test Loss: 0.936 | Acc: 70.600% (7060/10000)

Epoch: 21

Train Loss: 0.479 | Acc: 83.706% (41853/50000)

Test Loss: 1.130 | Acc: 66.690% (6669/10000)

Epoch: 22

Train Loss: 0.473 | Acc: 83.868% (41934/50000)

Test Loss: 1.184 | Acc: 66.130% (6613/10000)

Epoch: 23

Train Loss: 0.470 | Acc: 84.064% (42032/50000)

Test Loss: 0.668 | Acc: 78.050% (7805/10000)

Epoch: 24

Train Loss: 0.466 | Acc: 83.984% (41992/50000)

Test Loss: 0.703 | Acc: 77.150% (7715/10000)

Epoch: 25

Train Loss: 0.451 | Acc: 84.700% (42350/50000)

Test Loss: 0.676 | Acc: 77.810% (7781/10000)

Epoch: 26

Train Loss: 0.451 | Acc: 84.564% (42282/50000)

Test Loss: 1.099 | Acc: 70.710% (7071/10000)

Epoch: 27

Train Loss: 0.446 | Acc: 84.730% (42365/50000)

Test Loss: 0.630 | Acc: 79.490% (7949/10000)

Epoch: 28

Train Loss: 0.451 | Acc: 84.536% (42268/50000)

Test Loss: 0.614 | Acc: 79.930% (7993/10000)

Epoch: 29

Train Loss: 0.441 | Acc: 84.804% (42402/50000)

Test Loss: 0.594 | Acc: 80.410% (8041/10000)

Epoch: 30

Train Loss: 0.433 | Acc: 85.166% (42583/50000)

Test Loss: 0.738 | Acc: 76.630% (7663/10000)

Epoch: 31

Train Loss: 0.431 | Acc: 85.304% (42652/50000)

Test Loss: 0.586 | Acc: 80.730% (8073/10000)

Epoch: 32

Train Loss: 0.430 | Acc: 85.286% (42643/50000)

Test Loss: 0.659 | Acc: 78.780% (7878/10000)

Epoch: 33

Train Loss: 0.422 | Acc: 85.570% (42785/50000)

Test Loss: 0.653 | Acc: 78.950% (7895/10000)

Epoch: 34

Train Loss: 0.423 | Acc: 85.488% (42744/50000)

Test Loss: 0.651 | Acc: 78.870% (7887/10000)

Epoch: 35

Train Loss: 0.415 | Acc: 85.914% (42957/50000)

Test Loss: 0.551 | Acc: 81.460% (8146/10000)

Epoch: 36

Train Loss: 0.414 | Acc: 85.846% (42923/50000)

Test Loss: 0.802 | Acc: 75.860% (7586/10000)

Epoch: 37

Train Loss: 0.406 | Acc: 86.150% (43075/50000)

Test Loss: 0.665 | Acc: 78.690% (7869/10000)

Epoch: 38

Train Loss: 0.407 | Acc: 86.110% (43055/50000)

Test Loss: 0.724 | Acc: 77.500% (7750/10000)

Epoch: 39

Train Loss: 0.406 | Acc: 86.080% (43040/50000)

Test Loss: 0.742 | Acc: 76.620% (7662/10000)

Epoch: 40

Train Loss: 0.401 | Acc: 86.078% (43039/50000)

Test Loss: 0.603 | Acc: 80.530% (8053/10000)

Epoch: 41

Train Loss: 0.394 | Acc: 86.520% (43260/50000)

Test Loss: 0.620 | Acc: 79.980% (7998/10000)

Epoch: 42

Train Loss: 0.389 | Acc: 86.610% (43305/50000)

Test Loss: 0.492 | Acc: 83.430% (8343/10000)

Epoch: 43

Train Loss: 0.391 | Acc: 86.710% (43355/50000)

Test Loss: 0.589 | Acc: 80.620% (8062/10000)

Epoch: 44

Train Loss: 0.385 | Acc: 86.880% (43440/50000)

Test Loss: 0.527 | Acc: 83.090% (8309/10000)

Epoch: 45

Train Loss: 0.386 | Acc: 86.784% (43392/50000)

Test Loss: 0.641 | Acc: 79.890% (7989/10000)

Epoch: 46

Train Loss: 0.379 | Acc: 86.962% (43481/50000)

Test Loss: 0.607 | Acc: 81.020% (8102/10000)

Epoch: 47

Train Loss: 0.379 | Acc: 87.190% (43595/50000)

Test Loss: 0.554 | Acc: 81.770% (8177/10000)

Epoch: 48

Train Loss: 0.380 | Acc: 86.940% (43470/50000)

Test Loss: 0.610 | Acc: 80.920% (8092/10000)

Epoch: 49

Train Loss: 0.370 | Acc: 87.294% (43647/50000)

Test Loss: 0.507 | Acc: 83.720% (8372/10000)

Epoch: 50

Train Loss: 0.376 | Acc: 87.026% (43513/50000)

Test Loss: 0.719 | Acc: 77.880% (7788/10000)

Epoch: 51

Train Loss: 0.371 | Acc: 87.364% (43682/50000)

Test Loss: 0.642 | Acc: 79.550% (7955/10000)

Epoch: 52

Train Loss: 0.368 | Acc: 87.354% (43677/50000)

Test Loss: 0.719 | Acc: 78.530% (7853/10000)

Epoch: 53

Train Loss: 0.370 | Acc: 87.322% (43661/50000)

Test Loss: 0.558 | Acc: 82.150% (8215/10000)

Epoch: 54

Train Loss: 0.362 | Acc: 87.780% (43890/50000)

Test Loss: 0.754 | Acc: 78.410% (7841/10000)

Epoch: 55

Train Loss: 0.357 | Acc: 87.906% (43953/50000)

Test Loss: 0.448 | Acc: 85.260% (8526/10000)

Epoch: 56

Train Loss: 0.358 | Acc: 87.788% (43894/50000)

Test Loss: 0.571 | Acc: 82.780% (8278/10000)

Epoch: 57

Train Loss: 0.354 | Acc: 87.716% (43858/50000)

Test Loss: 0.720 | Acc: 77.720% (7772/10000)

Epoch: 58

Train Loss: 0.347 | Acc: 88.234% (44117/50000)

Test Loss: 0.520 | Acc: 83.270% (8327/10000)

Epoch: 59

Train Loss: 0.348 | Acc: 88.074% (44037/50000)

Test Loss: 0.683 | Acc: 77.790% (7779/10000)

Epoch: 60

Train Loss: 0.352 | Acc: 87.856% (43928/50000)

Test Loss: 0.735 | Acc: 78.570% (7857/10000)

Epoch: 61

Train Loss: 0.349 | Acc: 88.032% (44016/50000)

Test Loss: 0.728 | Acc: 78.060% (7806/10000)

Epoch: 62

Train Loss: 0.345 | Acc: 88.112% (44056/50000)

Test Loss: 0.482 | Acc: 84.330% (8433/10000)

Epoch: 63

Train Loss: 0.342 | Acc: 88.374% (44187/50000)

Test Loss: 0.732 | Acc: 78.300% (7830/10000)

Epoch: 64

Train Loss: 0.342 | Acc: 88.230% (44115/50000)

Test Loss: 0.466 | Acc: 84.890% (8489/10000)

Epoch: 65

Train Loss: 0.337 | Acc: 88.530% (44265/50000)

Test Loss: 0.568 | Acc: 80.670% (8067/10000)

Epoch: 66

Train Loss: 0.341 | Acc: 88.300% (44150/50000)

Test Loss: 0.746 | Acc: 78.830% (7883/10000)

Epoch: 67

Train Loss: 0.332 | Acc: 88.732% (44366/50000)

Test Loss: 0.567 | Acc: 82.060% (8206/10000)

Epoch: 68

Train Loss: 0.332 | Acc: 88.566% (44283/50000)

Test Loss: 0.526 | Acc: 83.430% (8343/10000)

Epoch: 69

Train Loss: 0.330 | Acc: 88.600% (44300/50000)

Test Loss: 0.765 | Acc: 76.870% (7687/10000)

Epoch: 70

Train Loss: 0.321 | Acc: 88.994% (44497/50000)

Test Loss: 0.695 | Acc: 79.400% (7940/10000)

Epoch: 71

Train Loss: 0.326 | Acc: 88.760% (44380/50000)

Test Loss: 0.565 | Acc: 82.140% (8214/10000)

Epoch: 72

Train Loss: 0.319 | Acc: 89.072% (44536/50000)

Test Loss: 0.456 | Acc: 85.140% (8514/10000)

Epoch: 73

Train Loss: 0.319 | Acc: 89.066% (44533/50000)

Test Loss: 0.644 | Acc: 79.790% (7979/10000)

Epoch: 74

Train Loss: 0.315 | Acc: 89.152% (44576/50000)

Test Loss: 0.573 | Acc: 81.770% (8177/10000)

Epoch: 75

Train Loss: 0.314 | Acc: 89.192% (44596/50000)

Test Loss: 0.537 | Acc: 83.330% (8333/10000)

Epoch: 76

Train Loss: 0.309 | Acc: 89.364% (44682/50000)

Test Loss: 0.593 | Acc: 81.290% (8129/10000)

Epoch: 77

Train Loss: 0.303 | Acc: 89.712% (44856/50000)

Test Loss: 0.701 | Acc: 78.380% (7838/10000)

Epoch: 78

Train Loss: 0.305 | Acc: 89.674% (44837/50000)

Test Loss: 0.746 | Acc: 77.070% (7707/10000)

Epoch: 79

Train Loss: 0.311 | Acc: 89.264% (44632/50000)

Test Loss: 0.457 | Acc: 84.540% (8454/10000)

Epoch: 80

Train Loss: 0.298 | Acc: 89.818% (44909/50000)

Test Loss: 0.662 | Acc: 78.680% (7868/10000)

Epoch: 81

Train Loss: 0.297 | Acc: 89.756% (44878/50000)

Test Loss: 0.605 | Acc: 81.170% (8117/10000)

Epoch: 82

Train Loss: 0.295 | Acc: 89.858% (44929/50000)

Test Loss: 0.401 | Acc: 86.920% (8692/10000)

Epoch: 83

Train Loss: 0.296 | Acc: 89.894% (44947/50000)

Test Loss: 0.588 | Acc: 81.680% (8168/10000)

Epoch: 84

Train Loss: 0.291 | Acc: 90.004% (45002/50000)

Test Loss: 0.418 | Acc: 86.870% (8687/10000)

Epoch: 85

Train Loss: 0.285 | Acc: 90.222% (45111/50000)

Test Loss: 0.448 | Acc: 85.560% (8556/10000)

Epoch: 86

Train Loss: 0.285 | Acc: 90.186% (45093/50000)

Test Loss: 0.593 | Acc: 79.870% (7987/10000)

Epoch: 87

Train Loss: 0.279 | Acc: 90.402% (45201/50000)

Test Loss: 0.787 | Acc: 76.230% (7623/10000)

Epoch: 88

Train Loss: 0.279 | Acc: 90.346% (45173/50000)

Test Loss: 0.487 | Acc: 84.700% (8470/10000)

Epoch: 89

Train Loss: 0.278 | Acc: 90.564% (45282/50000)

Test Loss: 0.462 | Acc: 85.200% (8520/10000)

Epoch: 90

Train Loss: 0.276 | Acc: 90.492% (45246/50000)

Test Loss: 0.407 | Acc: 86.510% (8651/10000)

Epoch: 91

Train Loss: 0.272 | Acc: 90.542% (45271/50000)

Test Loss: 0.382 | Acc: 87.890% (8789/10000)

Epoch: 92

Train Loss: 0.272 | Acc: 90.550% (45275/50000)

Test Loss: 0.593 | Acc: 81.790% (8179/10000)

Epoch: 93

Train Loss: 0.265 | Acc: 90.912% (45456/50000)

Test Loss: 0.485 | Acc: 84.540% (8454/10000)

Epoch: 94

Train Loss: 0.264 | Acc: 90.978% (45489/50000)

Test Loss: 0.462 | Acc: 85.620% (8562/10000)

Epoch: 95

Train Loss: 0.262 | Acc: 91.032% (45516/50000)

Test Loss: 0.410 | Acc: 86.550% (8655/10000)

Epoch: 96

Train Loss: 0.260 | Acc: 91.068% (45534/50000)

Test Loss: 0.584 | Acc: 82.210% (8221/10000)

Epoch: 97

Train Loss: 0.252 | Acc: 91.398% (45699/50000)

Test Loss: 0.577 | Acc: 82.780% (8278/10000)

Epoch: 98

Train Loss: 0.250 | Acc: 91.450% (45725/50000)

Test Loss: 0.402 | Acc: 86.750% (8675/10000)

Epoch: 99

Train Loss: 0.250 | Acc: 91.530% (45765/50000)

Test Loss: 0.381 | Acc: 87.350% (8735/10000)

Epoch: 100

Train Loss: 0.244 | Acc: 91.632% (45816/50000)

Test Loss: 0.567 | Acc: 82.780% (8278/10000)

Epoch: 101

Train Loss: 0.243 | Acc: 91.820% (45910/50000)

Test Loss: 0.511 | Acc: 83.400% (8340/10000)

Epoch: 102

Train Loss: 0.244 | Acc: 91.600% (45800/50000)

Test Loss: 0.458 | Acc: 85.430% (8543/10000)

Epoch: 103

Train Loss: 0.240 | Acc: 91.704% (45852/50000)

Test Loss: 0.460 | Acc: 85.340% (8534/10000)

Epoch: 104

Train Loss: 0.236 | Acc: 91.834% (45917/50000)

Test Loss: 0.432 | Acc: 85.970% (8597/10000)

Epoch: 105

Train Loss: 0.230 | Acc: 92.104% (46052/50000)

Test Loss: 0.392 | Acc: 87.560% (8756/10000)

Epoch: 106

Train Loss: 0.225 | Acc: 92.198% (46099/50000)

Test Loss: 0.571 | Acc: 81.650% (8165/10000)

Epoch: 107

Train Loss: 0.227 | Acc: 92.204% (46102/50000)

Test Loss: 0.390 | Acc: 87.470% (8747/10000)

Epoch: 108

Train Loss: 0.226 | Acc: 92.194% (46097/50000)

Test Loss: 0.445 | Acc: 85.690% (8569/10000)

Epoch: 109

Train Loss: 0.222 | Acc: 92.420% (46210/50000)

Test Loss: 0.349 | Acc: 88.900% (8890/10000)

Epoch: 110

Train Loss: 0.213 | Acc: 92.590% (46295/50000)

Test Loss: 0.394 | Acc: 87.680% (8768/10000)

Epoch: 111

Train Loss: 0.216 | Acc: 92.416% (46208/50000)

Test Loss: 0.305 | Acc: 90.010% (9001/10000)

Epoch: 112

Train Loss: 0.210 | Acc: 92.802% (46401/50000)

Test Loss: 0.374 | Acc: 87.820% (8782/10000)

Epoch: 113

Train Loss: 0.210 | Acc: 92.844% (46422/50000)

Test Loss: 0.406 | Acc: 87.110% (8711/10000)

Epoch: 114

Train Loss: 0.202 | Acc: 92.964% (46482/50000)

Test Loss: 0.346 | Acc: 89.080% (8908/10000)

Epoch: 115

Train Loss: 0.202 | Acc: 92.972% (46486/50000)

Test Loss: 0.309 | Acc: 89.610% (8961/10000)

Epoch: 116

Train Loss: 0.205 | Acc: 92.940% (46470/50000)

Test Loss: 0.328 | Acc: 89.240% (8924/10000)

Epoch: 117

Train Loss: 0.196 | Acc: 93.120% (46560/50000)

Test Loss: 0.429 | Acc: 86.890% (8689/10000)

Epoch: 118

Train Loss: 0.192 | Acc: 93.318% (46659/50000)

Test Loss: 0.411 | Acc: 87.030% (8703/10000)

Epoch: 119

Train Loss: 0.190 | Acc: 93.416% (46708/50000)

Test Loss: 0.465 | Acc: 85.830% (8583/10000)

Epoch: 120

Train Loss: 0.185 | Acc: 93.700% (46850/50000)

Test Loss: 0.367 | Acc: 88.330% (8833/10000)

Epoch: 121

Train Loss: 0.180 | Acc: 93.836% (46918/50000)

Test Loss: 0.442 | Acc: 86.480% (8648/10000)

Epoch: 122

Train Loss: 0.175 | Acc: 93.938% (46969/50000)

Test Loss: 0.409 | Acc: 87.180% (8718/10000)

Epoch: 123

Train Loss: 0.175 | Acc: 93.846% (46923/50000)

Test Loss: 0.434 | Acc: 86.930% (8693/10000)

Epoch: 124

Train Loss: 0.173 | Acc: 93.984% (46992/50000)

Test Loss: 0.394 | Acc: 87.980% (8798/10000)

Epoch: 125

Train Loss: 0.166 | Acc: 94.238% (47119/50000)

Test Loss: 0.448 | Acc: 86.320% (8632/10000)

Epoch: 126

Train Loss: 0.168 | Acc: 94.144% (47072/50000)

Test Loss: 0.353 | Acc: 89.160% (8916/10000)

Epoch: 127

Train Loss: 0.155 | Acc: 94.584% (47292/50000)

Test Loss: 0.373 | Acc: 88.820% (8882/10000)

Epoch: 128

Train Loss: 0.156 | Acc: 94.686% (47343/50000)

Test Loss: 0.405 | Acc: 87.970% (8797/10000)

Epoch: 129

Train Loss: 0.155 | Acc: 94.524% (47262/50000)

Test Loss: 0.413 | Acc: 87.750% (8775/10000)

Epoch: 130

Train Loss: 0.148 | Acc: 94.964% (47482/50000)

Test Loss: 0.395 | Acc: 88.080% (8808/10000)

Epoch: 131

Train Loss: 0.145 | Acc: 94.918% (47459/50000)

Test Loss: 0.345 | Acc: 89.330% (8933/10000)

Epoch: 132

Train Loss: 0.147 | Acc: 94.918% (47459/50000)

Test Loss: 0.322 | Acc: 90.020% (9002/10000)

Epoch: 133

Train Loss: 0.140 | Acc: 95.156% (47578/50000)

Test Loss: 0.367 | Acc: 88.740% (8874/10000)

Epoch: 134

Train Loss: 0.134 | Acc: 95.398% (47699/50000)

Test Loss: 0.314 | Acc: 90.230% (9023/10000)

Epoch: 135

Train Loss: 0.128 | Acc: 95.580% (47790/50000)

Test Loss: 0.379 | Acc: 88.610% (8861/10000)

Epoch: 136

Train Loss: 0.126 | Acc: 95.610% (47805/50000)

Test Loss: 0.323 | Acc: 90.440% (9044/10000)

Epoch: 137

Train Loss: 0.124 | Acc: 95.696% (47848/50000)

Test Loss: 0.355 | Acc: 89.050% (8905/10000)

Epoch: 138

Train Loss: 0.117 | Acc: 95.922% (47961/50000)

Test Loss: 0.338 | Acc: 90.090% (9009/10000)

Epoch: 139

Train Loss: 0.115 | Acc: 95.970% (47985/50000)

Test Loss: 0.336 | Acc: 89.730% (8973/10000)

Epoch: 140

Train Loss: 0.111 | Acc: 96.134% (48067/50000)

Test Loss: 0.419 | Acc: 87.680% (8768/10000)

Epoch: 141

Train Loss: 0.106 | Acc: 96.280% (48140/50000)

Test Loss: 0.316 | Acc: 90.980% (9098/10000)

Epoch: 142

Train Loss: 0.110 | Acc: 96.292% (48146/50000)

Test Loss: 0.273 | Acc: 91.180% (9118/10000)

Epoch: 143

Train Loss: 0.099 | Acc: 96.666% (48333/50000)

Test Loss: 0.345 | Acc: 89.970% (8997/10000)

Epoch: 144

Train Loss: 0.093 | Acc: 96.816% (48408/50000)

Test Loss: 0.299 | Acc: 91.330% (9133/10000)

Epoch: 145

Train Loss: 0.091 | Acc: 96.860% (48430/50000)

Test Loss: 0.334 | Acc: 90.490% (9049/10000)

Epoch: 146

Train Loss: 0.089 | Acc: 96.944% (48472/50000)

Test Loss: 0.278 | Acc: 92.120% (9212/10000)

Epoch: 147

Train Loss: 0.085 | Acc: 97.098% (48549/50000)

Test Loss: 0.256 | Acc: 92.420% (9242/10000)

Epoch: 148

Train Loss: 0.076 | Acc: 97.418% (48709/50000)

Test Loss: 0.356 | Acc: 89.890% (8989/10000)

Epoch: 149

Train Loss: 0.078 | Acc: 97.302% (48651/50000)

Test Loss: 0.316 | Acc: 90.660% (9066/10000)

Epoch: 150

Train Loss: 0.070 | Acc: 97.606% (48803/50000)

Test Loss: 0.322 | Acc: 90.930% (9093/10000)

Epoch: 151

Train Loss: 0.074 | Acc: 97.442% (48721/50000)

Test Loss: 0.354 | Acc: 90.360% (9036/10000)

Epoch: 152

Train Loss: 0.063 | Acc: 97.858% (48929/50000)

Test Loss: 0.326 | Acc: 91.350% (9135/10000)

Epoch: 153

Train Loss: 0.060 | Acc: 97.946% (48973/50000)

Test Loss: 0.285 | Acc: 92.140% (9214/10000)

Epoch: 154

Train Loss: 0.058 | Acc: 97.996% (48998/50000)

Test Loss: 0.269 | Acc: 92.340% (9234/10000)

Epoch: 155

Train Loss: 0.053 | Acc: 98.204% (49102/50000)

Test Loss: 0.286 | Acc: 92.330% (9233/10000)

Epoch: 156

Train Loss: 0.049 | Acc: 98.354% (49177/50000)

Test Loss: 0.277 | Acc: 92.590% (9259/10000)

Epoch: 157

Train Loss: 0.043 | Acc: 98.492% (49246/50000)

Test Loss: 0.299 | Acc: 92.140% (9214/10000)

Epoch: 158

Train Loss: 0.044 | Acc: 98.540% (49270/50000)

Test Loss: 0.272 | Acc: 92.480% (9248/10000)

Epoch: 159

Train Loss: 0.039 | Acc: 98.724% (49362/50000)

Test Loss: 0.299 | Acc: 91.850% (9185/10000)

Epoch: 160

Train Loss: 0.033 | Acc: 98.922% (49461/50000)

Test Loss: 0.259 | Acc: 93.240% (9324/10000)

Epoch: 161

Train Loss: 0.030 | Acc: 99.060% (49530/50000)

Test Loss: 0.288 | Acc: 92.790% (9279/10000)

Epoch: 162

Train Loss: 0.029 | Acc: 99.022% (49511/50000)

Test Loss: 0.278 | Acc: 92.620% (9262/10000)

Epoch: 163

Train Loss: 0.026 | Acc: 99.142% (49571/50000)

Test Loss: 0.295 | Acc: 92.410% (9241/10000)

Epoch: 164

Train Loss: 0.022 | Acc: 99.310% (49655/50000)

Test Loss: 0.265 | Acc: 92.940% (9294/10000)

Epoch: 165

Train Loss: 0.022 | Acc: 99.304% (49652/50000)

Test Loss: 0.302 | Acc: 92.730% (9273/10000)

Epoch: 166

Train Loss: 0.019 | Acc: 99.426% (49713/50000)

Test Loss: 0.266 | Acc: 93.180% (9318/10000)

Epoch: 167

Train Loss: 0.015 | Acc: 99.550% (49775/50000)

Test Loss: 0.253 | Acc: 93.660% (9366/10000)

Epoch: 168

Train Loss: 0.013 | Acc: 99.636% (49818/50000)

Test Loss: 0.276 | Acc: 93.220% (9322/10000)

Epoch: 169

Train Loss: 0.013 | Acc: 99.622% (49811/50000)

Test Loss: 0.259 | Acc: 93.790% (9379/10000)

Epoch: 170

Train Loss: 0.010 | Acc: 99.776% (49888/50000)

Test Loss: 0.253 | Acc: 93.630% (9363/10000)

Epoch: 171

Train Loss: 0.008 | Acc: 99.772% (49886/50000)

Test Loss: 0.267 | Acc: 93.700% (9370/10000)

Epoch: 172

Train Loss: 0.007 | Acc: 99.842% (49921/50000)

Test Loss: 0.257 | Acc: 93.790% (9379/10000)

Epoch: 173

Train Loss: 0.007 | Acc: 99.804% (49902/50000)

Test Loss: 0.262 | Acc: 93.870% (9387/10000)

Epoch: 174

Train Loss: 0.005 | Acc: 99.866% (49933/50000)

Test Loss: 0.256 | Acc: 93.870% (9387/10000)

Epoch: 175

Train Loss: 0.005 | Acc: 99.920% (49960/50000)

Test Loss: 0.244 | Acc: 94.060% (9406/10000)

Epoch: 176

Train Loss: 0.004 | Acc: 99.916% (49958/50000)

Test Loss: 0.254 | Acc: 94.260% (9426/10000)

Epoch: 177

Train Loss: 0.004 | Acc: 99.904% (49952/50000)

Test Loss: 0.263 | Acc: 93.800% (9380/10000)

Epoch: 178

Train Loss: 0.004 | Acc: 99.910% (49955/50000)

Test Loss: 0.260 | Acc: 94.190% (9419/10000)

Epoch: 179

Train Loss: 0.004 | Acc: 99.922% (49961/50000)

Test Loss: 0.246 | Acc: 94.150% (9415/10000)

Epoch: 180

Train Loss: 0.003 | Acc: 99.944% (49972/50000)

Test Loss: 0.246 | Acc: 94.310% (9431/10000)

Epoch: 181

Train Loss: 0.003 | Acc: 99.952% (49976/50000)

Test Loss: 0.248 | Acc: 94.450% (9445/10000)

Epoch: 182

Train Loss: 0.003 | Acc: 99.948% (49974/50000)

Test Loss: 0.244 | Acc: 94.400% (9440/10000)

Epoch: 183

Train Loss: 0.003 | Acc: 99.956% (49978/50000)

Test Loss: 0.246 | Acc: 94.320% (9432/10000)

Epoch: 184

Train Loss: 0.002 | Acc: 99.980% (49990/50000)

Test Loss: 0.249 | Acc: 94.440% (9444/10000)

Epoch: 185

Train Loss: 0.002 | Acc: 99.960% (49980/50000)

Test Loss: 0.248 | Acc: 94.450% (9445/10000)

Epoch: 186

Train Loss: 0.002 | Acc: 99.968% (49984/50000)

Test Loss: 0.240 | Acc: 94.480% (9448/10000)

Epoch: 187

Train Loss: 0.002 | Acc: 99.974% (49987/50000)

Test Loss: 0.244 | Acc: 94.410% (9441/10000)

Epoch: 188

Train Loss: 0.002 | Acc: 99.960% (49980/50000)

Test Loss: 0.241 | Acc: 94.530% (9453/10000)

Epoch: 189

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.247 | Acc: 94.390% (9439/10000)

Epoch: 190

Train Loss: 0.002 | Acc: 99.980% (49990/50000)

Test Loss: 0.248 | Acc: 94.360% (9436/10000)

Epoch: 191

Train Loss: 0.002 | Acc: 99.986% (49993/50000)

Test Loss: 0.244 | Acc: 94.400% (9440/10000)

Epoch: 192

Train Loss: 0.002 | Acc: 99.986% (49993/50000)

Test Loss: 0.246 | Acc: 94.350% (9435/10000)

Epoch: 193

Train Loss: 0.002 | Acc: 99.986% (49993/50000)

Test Loss: 0.245 | Acc: 94.450% (9445/10000)

Epoch: 194

Train Loss: 0.002 | Acc: 99.984% (49992/50000)

Test Loss: 0.245 | Acc: 94.430% (9443/10000)

Epoch: 195

Train Loss: 0.002 | Acc: 99.984% (49992/50000)

Test Loss: 0.245 | Acc: 94.540% (9454/10000)

Epoch: 196

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.243 | Acc: 94.450% (9445/10000)

Epoch: 197

Train Loss: 0.002 | Acc: 99.982% (49991/50000)

Test Loss: 0.250 | Acc: 94.410% (9441/10000)

Epoch: 198

Train Loss: 0.002 | Acc: 99.984% (49992/50000)

Test Loss: 0.245 | Acc: 94.460% (9446/10000)

Epoch: 199

Train Loss: 0.002 | Acc: 99.986% (49993/50000)

Test Loss: 0.244 | Acc: 94.450% (9445/10000)

Trained weights saved to: resnet50\_dis\_cifar10.pth

A graph with a line

Description automatically generated

Max\_acc = 94.54%

Resnet101\_dis2:

Epoch: 0

Train Loss: 2.696 | Acc: 14.512% (7256/50000)

Test Loss: 1.997 | Acc: 19.160% (1916/10000)

Epoch: 1

Train Loss: 1.860 | Acc: 25.344% (12672/50000)

Test Loss: 1.851 | Acc: 28.230% (2823/10000)

Epoch: 2

Train Loss: 1.600 | Acc: 37.982% (18991/50000)

Test Loss: 1.893 | Acc: 33.580% (3358/10000)

Epoch: 3

Train Loss: 1.276 | Acc: 53.032% (26516/50000)

Test Loss: 1.194 | Acc: 56.630% (5663/10000)

Epoch: 4

Train Loss: 1.050 | Acc: 62.832% (31416/50000)

Test Loss: 1.154 | Acc: 60.010% (6001/10000)

Epoch: 5

Train Loss: 0.905 | Acc: 68.500% (34250/50000)

Test Loss: 1.070 | Acc: 64.200% (6420/10000)

Epoch: 6

Train Loss: 0.782 | Acc: 73.072% (36536/50000)

Test Loss: 1.073 | Acc: 65.680% (6568/10000)

Epoch: 7

Train Loss: 0.721 | Acc: 75.112% (37556/50000)

Test Loss: 1.659 | Acc: 55.700% (5570/10000)

Epoch: 8

Train Loss: 0.685 | Acc: 76.552% (38276/50000)

Test Loss: 1.000 | Acc: 69.160% (6916/10000)

Epoch: 9

Train Loss: 0.649 | Acc: 77.896% (38948/50000)

Test Loss: 0.844 | Acc: 72.880% (7288/10000)

Epoch: 10

Train Loss: 0.631 | Acc: 78.502% (39251/50000)

Test Loss: 0.825 | Acc: 73.230% (7323/10000)

Epoch: 11

Train Loss: 0.606 | Acc: 79.282% (39641/50000)

Test Loss: 0.995 | Acc: 69.280% (6928/10000)

Epoch: 12

Train Loss: 0.583 | Acc: 80.118% (40059/50000)

Test Loss: 0.774 | Acc: 74.670% (7467/10000)

Epoch: 13

Train Loss: 0.574 | Acc: 80.212% (40106/50000)

Test Loss: 0.877 | Acc: 72.700% (7270/10000)

Epoch: 14

Train Loss: 0.555 | Acc: 81.258% (40629/50000)

Test Loss: 0.685 | Acc: 77.760% (7776/10000)

Epoch: 15

Train Loss: 0.539 | Acc: 81.744% (40872/50000)

Test Loss: 1.090 | Acc: 68.400% (6840/10000)

Epoch: 16

Train Loss: 0.534 | Acc: 81.888% (40944/50000)

Test Loss: 1.072 | Acc: 65.970% (6597/10000)

Epoch: 17

Train Loss: 0.526 | Acc: 82.188% (41094/50000)

Test Loss: 0.781 | Acc: 75.440% (7544/10000)

Epoch: 18

Train Loss: 0.524 | Acc: 82.200% (41100/50000)

Test Loss: 0.700 | Acc: 77.390% (7739/10000)

Epoch: 19

Train Loss: 0.510 | Acc: 82.542% (41271/50000)

Test Loss: 0.796 | Acc: 74.450% (7445/10000)

Epoch: 20

Train Loss: 0.504 | Acc: 82.840% (41420/50000)

Test Loss: 0.642 | Acc: 77.440% (7744/10000)

Epoch: 21

Train Loss: 0.498 | Acc: 82.914% (41457/50000)

Test Loss: 0.854 | Acc: 74.070% (7407/10000)

Epoch: 22

Train Loss: 0.488 | Acc: 83.424% (41712/50000)

Test Loss: 0.751 | Acc: 76.470% (7647/10000)

Epoch: 23

Train Loss: 0.483 | Acc: 83.514% (41757/50000)

Test Loss: 0.877 | Acc: 72.360% (7236/10000)

Epoch: 24

Train Loss: 0.471 | Acc: 83.874% (41937/50000)

Test Loss: 0.883 | Acc: 74.780% (7478/10000)

Epoch: 25

Train Loss: 0.473 | Acc: 83.934% (41967/50000)

Test Loss: 0.635 | Acc: 78.990% (7899/10000)

Epoch: 26

Train Loss: 0.458 | Acc: 84.348% (42174/50000)

Test Loss: 0.875 | Acc: 74.410% (7441/10000)

Epoch: 27

Train Loss: 0.458 | Acc: 84.462% (42231/50000)

Test Loss: 0.518 | Acc: 82.610% (8261/10000)

Epoch: 28

Train Loss: 0.456 | Acc: 84.574% (42287/50000)

Test Loss: 1.105 | Acc: 70.200% (7020/10000)

Epoch: 29

Train Loss: 0.453 | Acc: 84.622% (42311/50000)

Test Loss: 0.640 | Acc: 77.750% (7775/10000)

Epoch: 30

Train Loss: 0.442 | Acc: 84.902% (42451/50000)

Test Loss: 0.841 | Acc: 74.250% (7425/10000)

Epoch: 31

Train Loss: 0.448 | Acc: 84.754% (42377/50000)

Test Loss: 0.704 | Acc: 77.610% (7761/10000)

Epoch: 32

Train Loss: 0.434 | Acc: 85.048% (42524/50000)

Test Loss: 0.586 | Acc: 80.470% (8047/10000)

Epoch: 33

Train Loss: 0.427 | Acc: 85.364% (42682/50000)

Test Loss: 0.650 | Acc: 78.750% (7875/10000)

Epoch: 34

Train Loss: 0.433 | Acc: 85.404% (42702/50000)

Test Loss: 0.724 | Acc: 77.240% (7724/10000)

Epoch: 35

Train Loss: 0.435 | Acc: 84.966% (42483/50000)

Test Loss: 0.656 | Acc: 78.320% (7832/10000)

Epoch: 36

Train Loss: 0.421 | Acc: 85.732% (42866/50000)

Test Loss: 1.175 | Acc: 69.770% (6977/10000)

Epoch: 37

Train Loss: 0.428 | Acc: 85.508% (42754/50000)

Test Loss: 0.768 | Acc: 75.200% (7520/10000)

Epoch: 38

Train Loss: 0.414 | Acc: 85.974% (42987/50000)

Test Loss: 0.559 | Acc: 82.130% (8213/10000)

Epoch: 39

Train Loss: 0.420 | Acc: 85.612% (42806/50000)

Test Loss: 0.683 | Acc: 78.840% (7884/10000)

Epoch: 40

Train Loss: 0.407 | Acc: 86.310% (43155/50000)

Test Loss: 0.616 | Acc: 80.990% (8099/10000)

Epoch: 41

Train Loss: 0.407 | Acc: 86.188% (43094/50000)

Test Loss: 0.573 | Acc: 81.240% (8124/10000)

Epoch: 42

Train Loss: 0.401 | Acc: 86.292% (43146/50000)

Test Loss: 0.604 | Acc: 80.090% (8009/10000)

Epoch: 43

Train Loss: 0.401 | Acc: 86.254% (43127/50000)

Test Loss: 0.577 | Acc: 81.120% (8112/10000)

Epoch: 44

Train Loss: 0.389 | Acc: 86.800% (43400/50000)

Test Loss: 0.641 | Acc: 79.530% (7953/10000)

Epoch: 45

Train Loss: 0.403 | Acc: 86.358% (43179/50000)

Test Loss: 1.016 | Acc: 72.360% (7236/10000)

Epoch: 46

Train Loss: 0.393 | Acc: 86.596% (43298/50000)

Test Loss: 0.639 | Acc: 79.450% (7945/10000)

Epoch: 47

Train Loss: 0.389 | Acc: 86.716% (43358/50000)

Test Loss: 0.692 | Acc: 78.270% (7827/10000)

Epoch: 48

Train Loss: 0.382 | Acc: 87.030% (43515/50000)

Test Loss: 0.622 | Acc: 80.500% (8050/10000)

Epoch: 49

Train Loss: 0.383 | Acc: 86.904% (43452/50000)

Test Loss: 0.927 | Acc: 73.460% (7346/10000)

Epoch: 50

Train Loss: 0.380 | Acc: 86.984% (43492/50000)

Test Loss: 0.667 | Acc: 79.320% (7932/10000)

Epoch: 51

Train Loss: 0.376 | Acc: 87.202% (43601/50000)

Test Loss: 0.679 | Acc: 79.660% (7966/10000)

Epoch: 52

Train Loss: 0.381 | Acc: 86.958% (43479/50000)

Test Loss: 0.909 | Acc: 74.300% (7430/10000)

Epoch: 53

Train Loss: 0.376 | Acc: 87.312% (43656/50000)

Test Loss: 0.536 | Acc: 82.940% (8294/10000)

Epoch: 54

Train Loss: 0.364 | Acc: 87.534% (43767/50000)

Test Loss: 0.549 | Acc: 82.290% (8229/10000)

Epoch: 55

Train Loss: 0.371 | Acc: 87.384% (43692/50000)

Test Loss: 0.584 | Acc: 81.250% (8125/10000)

Epoch: 56

Train Loss: 0.370 | Acc: 87.430% (43715/50000)

Test Loss: 0.894 | Acc: 73.240% (7324/10000)

Epoch: 57

Train Loss: 0.362 | Acc: 87.528% (43764/50000)

Test Loss: 0.742 | Acc: 77.970% (7797/10000)

Epoch: 58

Train Loss: 0.362 | Acc: 87.502% (43751/50000)

Test Loss: 0.507 | Acc: 83.320% (8332/10000)

Epoch: 59

Train Loss: 0.358 | Acc: 87.698% (43849/50000)

Test Loss: 0.631 | Acc: 79.960% (7996/10000)

Epoch: 60

Train Loss: 0.353 | Acc: 87.938% (43969/50000)

Test Loss: 0.672 | Acc: 79.640% (7964/10000)

Epoch: 61

Train Loss: 0.344 | Acc: 88.266% (44133/50000)

Test Loss: 0.676 | Acc: 79.510% (7951/10000)

Epoch: 62

Train Loss: 0.350 | Acc: 87.974% (43987/50000)

Test Loss: 0.553 | Acc: 82.680% (8268/10000)

Epoch: 63

Train Loss: 0.353 | Acc: 87.990% (43995/50000)

Test Loss: 0.519 | Acc: 83.120% (8312/10000)

Epoch: 64

Train Loss: 0.345 | Acc: 88.198% (44099/50000)

Test Loss: 0.611 | Acc: 80.890% (8089/10000)

Epoch: 65

Train Loss: 0.345 | Acc: 88.188% (44094/50000)

Test Loss: 0.591 | Acc: 81.100% (8110/10000)

Epoch: 66

Train Loss: 0.341 | Acc: 88.412% (44206/50000)

Test Loss: 0.614 | Acc: 80.580% (8058/10000)

Epoch: 67

Train Loss: 0.342 | Acc: 88.290% (44145/50000)

Test Loss: 0.488 | Acc: 84.060% (8406/10000)

Epoch: 68

Train Loss: 0.335 | Acc: 88.522% (44261/50000)

Test Loss: 0.577 | Acc: 81.430% (8143/10000)

Epoch: 69

Train Loss: 0.335 | Acc: 88.564% (44282/50000)

Test Loss: 0.796 | Acc: 75.920% (7592/10000)

Epoch: 70

Train Loss: 0.332 | Acc: 88.638% (44319/50000)

Test Loss: 0.614 | Acc: 81.070% (8107/10000)

Epoch: 71

Train Loss: 0.329 | Acc: 88.744% (44372/50000)

Test Loss: 0.553 | Acc: 82.460% (8246/10000)

Epoch: 72

Train Loss: 0.319 | Acc: 89.004% (44502/50000)

Test Loss: 0.614 | Acc: 81.490% (8149/10000)

Epoch: 73

Train Loss: 0.326 | Acc: 88.846% (44423/50000)

Test Loss: 0.435 | Acc: 86.290% (8629/10000)

Epoch: 74

Train Loss: 0.317 | Acc: 89.220% (44610/50000)

Test Loss: 0.675 | Acc: 78.750% (7875/10000)

Epoch: 75

Train Loss: 0.321 | Acc: 89.140% (44570/50000)

Test Loss: 0.531 | Acc: 84.100% (8410/10000)

Epoch: 76

Train Loss: 0.312 | Acc: 89.222% (44611/50000)

Test Loss: 0.840 | Acc: 76.760% (7676/10000)

Epoch: 77

Train Loss: 0.309 | Acc: 89.544% (44772/50000)

Test Loss: 0.772 | Acc: 77.520% (7752/10000)

Epoch: 78

Train Loss: 0.311 | Acc: 89.288% (44644/50000)

Test Loss: 0.483 | Acc: 84.470% (8447/10000)

Epoch: 79

Train Loss: 0.311 | Acc: 89.248% (44624/50000)

Test Loss: 0.520 | Acc: 83.850% (8385/10000)

Epoch: 80

Train Loss: 0.306 | Acc: 89.556% (44778/50000)

Test Loss: 0.620 | Acc: 81.130% (8113/10000)

Epoch: 81

Train Loss: 0.300 | Acc: 89.932% (44966/50000)

Test Loss: 0.610 | Acc: 81.560% (8156/10000)

Epoch: 82

Train Loss: 0.303 | Acc: 89.566% (44783/50000)

Test Loss: 0.546 | Acc: 83.080% (8308/10000)

Epoch: 83

Train Loss: 0.302 | Acc: 89.542% (44771/50000)

Test Loss: 0.558 | Acc: 82.660% (8266/10000)

Epoch: 84

Train Loss: 0.301 | Acc: 89.676% (44838/50000)

Test Loss: 0.541 | Acc: 82.890% (8289/10000)

Epoch: 85

Train Loss: 0.295 | Acc: 90.036% (45018/50000)

Test Loss: 0.498 | Acc: 84.100% (8410/10000)

Epoch: 86

Train Loss: 0.293 | Acc: 89.990% (44995/50000)

Test Loss: 1.068 | Acc: 73.560% (7356/10000)

Epoch: 87

Train Loss: 0.282 | Acc: 90.222% (45111/50000)

Test Loss: 0.461 | Acc: 84.620% (8462/10000)

Epoch: 88

Train Loss: 0.287 | Acc: 90.102% (45051/50000)

Test Loss: 0.466 | Acc: 84.740% (8474/10000)

Epoch: 89

Train Loss: 0.282 | Acc: 90.320% (45160/50000)

Test Loss: 0.577 | Acc: 82.190% (8219/10000)

Epoch: 90

Train Loss: 0.278 | Acc: 90.460% (45230/50000)

Test Loss: 0.472 | Acc: 84.560% (8456/10000)

Epoch: 91

Train Loss: 0.274 | Acc: 90.586% (45293/50000)

Test Loss: 0.607 | Acc: 81.740% (8174/10000)

Epoch: 92

Train Loss: 0.275 | Acc: 90.608% (45304/50000)

Test Loss: 0.434 | Acc: 86.340% (8634/10000)

Epoch: 93

Train Loss: 0.281 | Acc: 90.330% (45165/50000)

Test Loss: 0.672 | Acc: 79.640% (7964/10000)

Epoch: 94

Train Loss: 0.268 | Acc: 90.726% (45363/50000)

Test Loss: 0.594 | Acc: 81.860% (8186/10000)

Epoch: 95

Train Loss: 0.264 | Acc: 91.022% (45511/50000)

Test Loss: 0.513 | Acc: 82.820% (8282/10000)

Epoch: 96

Train Loss: 0.261 | Acc: 91.144% (45572/50000)

Test Loss: 0.739 | Acc: 80.330% (8033/10000)

Epoch: 97

Train Loss: 0.259 | Acc: 91.152% (45576/50000)

Test Loss: 0.425 | Acc: 85.890% (8589/10000)

Epoch: 98

Train Loss: 0.259 | Acc: 91.198% (45599/50000)

Test Loss: 0.627 | Acc: 81.970% (8197/10000)

Epoch: 99

Train Loss: 0.254 | Acc: 91.330% (45665/50000)

Test Loss: 0.535 | Acc: 83.230% (8323/10000)

Epoch: 100

Train Loss: 0.252 | Acc: 91.376% (45688/50000)

Test Loss: 0.592 | Acc: 82.220% (8222/10000)

Epoch: 101

Train Loss: 0.250 | Acc: 91.394% (45697/50000)

Test Loss: 0.451 | Acc: 85.670% (8567/10000)

Epoch: 102

Train Loss: 0.242 | Acc: 91.636% (45818/50000)

Test Loss: 0.761 | Acc: 78.020% (7802/10000)

Epoch: 103

Train Loss: 0.241 | Acc: 91.700% (45850/50000)

Test Loss: 0.524 | Acc: 83.420% (8342/10000)

Epoch: 104

Train Loss: 0.237 | Acc: 91.736% (45868/50000)

Test Loss: 0.416 | Acc: 87.380% (8738/10000)

Epoch: 105

Train Loss: 0.233 | Acc: 92.048% (46024/50000)

Test Loss: 0.465 | Acc: 85.590% (8559/10000)

Epoch: 106

Train Loss: 0.227 | Acc: 92.078% (46039/50000)

Test Loss: 0.470 | Acc: 85.460% (8546/10000)

Epoch: 107

Train Loss: 0.230 | Acc: 92.138% (46069/50000)

Test Loss: 0.404 | Acc: 87.150% (8715/10000)

Epoch: 108

Train Loss: 0.226 | Acc: 92.282% (46141/50000)

Test Loss: 0.408 | Acc: 86.780% (8678/10000)

Epoch: 109

Train Loss: 0.222 | Acc: 92.300% (46150/50000)

Test Loss: 0.461 | Acc: 85.930% (8593/10000)

Epoch: 110

Train Loss: 0.222 | Acc: 92.370% (46185/50000)

Test Loss: 0.454 | Acc: 85.970% (8597/10000)

Epoch: 111

Train Loss: 0.218 | Acc: 92.654% (46327/50000)

Test Loss: 0.347 | Acc: 88.390% (8839/10000)

Epoch: 112

Train Loss: 0.216 | Acc: 92.470% (46235/50000)

Test Loss: 0.392 | Acc: 87.900% (8790/10000)

Epoch: 113

Train Loss: 0.210 | Acc: 92.812% (46406/50000)

Test Loss: 0.499 | Acc: 84.380% (8438/10000)

Epoch: 114

Train Loss: 0.205 | Acc: 92.996% (46498/50000)

Test Loss: 0.408 | Acc: 87.060% (8706/10000)

Epoch: 115

Train Loss: 0.204 | Acc: 93.008% (46504/50000)

Test Loss: 0.381 | Acc: 87.830% (8783/10000)

Epoch: 116

Train Loss: 0.204 | Acc: 93.004% (46502/50000)

Test Loss: 0.398 | Acc: 87.140% (8714/10000)

Epoch: 117

Train Loss: 0.201 | Acc: 93.032% (46516/50000)

Test Loss: 0.573 | Acc: 84.000% (8400/10000)

Epoch: 118

Train Loss: 0.196 | Acc: 93.366% (46683/50000)

Test Loss: 0.342 | Acc: 88.970% (8897/10000)

Epoch: 119

Train Loss: 0.182 | Acc: 93.670% (46835/50000)

Test Loss: 0.428 | Acc: 87.480% (8748/10000)

Epoch: 120

Train Loss: 0.187 | Acc: 93.524% (46762/50000)

Test Loss: 0.421 | Acc: 87.380% (8738/10000)

Epoch: 121

Train Loss: 0.184 | Acc: 93.582% (46791/50000)

Test Loss: 0.413 | Acc: 87.260% (8726/10000)

Epoch: 122

Train Loss: 0.178 | Acc: 93.918% (46959/50000)

Test Loss: 0.342 | Acc: 89.200% (8920/10000)

Epoch: 123

Train Loss: 0.177 | Acc: 93.942% (46971/50000)

Test Loss: 0.510 | Acc: 85.530% (8553/10000)

Epoch: 124

Train Loss: 0.172 | Acc: 93.960% (46980/50000)

Test Loss: 0.432 | Acc: 86.680% (8668/10000)

Epoch: 125

Train Loss: 0.170 | Acc: 94.114% (47057/50000)

Test Loss: 0.407 | Acc: 87.900% (8790/10000)

Epoch: 126

Train Loss: 0.161 | Acc: 94.454% (47227/50000)

Test Loss: 0.343 | Acc: 89.630% (8963/10000)

Epoch: 127

Train Loss: 0.162 | Acc: 94.418% (47209/50000)

Test Loss: 0.345 | Acc: 89.260% (8926/10000)

Epoch: 128

Train Loss: 0.156 | Acc: 94.630% (47315/50000)

Test Loss: 0.345 | Acc: 88.970% (8897/10000)

Epoch: 129

Train Loss: 0.161 | Acc: 94.504% (47252/50000)

Test Loss: 0.363 | Acc: 88.270% (8827/10000)

Epoch: 130

Train Loss: 0.152 | Acc: 94.840% (47420/50000)

Test Loss: 0.319 | Acc: 90.410% (9041/10000)

Epoch: 131

Train Loss: 0.151 | Acc: 94.788% (47394/50000)

Test Loss: 0.415 | Acc: 87.750% (8775/10000)

Epoch: 132

Train Loss: 0.143 | Acc: 95.020% (47510/50000)

Test Loss: 0.360 | Acc: 89.230% (8923/10000)

Epoch: 133

Train Loss: 0.139 | Acc: 95.328% (47664/50000)

Test Loss: 0.370 | Acc: 88.890% (8889/10000)

Epoch: 134

Train Loss: 0.137 | Acc: 95.354% (47677/50000)

Test Loss: 0.367 | Acc: 88.560% (8856/10000)

Epoch: 135

Train Loss: 0.134 | Acc: 95.406% (47703/50000)

Test Loss: 0.300 | Acc: 90.280% (9028/10000)

Epoch: 136

Train Loss: 0.129 | Acc: 95.622% (47811/50000)

Test Loss: 0.356 | Acc: 89.010% (8901/10000)

Epoch: 137

Train Loss: 0.128 | Acc: 95.612% (47806/50000)

Test Loss: 0.308 | Acc: 90.490% (9049/10000)

Epoch: 138

Train Loss: 0.124 | Acc: 95.786% (47893/50000)

Test Loss: 0.297 | Acc: 90.870% (9087/10000)

Epoch: 139

Train Loss: 0.117 | Acc: 95.914% (47957/50000)

Test Loss: 0.360 | Acc: 89.070% (8907/10000)

Epoch: 140

Train Loss: 0.113 | Acc: 96.088% (48044/50000)

Test Loss: 0.303 | Acc: 90.890% (9089/10000)

Epoch: 141

Train Loss: 0.109 | Acc: 96.204% (48102/50000)

Test Loss: 0.321 | Acc: 90.430% (9043/10000)

Epoch: 142

Train Loss: 0.101 | Acc: 96.480% (48240/50000)

Test Loss: 0.377 | Acc: 89.300% (8930/10000)

Epoch: 143

Train Loss: 0.101 | Acc: 96.494% (48247/50000)

Test Loss: 0.306 | Acc: 90.930% (9093/10000)

Epoch: 144

Train Loss: 0.093 | Acc: 96.792% (48396/50000)

Test Loss: 0.330 | Acc: 90.470% (9047/10000)

Epoch: 145

Train Loss: 0.094 | Acc: 96.680% (48340/50000)

Test Loss: 0.337 | Acc: 90.450% (9045/10000)

Epoch: 146

Train Loss: 0.088 | Acc: 96.894% (48447/50000)

Test Loss: 0.336 | Acc: 90.060% (9006/10000)

Epoch: 147

Train Loss: 0.088 | Acc: 97.002% (48501/50000)

Test Loss: 0.340 | Acc: 90.460% (9046/10000)

Epoch: 148

Train Loss: 0.084 | Acc: 97.152% (48576/50000)

Test Loss: 0.344 | Acc: 90.660% (9066/10000)

Epoch: 149

Train Loss: 0.082 | Acc: 97.118% (48559/50000)

Test Loss: 0.320 | Acc: 90.690% (9069/10000)

Epoch: 150

Train Loss: 0.076 | Acc: 97.362% (48681/50000)

Test Loss: 0.329 | Acc: 91.240% (9124/10000)

Epoch: 151

Train Loss: 0.067 | Acc: 97.748% (48874/50000)

Test Loss: 0.293 | Acc: 91.550% (9155/10000)

Epoch: 152

Train Loss: 0.062 | Acc: 97.876% (48938/50000)

Test Loss: 0.325 | Acc: 91.200% (9120/10000)

Epoch: 153

Train Loss: 0.064 | Acc: 97.802% (48901/50000)

Test Loss: 0.334 | Acc: 90.660% (9066/10000)

Epoch: 154

Train Loss: 0.059 | Acc: 97.972% (48986/50000)

Test Loss: 0.311 | Acc: 91.610% (9161/10000)

Epoch: 155

Train Loss: 0.051 | Acc: 98.320% (49160/50000)

Test Loss: 0.279 | Acc: 92.200% (9220/10000)

Epoch: 156

Train Loss: 0.051 | Acc: 98.316% (49158/50000)

Test Loss: 0.343 | Acc: 90.720% (9072/10000)

Epoch: 157

Train Loss: 0.047 | Acc: 98.378% (49189/50000)

Test Loss: 0.299 | Acc: 91.930% (9193/10000)

Epoch: 158

Train Loss: 0.040 | Acc: 98.722% (49361/50000)

Test Loss: 0.337 | Acc: 91.080% (9108/10000)

Epoch: 159

Train Loss: 0.041 | Acc: 98.646% (49323/50000)

Test Loss: 0.284 | Acc: 92.270% (9227/10000)

Epoch: 160

Train Loss: 0.036 | Acc: 98.828% (49414/50000)

Test Loss: 0.301 | Acc: 92.170% (9217/10000)

Epoch: 161

Train Loss: 0.033 | Acc: 98.922% (49461/50000)

Test Loss: 0.283 | Acc: 92.450% (9245/10000)

Epoch: 162

Train Loss: 0.027 | Acc: 99.134% (49567/50000)

Test Loss: 0.308 | Acc: 92.270% (9227/10000)

Epoch: 163

Train Loss: 0.024 | Acc: 99.224% (49612/50000)

Test Loss: 0.297 | Acc: 92.450% (9245/10000)

Epoch: 164

Train Loss: 0.025 | Acc: 99.184% (49592/50000)

Test Loss: 0.288 | Acc: 92.950% (9295/10000)

Epoch: 165

Train Loss: 0.021 | Acc: 99.322% (49661/50000)

Test Loss: 0.280 | Acc: 93.000% (9300/10000)

Epoch: 166

Train Loss: 0.018 | Acc: 99.420% (49710/50000)

Test Loss: 0.319 | Acc: 92.340% (9234/10000)

Epoch: 167

Train Loss: 0.017 | Acc: 99.492% (49746/50000)

Test Loss: 0.265 | Acc: 93.120% (9312/10000)

Epoch: 168

Train Loss: 0.013 | Acc: 99.628% (49814/50000)

Test Loss: 0.270 | Acc: 93.140% (9314/10000)

Epoch: 169

Train Loss: 0.011 | Acc: 99.688% (49844/50000)

Test Loss: 0.253 | Acc: 93.850% (9385/10000)

Epoch: 170

Train Loss: 0.011 | Acc: 99.684% (49842/50000)

Test Loss: 0.268 | Acc: 93.450% (9345/10000)

Epoch: 171

Train Loss: 0.010 | Acc: 99.714% (49857/50000)

Test Loss: 0.272 | Acc: 93.550% (9355/10000)

Epoch: 172

Train Loss: 0.008 | Acc: 99.816% (49908/50000)

Test Loss: 0.255 | Acc: 93.890% (9389/10000)

Epoch: 173

Train Loss: 0.007 | Acc: 99.810% (49905/50000)

Test Loss: 0.256 | Acc: 94.010% (9401/10000)

Epoch: 174

Train Loss: 0.007 | Acc: 99.794% (49897/50000)

Test Loss: 0.258 | Acc: 93.980% (9398/10000)

Epoch: 175

Train Loss: 0.005 | Acc: 99.908% (49954/50000)

Test Loss: 0.253 | Acc: 93.860% (9386/10000)

Epoch: 176

Train Loss: 0.004 | Acc: 99.906% (49953/50000)

Test Loss: 0.257 | Acc: 94.150% (9415/10000)

Epoch: 177

Train Loss: 0.003 | Acc: 99.950% (49975/50000)

Test Loss: 0.255 | Acc: 94.380% (9438/10000)

Epoch: 178

Train Loss: 0.003 | Acc: 99.926% (49963/50000)

Test Loss: 0.264 | Acc: 94.130% (9413/10000)

Epoch: 179

Train Loss: 0.003 | Acc: 99.936% (49968/50000)

Test Loss: 0.254 | Acc: 94.210% (9421/10000)

Epoch: 180

Train Loss: 0.002 | Acc: 99.958% (49979/50000)

Test Loss: 0.258 | Acc: 94.260% (9426/10000)

Epoch: 181

Train Loss: 0.003 | Acc: 99.938% (49969/50000)

Test Loss: 0.245 | Acc: 94.410% (9441/10000)

Epoch: 182

Train Loss: 0.003 | Acc: 99.962% (49981/50000)

Test Loss: 0.252 | Acc: 94.520% (9452/10000)

Epoch: 183

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.262 | Acc: 94.300% (9430/10000)

Epoch: 184

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.260 | Acc: 94.250% (9425/10000)

Epoch: 185

Train Loss: 0.002 | Acc: 99.950% (49975/50000)

Test Loss: 0.254 | Acc: 94.380% (9438/10000)

Epoch: 186

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.250 | Acc: 94.400% (9440/10000)

Epoch: 187

Train Loss: 0.002 | Acc: 99.958% (49979/50000)

Test Loss: 0.259 | Acc: 94.350% (9435/10000)

Epoch: 188

Train Loss: 0.002 | Acc: 99.968% (49984/50000)

Test Loss: 0.254 | Acc: 94.380% (9438/10000)

Epoch: 189

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.251 | Acc: 94.480% (9448/10000)

Epoch: 190

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.252 | Acc: 94.420% (9442/10000)

Epoch: 191

Train Loss: 0.001 | Acc: 99.984% (49992/50000)

Test Loss: 0.253 | Acc: 94.320% (9432/10000)

Epoch: 192

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.249 | Acc: 94.390% (9439/10000)

Epoch: 193

Train Loss: 0.001 | Acc: 99.992% (49996/50000)

Test Loss: 0.254 | Acc: 94.400% (9440/10000)

Epoch: 194

Train Loss: 0.001 | Acc: 99.982% (49991/50000)

Test Loss: 0.252 | Acc: 94.320% (9432/10000)

Epoch: 195

Train Loss: 0.002 | Acc: 99.980% (49990/50000)

Test Loss: 0.252 | Acc: 94.410% (9441/10000)

Epoch: 196

Train Loss: 0.001 | Acc: 99.978% (49989/50000)

Test Loss: 0.257 | Acc: 94.350% (9435/10000)

Epoch: 197

Train Loss: 0.001 | Acc: 99.980% (49990/50000)

Test Loss: 0.249 | Acc: 94.470% (9447/10000)

Epoch: 198

Train Loss: 0.001 | Acc: 99.984% (49992/50000)

Test Loss: 0.253 | Acc: 94.380% (9438/10000)

Epoch: 199

Train Loss: 0.002 | Acc: 99.966% (49983/50000)

Test Loss: 0.253 | Acc: 94.360% (9436/10000)

Max\_acc: 94.52%

Resnet50\_4out:

Epoch: 0

Train Loss: 2.574 | Acc: 23.434% (11717/50000)

Test Loss: 1.759 | Acc: 33.700% (3370/10000)

Epoch: 1

Train Loss: 1.624 | Acc: 40.676% (20338/50000)

Test Loss: 1.477 | Acc: 45.530% (4553/10000)

Epoch: 2

Train Loss: 1.385 | Acc: 49.480% (24740/50000)

Test Loss: 1.568 | Acc: 45.400% (4540/10000)

Epoch: 3

Train Loss: 1.181 | Acc: 57.560% (28780/50000)

Test Loss: 1.828 | Acc: 45.030% (4503/10000)

Epoch: 4

Train Loss: 1.037 | Acc: 62.904% (31452/50000)

Test Loss: 1.348 | Acc: 57.470% (5747/10000)

Epoch: 5

Train Loss: 0.949 | Acc: 66.288% (33144/50000)

Test Loss: 1.178 | Acc: 59.950% (5995/10000)

Epoch: 6

Train Loss: 0.859 | Acc: 69.606% (34803/50000)

Test Loss: 1.076 | Acc: 64.900% (6490/10000)

Epoch: 7

Train Loss: 0.775 | Acc: 72.928% (36464/50000)

Test Loss: 1.076 | Acc: 65.820% (6582/10000)

Epoch: 8

Train Loss: 0.708 | Acc: 75.358% (37679/50000)

Test Loss: 0.973 | Acc: 67.890% (6789/10000)

Epoch: 9

Train Loss: 0.656 | Acc: 77.140% (38570/50000)

Test Loss: 1.107 | Acc: 65.610% (6561/10000)

Epoch: 10

Train Loss: 0.625 | Acc: 78.344% (39172/50000)

Test Loss: 0.947 | Acc: 68.650% (6865/10000)

Epoch: 11

Train Loss: 0.600 | Acc: 79.154% (39577/50000)

Test Loss: 0.951 | Acc: 70.700% (7070/10000)

Epoch: 12

Train Loss: 0.577 | Acc: 80.024% (40012/50000)

Test Loss: 1.019 | Acc: 67.500% (6750/10000)

Epoch: 13

Train Loss: 0.554 | Acc: 80.930% (40465/50000)

Test Loss: 0.825 | Acc: 72.890% (7289/10000)

Epoch: 14

Train Loss: 0.539 | Acc: 81.442% (40721/50000)

Test Loss: 0.827 | Acc: 74.870% (7487/10000)

Epoch: 15

Train Loss: 0.524 | Acc: 82.114% (41057/50000)

Test Loss: 0.814 | Acc: 74.210% (7421/10000)

Epoch: 16

Train Loss: 0.520 | Acc: 82.112% (41056/50000)

Test Loss: 0.667 | Acc: 78.050% (7805/10000)

Epoch: 17

Train Loss: 0.502 | Acc: 82.744% (41372/50000)

Test Loss: 0.743 | Acc: 76.590% (7659/10000)

Epoch: 18

Train Loss: 0.493 | Acc: 83.280% (41640/50000)

Test Loss: 0.676 | Acc: 78.260% (7826/10000)

Epoch: 19

Train Loss: 0.488 | Acc: 83.470% (41735/50000)

Test Loss: 0.756 | Acc: 76.590% (7659/10000)

Epoch: 20

Train Loss: 0.484 | Acc: 83.522% (41761/50000)

Test Loss: 0.782 | Acc: 75.630% (7563/10000)

Epoch: 21

Train Loss: 0.471 | Acc: 83.962% (41981/50000)

Test Loss: 0.937 | Acc: 70.420% (7042/10000)

Epoch: 22

Train Loss: 0.469 | Acc: 83.992% (41996/50000)

Test Loss: 0.539 | Acc: 82.360% (8236/10000)

Epoch: 23

Train Loss: 0.455 | Acc: 84.502% (42251/50000)

Test Loss: 0.540 | Acc: 81.830% (8183/10000)

Epoch: 24

Train Loss: 0.450 | Acc: 84.642% (42321/50000)

Test Loss: 0.962 | Acc: 71.030% (7103/10000)

Epoch: 25

Train Loss: 0.450 | Acc: 84.712% (42356/50000)

Test Loss: 0.738 | Acc: 75.780% (7578/10000)

Epoch: 26

Train Loss: 0.446 | Acc: 84.788% (42394/50000)

Test Loss: 0.907 | Acc: 74.160% (7416/10000)

Epoch: 27

Train Loss: 0.435 | Acc: 85.270% (42635/50000)

Test Loss: 0.662 | Acc: 79.370% (7937/10000)

Epoch: 28

Train Loss: 0.432 | Acc: 85.106% (42553/50000)

Test Loss: 0.690 | Acc: 78.900% (7890/10000)

Epoch: 29

Train Loss: 0.430 | Acc: 85.354% (42677/50000)

Test Loss: 1.597 | Acc: 63.340% (6334/10000)

Epoch: 30

Train Loss: 0.425 | Acc: 85.676% (42838/50000)

Test Loss: 0.791 | Acc: 74.530% (7453/10000)

Epoch: 31

Train Loss: 0.424 | Acc: 85.692% (42846/50000)

Test Loss: 0.723 | Acc: 76.240% (7624/10000)

Epoch: 32

Train Loss: 0.417 | Acc: 85.750% (42875/50000)

Test Loss: 0.688 | Acc: 79.100% (7910/10000)

Epoch: 33

Train Loss: 0.411 | Acc: 86.072% (43036/50000)

Test Loss: 1.158 | Acc: 68.850% (6885/10000)

Epoch: 34

Train Loss: 0.411 | Acc: 85.966% (42983/50000)

Test Loss: 0.527 | Acc: 82.730% (8273/10000)

Epoch: 35

Train Loss: 0.407 | Acc: 85.988% (42994/50000)

Test Loss: 1.109 | Acc: 69.880% (6988/10000)

Epoch: 36

Train Loss: 0.400 | Acc: 86.380% (43190/50000)

Test Loss: 0.782 | Acc: 75.590% (7559/10000)

Epoch: 37

Train Loss: 0.406 | Acc: 86.040% (43020/50000)

Test Loss: 0.726 | Acc: 78.000% (7800/10000)

Epoch: 38

Train Loss: 0.402 | Acc: 86.202% (43101/50000)

Test Loss: 0.580 | Acc: 81.460% (8146/10000)

Epoch: 39

Train Loss: 0.396 | Acc: 86.530% (43265/50000)

Test Loss: 0.797 | Acc: 76.450% (7645/10000)

Epoch: 40

Train Loss: 0.392 | Acc: 86.648% (43324/50000)

Test Loss: 0.810 | Acc: 74.060% (7406/10000)

Epoch: 41

Train Loss: 0.393 | Acc: 86.622% (43311/50000)

Test Loss: 0.733 | Acc: 77.990% (7799/10000)

Epoch: 42

Train Loss: 0.382 | Acc: 86.924% (43462/50000)

Test Loss: 0.559 | Acc: 81.470% (8147/10000)

Epoch: 43

Train Loss: 0.382 | Acc: 86.924% (43462/50000)

Test Loss: 0.770 | Acc: 76.620% (7662/10000)

Epoch: 44

Train Loss: 0.375 | Acc: 87.224% (43612/50000)

Test Loss: 0.630 | Acc: 80.030% (8003/10000)

Epoch: 45

Train Loss: 0.376 | Acc: 87.000% (43500/50000)

Test Loss: 0.532 | Acc: 82.540% (8254/10000)

Epoch: 46

Train Loss: 0.378 | Acc: 87.044% (43522/50000)

Test Loss: 0.573 | Acc: 81.240% (8124/10000)

Epoch: 47

Train Loss: 0.377 | Acc: 87.050% (43525/50000)

Test Loss: 0.788 | Acc: 78.220% (7822/10000)

Epoch: 48

Train Loss: 0.371 | Acc: 87.334% (43667/50000)

Test Loss: 0.627 | Acc: 79.900% (7990/10000)

Epoch: 49

Train Loss: 0.370 | Acc: 87.336% (43668/50000)

Test Loss: 1.189 | Acc: 68.600% (6860/10000)

Epoch: 50

Train Loss: 0.373 | Acc: 87.188% (43594/50000)

Test Loss: 0.928 | Acc: 73.930% (7393/10000)

Epoch: 51

Train Loss: 0.363 | Acc: 87.534% (43767/50000)

Test Loss: 0.769 | Acc: 75.800% (7580/10000)

Epoch: 52

Train Loss: 0.358 | Acc: 87.846% (43923/50000)

Test Loss: 0.534 | Acc: 81.860% (8186/10000)

Epoch: 53

Train Loss: 0.360 | Acc: 87.580% (43790/50000)

Test Loss: 0.988 | Acc: 71.090% (7109/10000)

Epoch: 54

Train Loss: 0.357 | Acc: 87.796% (43898/50000)

Test Loss: 0.545 | Acc: 82.390% (8239/10000)

Epoch: 55

Train Loss: 0.351 | Acc: 88.058% (44029/50000)

Test Loss: 0.858 | Acc: 76.580% (7658/10000)

Epoch: 56

Train Loss: 0.357 | Acc: 87.666% (43833/50000)

Test Loss: 0.565 | Acc: 81.600% (8160/10000)

Epoch: 57

Train Loss: 0.345 | Acc: 88.214% (44107/50000)

Test Loss: 0.734 | Acc: 77.530% (7753/10000)

Epoch: 58

Train Loss: 0.345 | Acc: 88.194% (44097/50000)

Test Loss: 0.703 | Acc: 78.230% (7823/10000)

Epoch: 59

Train Loss: 0.343 | Acc: 88.118% (44059/50000)

Test Loss: 0.739 | Acc: 77.260% (7726/10000)

Epoch: 60

Train Loss: 0.342 | Acc: 88.294% (44147/50000)

Test Loss: 0.702 | Acc: 78.630% (7863/10000)

Epoch: 61

Train Loss: 0.333 | Acc: 88.658% (44329/50000)

Test Loss: 0.678 | Acc: 79.840% (7984/10000)

Epoch: 62

Train Loss: 0.334 | Acc: 88.582% (44291/50000)

Test Loss: 0.909 | Acc: 74.620% (7462/10000)

Epoch: 63

Train Loss: 0.331 | Acc: 88.634% (44317/50000)

Test Loss: 0.585 | Acc: 82.130% (8213/10000)

Epoch: 64

Train Loss: 0.336 | Acc: 88.510% (44255/50000)

Test Loss: 0.602 | Acc: 80.950% (8095/10000)

Epoch: 65

Train Loss: 0.331 | Acc: 88.754% (44377/50000)

Test Loss: 0.601 | Acc: 80.940% (8094/10000)

Epoch: 66

Train Loss: 0.329 | Acc: 88.906% (44453/50000)

Test Loss: 0.485 | Acc: 84.460% (8446/10000)

Epoch: 67

Train Loss: 0.328 | Acc: 88.878% (44439/50000)

Test Loss: 0.766 | Acc: 77.030% (7703/10000)

Epoch: 68

Train Loss: 0.324 | Acc: 88.956% (44478/50000)

Test Loss: 0.546 | Acc: 83.040% (8304/10000)

Epoch: 69

Train Loss: 0.317 | Acc: 89.108% (44554/50000)

Test Loss: 0.616 | Acc: 80.770% (8077/10000)

Epoch: 70

Train Loss: 0.317 | Acc: 89.194% (44597/50000)

Test Loss: 0.536 | Acc: 83.520% (8352/10000)

Epoch: 71

Train Loss: 0.316 | Acc: 89.260% (44630/50000)

Test Loss: 0.795 | Acc: 76.830% (7683/10000)

Epoch: 72

Train Loss: 0.312 | Acc: 89.258% (44629/50000)

Test Loss: 0.527 | Acc: 83.860% (8386/10000)

Epoch: 73

Train Loss: 0.307 | Acc: 89.490% (44745/50000)

Test Loss: 0.379 | Acc: 87.330% (8733/10000)

Epoch: 74

Train Loss: 0.303 | Acc: 89.756% (44878/50000)

Test Loss: 0.462 | Acc: 84.280% (8428/10000)

Epoch: 75

Train Loss: 0.305 | Acc: 89.780% (44890/50000)

Test Loss: 0.628 | Acc: 80.710% (8071/10000)

Epoch: 76

Train Loss: 0.298 | Acc: 89.866% (44933/50000)

Test Loss: 0.417 | Acc: 86.340% (8634/10000)

Epoch: 77

Train Loss: 0.294 | Acc: 89.910% (44955/50000)

Test Loss: 0.664 | Acc: 79.830% (7983/10000)

Epoch: 78

Train Loss: 0.298 | Acc: 89.726% (44863/50000)

Test Loss: 0.512 | Acc: 84.020% (8402/10000)

Epoch: 79

Train Loss: 0.300 | Acc: 89.794% (44897/50000)

Test Loss: 0.543 | Acc: 82.590% (8259/10000)

Epoch: 80

Train Loss: 0.290 | Acc: 90.258% (45129/50000)

Test Loss: 0.523 | Acc: 83.010% (8301/10000)

Epoch: 81

Train Loss: 0.289 | Acc: 89.936% (44968/50000)

Test Loss: 0.436 | Acc: 85.560% (8556/10000)

Epoch: 82

Train Loss: 0.283 | Acc: 90.326% (45163/50000)

Test Loss: 0.396 | Acc: 86.550% (8655/10000)

Epoch: 83

Train Loss: 0.286 | Acc: 90.114% (45057/50000)

Test Loss: 0.488 | Acc: 84.080% (8408/10000)

Epoch: 84

Train Loss: 0.277 | Acc: 90.478% (45239/50000)

Test Loss: 0.497 | Acc: 83.680% (8368/10000)

Epoch: 85

Train Loss: 0.279 | Acc: 90.414% (45207/50000)

Test Loss: 0.496 | Acc: 85.070% (8507/10000)

Epoch: 86

Train Loss: 0.278 | Acc: 90.516% (45258/50000)

Test Loss: 0.610 | Acc: 81.980% (8198/10000)

Epoch: 87

Train Loss: 0.276 | Acc: 90.528% (45264/50000)

Test Loss: 0.956 | Acc: 75.240% (7524/10000)

Epoch: 88

Train Loss: 0.265 | Acc: 90.990% (45495/50000)

Test Loss: 0.435 | Acc: 86.000% (8600/10000)

Epoch: 89

Train Loss: 0.269 | Acc: 90.866% (45433/50000)

Test Loss: 0.587 | Acc: 82.720% (8272/10000)

Epoch: 90

Train Loss: 0.266 | Acc: 90.948% (45474/50000)

Test Loss: 0.491 | Acc: 84.470% (8447/10000)

Epoch: 91

Train Loss: 0.269 | Acc: 90.630% (45315/50000)

Test Loss: 0.511 | Acc: 83.700% (8370/10000)

Epoch: 92

Train Loss: 0.260 | Acc: 91.046% (45523/50000)

Test Loss: 0.657 | Acc: 80.780% (8078/10000)

Epoch: 93

Train Loss: 0.260 | Acc: 91.024% (45512/50000)

Test Loss: 0.454 | Acc: 85.670% (8567/10000)

Epoch: 94

Train Loss: 0.253 | Acc: 91.232% (45616/50000)

Test Loss: 0.508 | Acc: 84.120% (8412/10000)

Epoch: 95

Train Loss: 0.252 | Acc: 91.408% (45704/50000)

Test Loss: 0.366 | Acc: 87.720% (8772/10000)

Epoch: 96

Train Loss: 0.248 | Acc: 91.496% (45748/50000)

Test Loss: 0.520 | Acc: 84.230% (8423/10000)

Epoch: 97

Train Loss: 0.245 | Acc: 91.516% (45758/50000)

Test Loss: 0.507 | Acc: 84.840% (8484/10000)

Epoch: 98

Train Loss: 0.244 | Acc: 91.678% (45839/50000)

Test Loss: 0.499 | Acc: 84.210% (8421/10000)

Epoch: 99

Train Loss: 0.241 | Acc: 91.668% (45834/50000)

Test Loss: 0.464 | Acc: 85.240% (8524/10000)

Epoch: 100

Train Loss: 0.235 | Acc: 91.880% (45940/50000)

Test Loss: 0.477 | Acc: 85.460% (8546/10000)

Epoch: 101

Train Loss: 0.230 | Acc: 92.136% (46068/50000)

Test Loss: 0.366 | Acc: 88.440% (8844/10000)

Epoch: 102

Train Loss: 0.228 | Acc: 92.236% (46118/50000)

Test Loss: 0.466 | Acc: 85.870% (8587/10000)

Epoch: 103

Train Loss: 0.227 | Acc: 92.138% (46069/50000)

Test Loss: 0.540 | Acc: 82.910% (8291/10000)

Epoch: 104

Train Loss: 0.227 | Acc: 92.226% (46113/50000)

Test Loss: 0.493 | Acc: 84.690% (8469/10000)

Epoch: 105

Train Loss: 0.223 | Acc: 92.430% (46215/50000)

Test Loss: 0.418 | Acc: 87.370% (8737/10000)

Epoch: 106

Train Loss: 0.220 | Acc: 92.390% (46195/50000)

Test Loss: 0.456 | Acc: 85.350% (8535/10000)

Epoch: 107

Train Loss: 0.215 | Acc: 92.696% (46348/50000)

Test Loss: 0.578 | Acc: 83.160% (8316/10000)

Epoch: 108

Train Loss: 0.217 | Acc: 92.484% (46242/50000)

Test Loss: 0.614 | Acc: 81.720% (8172/10000)

Epoch: 109

Train Loss: 0.208 | Acc: 92.828% (46414/50000)

Test Loss: 0.355 | Acc: 88.350% (8835/10000)

Epoch: 110

Train Loss: 0.207 | Acc: 92.706% (46353/50000)

Test Loss: 0.481 | Acc: 84.810% (8481/10000)

Epoch: 111

Train Loss: 0.209 | Acc: 92.856% (46428/50000)

Test Loss: 0.366 | Acc: 88.260% (8826/10000)

Epoch: 112

Train Loss: 0.198 | Acc: 93.202% (46601/50000)

Test Loss: 0.378 | Acc: 88.320% (8832/10000)

Epoch: 113

Train Loss: 0.196 | Acc: 93.212% (46606/50000)

Test Loss: 0.429 | Acc: 86.510% (8651/10000)

Epoch: 114

Train Loss: 0.196 | Acc: 93.298% (46649/50000)

Test Loss: 0.349 | Acc: 89.020% (8902/10000)

Epoch: 115

Train Loss: 0.189 | Acc: 93.540% (46770/50000)

Test Loss: 0.330 | Acc: 89.170% (8917/10000)

Epoch: 116

Train Loss: 0.185 | Acc: 93.656% (46828/50000)

Test Loss: 0.363 | Acc: 88.070% (8807/10000)

Epoch: 117

Train Loss: 0.180 | Acc: 93.806% (46903/50000)

Test Loss: 0.590 | Acc: 83.120% (8312/10000)

Epoch: 118

Train Loss: 0.182 | Acc: 93.746% (46873/50000)

Test Loss: 0.290 | Acc: 90.710% (9071/10000)

Epoch: 119

Train Loss: 0.176 | Acc: 93.904% (46952/50000)

Test Loss: 0.428 | Acc: 87.470% (8747/10000)

Epoch: 120

Train Loss: 0.170 | Acc: 94.194% (47097/50000)

Test Loss: 0.447 | Acc: 86.630% (8663/10000)

Epoch: 121

Train Loss: 0.176 | Acc: 94.006% (47003/50000)

Test Loss: 0.331 | Acc: 89.390% (8939/10000)

Epoch: 122

Train Loss: 0.166 | Acc: 94.398% (47199/50000)

Test Loss: 0.401 | Acc: 87.760% (8776/10000)

Epoch: 123

Train Loss: 0.169 | Acc: 94.186% (47093/50000)

Test Loss: 0.337 | Acc: 89.380% (8938/10000)

Epoch: 124

Train Loss: 0.161 | Acc: 94.472% (47236/50000)

Test Loss: 0.349 | Acc: 89.650% (8965/10000)

Epoch: 125

Train Loss: 0.163 | Acc: 94.334% (47167/50000)

Test Loss: 0.355 | Acc: 89.110% (8911/10000)

Epoch: 126

Train Loss: 0.154 | Acc: 94.670% (47335/50000)

Test Loss: 0.371 | Acc: 89.070% (8907/10000)

Epoch: 127

Train Loss: 0.146 | Acc: 94.948% (47474/50000)

Test Loss: 0.280 | Acc: 91.160% (9116/10000)

Epoch: 128

Train Loss: 0.144 | Acc: 95.042% (47521/50000)

Test Loss: 0.403 | Acc: 88.410% (8841/10000)

Epoch: 129

Train Loss: 0.144 | Acc: 95.022% (47511/50000)

Test Loss: 0.346 | Acc: 89.960% (8996/10000)

Epoch: 130

Train Loss: 0.141 | Acc: 95.136% (47568/50000)

Test Loss: 0.305 | Acc: 90.200% (9020/10000)

Epoch: 131

Train Loss: 0.134 | Acc: 95.422% (47711/50000)

Test Loss: 0.292 | Acc: 90.810% (9081/10000)

Epoch: 132

Train Loss: 0.129 | Acc: 95.492% (47746/50000)

Test Loss: 0.333 | Acc: 89.670% (8967/10000)

Epoch: 133

Train Loss: 0.127 | Acc: 95.552% (47776/50000)

Test Loss: 0.388 | Acc: 88.520% (8852/10000)

Epoch: 134

Train Loss: 0.126 | Acc: 95.626% (47813/50000)

Test Loss: 0.472 | Acc: 86.180% (8618/10000)

Epoch: 135

Train Loss: 0.125 | Acc: 95.634% (47817/50000)

Test Loss: 0.427 | Acc: 87.740% (8774/10000)

Epoch: 136

Train Loss: 0.120 | Acc: 95.832% (47916/50000)

Test Loss: 0.312 | Acc: 90.710% (9071/10000)

Epoch: 137

Train Loss: 0.113 | Acc: 96.118% (48059/50000)

Test Loss: 0.313 | Acc: 90.240% (9024/10000)

Epoch: 138

Train Loss: 0.111 | Acc: 96.174% (48087/50000)

Test Loss: 0.304 | Acc: 90.570% (9057/10000)

Epoch: 139

Train Loss: 0.104 | Acc: 96.442% (48221/50000)

Test Loss: 0.383 | Acc: 89.230% (8923/10000)

Epoch: 140

Train Loss: 0.100 | Acc: 96.626% (48313/50000)

Test Loss: 0.285 | Acc: 91.760% (9176/10000)

Epoch: 141

Train Loss: 0.099 | Acc: 96.518% (48259/50000)

Test Loss: 0.311 | Acc: 90.940% (9094/10000)

Epoch: 142

Train Loss: 0.095 | Acc: 96.726% (48363/50000)

Test Loss: 0.275 | Acc: 92.300% (9230/10000)

Epoch: 143

Train Loss: 0.089 | Acc: 96.980% (48490/50000)

Test Loss: 0.333 | Acc: 90.560% (9056/10000)

Epoch: 144

Train Loss: 0.085 | Acc: 97.052% (48526/50000)

Test Loss: 0.285 | Acc: 91.540% (9154/10000)

Epoch: 145

Train Loss: 0.083 | Acc: 97.152% (48576/50000)

Test Loss: 0.537 | Acc: 86.710% (8671/10000)

Epoch: 146

Train Loss: 0.079 | Acc: 97.302% (48651/50000)

Test Loss: 0.328 | Acc: 91.100% (9110/10000)

Epoch: 147

Train Loss: 0.076 | Acc: 97.436% (48718/50000)

Test Loss: 0.302 | Acc: 91.200% (9120/10000)

Epoch: 148

Train Loss: 0.072 | Acc: 97.556% (48778/50000)

Test Loss: 0.281 | Acc: 92.100% (9210/10000)

Epoch: 149

Train Loss: 0.070 | Acc: 97.670% (48835/50000)

Test Loss: 0.276 | Acc: 92.150% (9215/10000)

Epoch: 150

Train Loss: 0.064 | Acc: 97.878% (48939/50000)

Test Loss: 0.317 | Acc: 90.940% (9094/10000)

Epoch: 151

Train Loss: 0.063 | Acc: 97.872% (48936/50000)

Test Loss: 0.300 | Acc: 91.420% (9142/10000)

Epoch: 152

Train Loss: 0.057 | Acc: 98.112% (49056/50000)

Test Loss: 0.281 | Acc: 92.440% (9244/10000)

Epoch: 153

Train Loss: 0.056 | Acc: 98.118% (49059/50000)

Test Loss: 0.290 | Acc: 92.200% (9220/10000)

Epoch: 154

Train Loss: 0.050 | Acc: 98.338% (49169/50000)

Test Loss: 0.263 | Acc: 92.810% (9281/10000)

Epoch: 155

Train Loss: 0.049 | Acc: 98.376% (49188/50000)

Test Loss: 0.268 | Acc: 92.740% (9274/10000)

Epoch: 156

Train Loss: 0.042 | Acc: 98.588% (49294/50000)

Test Loss: 0.296 | Acc: 91.710% (9171/10000)

Epoch: 157

Train Loss: 0.041 | Acc: 98.664% (49332/50000)

Test Loss: 0.259 | Acc: 93.110% (9311/10000)

Epoch: 158

Train Loss: 0.038 | Acc: 98.744% (49372/50000)

Test Loss: 0.266 | Acc: 92.540% (9254/10000)

Epoch: 159

Train Loss: 0.034 | Acc: 98.926% (49463/50000)

Test Loss: 0.235 | Acc: 93.680% (9368/10000)

Epoch: 160

Train Loss: 0.031 | Acc: 99.014% (49507/50000)

Test Loss: 0.314 | Acc: 91.750% (9175/10000)

Epoch: 161

Train Loss: 0.030 | Acc: 99.054% (49527/50000)

Test Loss: 0.242 | Acc: 93.670% (9367/10000)

Epoch: 162

Train Loss: 0.026 | Acc: 99.168% (49584/50000)

Test Loss: 0.246 | Acc: 93.810% (9381/10000)

Epoch: 163

Train Loss: 0.026 | Acc: 99.220% (49610/50000)

Test Loss: 0.296 | Acc: 92.690% (9269/10000)

Epoch: 164

Train Loss: 0.022 | Acc: 99.336% (49668/50000)

Test Loss: 0.249 | Acc: 93.510% (9351/10000)

Epoch: 165

Train Loss: 0.019 | Acc: 99.432% (49716/50000)

Test Loss: 0.227 | Acc: 93.880% (9388/10000)

Epoch: 166

Train Loss: 0.016 | Acc: 99.512% (49756/50000)

Test Loss: 0.237 | Acc: 93.890% (9389/10000)

Epoch: 167

Train Loss: 0.013 | Acc: 99.666% (49833/50000)

Test Loss: 0.253 | Acc: 94.020% (9402/10000)

Epoch: 168

Train Loss: 0.013 | Acc: 99.642% (49821/50000)

Test Loss: 0.257 | Acc: 94.010% (9401/10000)

Epoch: 169

Train Loss: 0.011 | Acc: 99.708% (49854/50000)

Test Loss: 0.214 | Acc: 94.600% (9460/10000)

Epoch: 170

Train Loss: 0.010 | Acc: 99.752% (49876/50000)

Test Loss: 0.223 | Acc: 94.450% (9445/10000)

Epoch: 171

Train Loss: 0.009 | Acc: 99.744% (49872/50000)

Test Loss: 0.234 | Acc: 94.550% (9455/10000)

Epoch: 172

Train Loss: 0.008 | Acc: 99.796% (49898/50000)

Test Loss: 0.224 | Acc: 94.590% (9459/10000)

Epoch: 173

Train Loss: 0.007 | Acc: 99.832% (49916/50000)

Test Loss: 0.222 | Acc: 94.760% (9476/10000)

Epoch: 174

Train Loss: 0.007 | Acc: 99.840% (49920/50000)

Test Loss: 0.234 | Acc: 94.340% (9434/10000)

Epoch: 175

Train Loss: 0.006 | Acc: 99.858% (49929/50000)

Test Loss: 0.221 | Acc: 94.850% (9485/10000)

Epoch: 176

Train Loss: 0.005 | Acc: 99.882% (49941/50000)

Test Loss: 0.216 | Acc: 94.750% (9475/10000)

Epoch: 177

Train Loss: 0.004 | Acc: 99.916% (49958/50000)

Test Loss: 0.217 | Acc: 94.970% (9497/10000)

Epoch: 178

Train Loss: 0.004 | Acc: 99.940% (49970/50000)

Test Loss: 0.214 | Acc: 94.910% (9491/10000)

Epoch: 179

Train Loss: 0.004 | Acc: 99.896% (49948/50000)

Test Loss: 0.220 | Acc: 95.000% (9500/10000)

Epoch: 180

Train Loss: 0.003 | Acc: 99.944% (49972/50000)

Test Loss: 0.209 | Acc: 95.100% (9510/10000)

Epoch: 181

Train Loss: 0.003 | Acc: 99.948% (49974/50000)

Test Loss: 0.220 | Acc: 94.930% (9493/10000)

Epoch: 182

Train Loss: 0.003 | Acc: 99.934% (49967/50000)

Test Loss: 0.226 | Acc: 94.880% (9488/10000)

Epoch: 183

Train Loss: 0.003 | Acc: 99.964% (49982/50000)

Test Loss: 0.222 | Acc: 94.970% (9497/10000)

Epoch: 184

Train Loss: 0.003 | Acc: 99.956% (49978/50000)

Test Loss: 0.222 | Acc: 95.100% (9510/10000)

Epoch: 185

Train Loss: 0.002 | Acc: 99.978% (49989/50000)

Test Loss: 0.222 | Acc: 95.100% (9510/10000)

Epoch: 186

Train Loss: 0.003 | Acc: 99.946% (49973/50000)

Test Loss: 0.226 | Acc: 94.920% (9492/10000)

Epoch: 187

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.218 | Acc: 95.140% (9514/10000)

Epoch: 188

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.219 | Acc: 95.040% (9504/10000)

Epoch: 189

Train Loss: 0.002 | Acc: 99.968% (49984/50000)

Test Loss: 0.222 | Acc: 94.980% (9498/10000)

Epoch: 190

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.225 | Acc: 95.000% (9500/10000)

Epoch: 191

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.218 | Acc: 95.150% (9515/10000)

Epoch: 192

Train Loss: 0.002 | Acc: 99.968% (49984/50000)

Test Loss: 0.222 | Acc: 95.040% (9504/10000)

Epoch: 193

Train Loss: 0.002 | Acc: 99.974% (49987/50000)

Test Loss: 0.220 | Acc: 95.120% (9512/10000)

Epoch: 194

Train Loss: 0.002 | Acc: 99.986% (49993/50000)

Test Loss: 0.221 | Acc: 95.020% (9502/10000)

Epoch: 195

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.222 | Acc: 94.930% (9493/10000)

Epoch: 196

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.223 | Acc: 94.980% (9498/10000)

Epoch: 197

Train Loss: 0.002 | Acc: 99.964% (49982/50000)

Test Loss: 0.222 | Acc: 95.010% (9501/10000)

Epoch: 198

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.222 | Acc: 95.080% (9508/10000)

Epoch: 199

Train Loss: 0.002 | Acc: 99.974% (49987/50000)

Test Loss: 0.222 | Acc: 95.010% (9501/10000)

Best\_acc: 95.15%

Trained weights saved to: resnet50\_dis4\_cifar10.pth

A graph of a line

Description automatically generated

A graph of a graph

Description automatically generated

Resnet101\_4out:

Epoch: 0

Train Loss: 2.654 | Acc: 14.142% (7071/50000)

Test Loss: 2.341 | Acc: 13.670% (1367/10000)

Epoch: 1

Train Loss: 1.952 | Acc: 26.590% (13295/50000)

Test Loss: 1.838 | Acc: 33.290% (3329/10000)

Epoch: 2

Train Loss: 1.802 | Acc: 33.204% (16602/50000)

Test Loss: 1.744 | Acc: 36.670% (3667/10000)

Epoch: 3

Train Loss: 1.708 | Acc: 37.098% (18549/50000)

Test Loss: 1.854 | Acc: 34.490% (3449/10000)

Epoch: 4

Train Loss: 1.597 | Acc: 41.378% (20689/50000)

Test Loss: 1.739 | Acc: 38.170% (3817/10000)

Epoch: 5

Train Loss: 1.473 | Acc: 46.124% (23062/50000)

Test Loss: 1.543 | Acc: 46.080% (4608/10000)

Epoch: 6

Train Loss: 1.332 | Acc: 51.676% (25838/50000)

Test Loss: 1.642 | Acc: 44.250% (4425/10000)

Epoch: 7

Train Loss: 1.180 | Acc: 57.446% (28723/50000)

Test Loss: 1.410 | Acc: 52.210% (5221/10000)

Epoch: 8

Train Loss: 1.059 | Acc: 62.710% (31355/50000)

Test Loss: 1.356 | Acc: 56.010% (5601/10000)

Epoch: 9

Train Loss: 0.945 | Acc: 66.564% (33282/50000)

Test Loss: 1.425 | Acc: 56.290% (5629/10000)

Epoch: 10

Train Loss: 0.868 | Acc: 69.354% (34677/50000)

Test Loss: 1.613 | Acc: 55.800% (5580/10000)

Epoch: 11

Train Loss: 0.791 | Acc: 72.254% (36127/50000)

Test Loss: 0.957 | Acc: 67.880% (6788/10000)

Epoch: 12

Train Loss: 0.735 | Acc: 74.500% (37250/50000)

Test Loss: 0.848 | Acc: 70.240% (7024/10000)

Epoch: 13

Train Loss: 0.687 | Acc: 76.100% (38050/50000)

Test Loss: 0.981 | Acc: 67.650% (6765/10000)

Epoch: 14

Train Loss: 0.649 | Acc: 77.622% (38811/50000)

Test Loss: 0.878 | Acc: 71.890% (7189/10000)

Epoch: 15

Train Loss: 0.616 | Acc: 78.502% (39251/50000)

Test Loss: 0.728 | Acc: 75.720% (7572/10000)

Epoch: 16

Train Loss: 0.605 | Acc: 79.184% (39592/50000)

Test Loss: 0.899 | Acc: 70.680% (7068/10000)

Epoch: 17

Train Loss: 0.574 | Acc: 80.284% (40142/50000)

Test Loss: 0.997 | Acc: 68.140% (6814/10000)

Epoch: 18

Train Loss: 0.556 | Acc: 80.736% (40368/50000)

Test Loss: 0.991 | Acc: 68.220% (6822/10000)

Epoch: 19

Train Loss: 0.548 | Acc: 81.178% (40589/50000)

Test Loss: 0.703 | Acc: 76.790% (7679/10000)

Epoch: 20

Train Loss: 0.532 | Acc: 81.638% (40819/50000)

Test Loss: 0.636 | Acc: 78.400% (7840/10000)

Epoch: 21

Train Loss: 0.521 | Acc: 82.138% (41069/50000)

Test Loss: 0.911 | Acc: 71.970% (7197/10000)

Epoch: 22

Train Loss: 0.507 | Acc: 82.564% (41282/50000)

Test Loss: 0.946 | Acc: 71.880% (7188/10000)

Epoch: 23

Train Loss: 0.510 | Acc: 82.510% (41255/50000)

Test Loss: 0.714 | Acc: 75.970% (7597/10000)

Epoch: 24

Train Loss: 0.489 | Acc: 83.166% (41583/50000)

Test Loss: 0.786 | Acc: 74.640% (7464/10000)

Epoch: 25

Train Loss: 0.484 | Acc: 83.510% (41755/50000)

Test Loss: 0.719 | Acc: 76.490% (7649/10000)

Epoch: 26

Train Loss: 0.473 | Acc: 83.612% (41806/50000)

Test Loss: 0.870 | Acc: 73.990% (7399/10000)

Epoch: 27

Train Loss: 0.473 | Acc: 83.820% (41910/50000)

Test Loss: 0.635 | Acc: 78.100% (7810/10000)

Epoch: 28

Train Loss: 0.466 | Acc: 83.944% (41972/50000)

Test Loss: 0.558 | Acc: 81.670% (8167/10000)

Epoch: 29

Train Loss: 0.451 | Acc: 84.488% (42244/50000)

Test Loss: 0.609 | Acc: 79.750% (7975/10000)

Epoch: 30

Train Loss: 0.452 | Acc: 84.484% (42242/50000)

Test Loss: 0.726 | Acc: 77.130% (7713/10000)

Epoch: 31

Train Loss: 0.442 | Acc: 85.004% (42502/50000)

Test Loss: 0.597 | Acc: 79.490% (7949/10000)

Epoch: 32

Train Loss: 0.443 | Acc: 84.856% (42428/50000)

Test Loss: 0.707 | Acc: 76.060% (7606/10000)

Epoch: 33

Train Loss: 0.430 | Acc: 85.378% (42689/50000)

Test Loss: 0.578 | Acc: 80.670% (8067/10000)

Epoch: 34

Train Loss: 0.425 | Acc: 85.450% (42725/50000)

Test Loss: 0.567 | Acc: 80.370% (8037/10000)

Epoch: 35

Train Loss: 0.426 | Acc: 85.414% (42707/50000)

Test Loss: 0.747 | Acc: 75.010% (7501/10000)

Epoch: 36

Train Loss: 0.426 | Acc: 85.472% (42736/50000)

Test Loss: 1.264 | Acc: 67.080% (6708/10000)

Epoch: 37

Train Loss: 0.413 | Acc: 85.834% (42917/50000)

Test Loss: 0.744 | Acc: 76.090% (7609/10000)

Epoch: 38

Train Loss: 0.410 | Acc: 85.916% (42958/50000)

Test Loss: 0.496 | Acc: 83.470% (8347/10000)

Epoch: 39

Train Loss: 0.406 | Acc: 86.070% (43035/50000)

Test Loss: 0.710 | Acc: 77.080% (7708/10000)

Epoch: 40

Train Loss: 0.401 | Acc: 86.252% (43126/50000)

Test Loss: 0.490 | Acc: 83.660% (8366/10000)

Epoch: 41

Train Loss: 0.394 | Acc: 86.424% (43212/50000)

Test Loss: 0.941 | Acc: 72.600% (7260/10000)

Epoch: 42

Train Loss: 0.394 | Acc: 86.484% (43242/50000)

Test Loss: 1.132 | Acc: 68.780% (6878/10000)

Epoch: 43

Train Loss: 0.392 | Acc: 86.552% (43276/50000)

Test Loss: 0.722 | Acc: 76.950% (7695/10000)

Epoch: 44

Train Loss: 0.387 | Acc: 86.714% (43357/50000)

Test Loss: 0.572 | Acc: 81.950% (8195/10000)

Epoch: 45

Train Loss: 0.385 | Acc: 86.724% (43362/50000)

Test Loss: 0.762 | Acc: 75.790% (7579/10000)

Epoch: 46

Train Loss: 0.380 | Acc: 86.866% (43433/50000)

Test Loss: 0.895 | Acc: 72.450% (7245/10000)

Epoch: 47

Train Loss: 0.374 | Acc: 87.264% (43632/50000)

Test Loss: 0.782 | Acc: 75.310% (7531/10000)

Epoch: 48

Train Loss: 0.375 | Acc: 87.148% (43574/50000)

Test Loss: 0.648 | Acc: 79.090% (7909/10000)

Epoch: 49

Train Loss: 0.374 | Acc: 87.108% (43554/50000)

Test Loss: 0.650 | Acc: 79.580% (7958/10000)

Epoch: 50

Train Loss: 0.371 | Acc: 87.250% (43625/50000)

Test Loss: 0.527 | Acc: 82.680% (8268/10000)

Epoch: 51

Train Loss: 0.366 | Acc: 87.444% (43722/50000)

Test Loss: 0.697 | Acc: 78.320% (7832/10000)

Epoch: 52

Train Loss: 0.360 | Acc: 87.642% (43821/50000)

Test Loss: 0.505 | Acc: 82.700% (8270/10000)

Epoch: 53

Train Loss: 0.362 | Acc: 87.472% (43736/50000)

Test Loss: 0.516 | Acc: 82.890% (8289/10000)

Epoch: 54

Train Loss: 0.354 | Acc: 87.830% (43915/50000)

Test Loss: 0.709 | Acc: 78.120% (7812/10000)

Epoch: 55

Train Loss: 0.351 | Acc: 87.982% (43991/50000)

Test Loss: 0.711 | Acc: 78.390% (7839/10000)

Epoch: 56

Train Loss: 0.351 | Acc: 87.958% (43979/50000)

Test Loss: 0.685 | Acc: 79.210% (7921/10000)

Epoch: 57

Train Loss: 0.350 | Acc: 88.038% (44019/50000)

Test Loss: 0.598 | Acc: 80.920% (8092/10000)

Epoch: 58

Train Loss: 0.354 | Acc: 87.824% (43912/50000)

Test Loss: 0.821 | Acc: 77.170% (7717/10000)

Epoch: 59

Train Loss: 0.339 | Acc: 88.330% (44165/50000)

Test Loss: 0.592 | Acc: 81.600% (8160/10000)

Epoch: 60

Train Loss: 0.337 | Acc: 88.558% (44279/50000)

Test Loss: 0.509 | Acc: 83.580% (8358/10000)

Epoch: 61

Train Loss: 0.339 | Acc: 88.460% (44230/50000)

Test Loss: 0.464 | Acc: 84.610% (8461/10000)

Epoch: 62

Train Loss: 0.335 | Acc: 88.584% (44292/50000)

Test Loss: 0.570 | Acc: 81.690% (8169/10000)

Epoch: 63

Train Loss: 0.334 | Acc: 88.564% (44282/50000)

Test Loss: 0.537 | Acc: 82.270% (8227/10000)

Epoch: 64

Train Loss: 0.328 | Acc: 88.966% (44483/50000)

Test Loss: 0.554 | Acc: 82.650% (8265/10000)

Epoch: 65

Train Loss: 0.329 | Acc: 88.708% (44354/50000)

Test Loss: 0.651 | Acc: 79.900% (7990/10000)

Epoch: 66

Train Loss: 0.331 | Acc: 88.648% (44324/50000)

Test Loss: 0.609 | Acc: 80.650% (8065/10000)

Epoch: 67

Train Loss: 0.324 | Acc: 89.018% (44509/50000)

Test Loss: 0.530 | Acc: 83.420% (8342/10000)

Epoch: 68

Train Loss: 0.327 | Acc: 88.910% (44455/50000)

Test Loss: 0.478 | Acc: 84.050% (8405/10000)

Epoch: 69

Train Loss: 0.315 | Acc: 89.438% (44719/50000)

Test Loss: 0.598 | Acc: 81.680% (8168/10000)

Epoch: 70

Train Loss: 0.316 | Acc: 89.234% (44617/50000)

Test Loss: 0.497 | Acc: 83.850% (8385/10000)

Epoch: 71

Train Loss: 0.316 | Acc: 89.276% (44638/50000)

Test Loss: 0.604 | Acc: 80.330% (8033/10000)

Epoch: 72

Train Loss: 0.309 | Acc: 89.434% (44717/50000)

Test Loss: 0.379 | Acc: 87.060% (8706/10000)

Epoch: 73

Train Loss: 0.308 | Acc: 89.466% (44733/50000)

Test Loss: 0.476 | Acc: 84.570% (8457/10000)

Epoch: 74

Train Loss: 0.307 | Acc: 89.544% (44772/50000)

Test Loss: 0.432 | Acc: 85.500% (8550/10000)

Epoch: 75

Train Loss: 0.306 | Acc: 89.656% (44828/50000)

Test Loss: 0.576 | Acc: 81.960% (8196/10000)

Epoch: 76

Train Loss: 0.302 | Acc: 89.686% (44843/50000)

Test Loss: 0.491 | Acc: 84.410% (8441/10000)

Epoch: 77

Train Loss: 0.288 | Acc: 90.174% (45087/50000)

Test Loss: 0.667 | Acc: 80.430% (8043/10000)

Epoch: 78

Train Loss: 0.298 | Acc: 89.858% (44929/50000)

Test Loss: 0.558 | Acc: 82.300% (8230/10000)

Epoch: 79

Train Loss: 0.286 | Acc: 90.200% (45100/50000)

Test Loss: 0.566 | Acc: 82.350% (8235/10000)

Epoch: 80

Train Loss: 0.294 | Acc: 89.952% (44976/50000)

Test Loss: 0.475 | Acc: 84.930% (8493/10000)

Epoch: 81

Train Loss: 0.286 | Acc: 90.230% (45115/50000)

Test Loss: 0.559 | Acc: 82.380% (8238/10000)

Epoch: 82

Train Loss: 0.285 | Acc: 90.202% (45101/50000)

Test Loss: 0.684 | Acc: 80.260% (8026/10000)

Epoch: 83

Train Loss: 0.282 | Acc: 90.278% (45139/50000)

Test Loss: 0.400 | Acc: 87.120% (8712/10000)

Epoch: 84

Train Loss: 0.275 | Acc: 90.546% (45273/50000)

Test Loss: 0.492 | Acc: 84.900% (8490/10000)

Epoch: 85

Train Loss: 0.274 | Acc: 90.650% (45325/50000)

Test Loss: 0.528 | Acc: 83.720% (8372/10000)

Epoch: 86

Train Loss: 0.271 | Acc: 90.672% (45336/50000)

Test Loss: 0.418 | Acc: 86.180% (8618/10000)

Epoch: 87

Train Loss: 0.270 | Acc: 90.844% (45422/50000)

Test Loss: 0.488 | Acc: 84.930% (8493/10000)

Epoch: 88

Train Loss: 0.268 | Acc: 90.762% (45381/50000)

Test Loss: 0.564 | Acc: 83.610% (8361/10000)

Epoch: 89

Train Loss: 0.262 | Acc: 91.116% (45558/50000)

Test Loss: 0.522 | Acc: 83.840% (8384/10000)

Epoch: 90

Train Loss: 0.260 | Acc: 91.026% (45513/50000)

Test Loss: 0.515 | Acc: 84.170% (8417/10000)

Epoch: 91

Train Loss: 0.252 | Acc: 91.438% (45719/50000)

Test Loss: 0.460 | Acc: 85.380% (8538/10000)

Epoch: 92

Train Loss: 0.255 | Acc: 91.306% (45653/50000)

Test Loss: 0.428 | Acc: 85.870% (8587/10000)

Epoch: 93

Train Loss: 0.251 | Acc: 91.328% (45664/50000)

Test Loss: 0.450 | Acc: 85.400% (8540/10000)

Epoch: 94

Train Loss: 0.256 | Acc: 91.228% (45614/50000)

Test Loss: 0.487 | Acc: 84.700% (8470/10000)

Epoch: 95

Train Loss: 0.248 | Acc: 91.432% (45716/50000)

Test Loss: 0.427 | Acc: 86.330% (8633/10000)

Epoch: 96

Train Loss: 0.243 | Acc: 91.588% (45794/50000)

Test Loss: 0.449 | Acc: 85.650% (8565/10000)

Epoch: 97

Train Loss: 0.245 | Acc: 91.598% (45799/50000)

Test Loss: 0.589 | Acc: 80.900% (8090/10000)

Epoch: 98

Train Loss: 0.237 | Acc: 91.810% (45905/50000)

Test Loss: 0.429 | Acc: 86.160% (8616/10000)

Epoch: 99

Train Loss: 0.233 | Acc: 91.976% (45988/50000)

Test Loss: 0.539 | Acc: 83.510% (8351/10000)

Epoch: 100

Train Loss: 0.235 | Acc: 91.848% (45924/50000)

Test Loss: 0.434 | Acc: 86.370% (8637/10000)

Epoch: 101

Train Loss: 0.227 | Acc: 92.168% (46084/50000)

Test Loss: 0.516 | Acc: 83.650% (8365/10000)

Epoch: 102

Train Loss: 0.223 | Acc: 92.370% (46185/50000)

Test Loss: 1.043 | Acc: 74.250% (7425/10000)

Epoch: 103

Train Loss: 0.226 | Acc: 92.262% (46131/50000)

Test Loss: 0.351 | Acc: 88.540% (8854/10000)

Epoch: 104

Train Loss: 0.212 | Acc: 92.748% (46374/50000)

Test Loss: 0.502 | Acc: 84.150% (8415/10000)

Epoch: 105

Train Loss: 0.218 | Acc: 92.610% (46305/50000)

Test Loss: 0.507 | Acc: 84.010% (8401/10000)

Epoch: 106

Train Loss: 0.212 | Acc: 92.712% (46356/50000)

Test Loss: 0.490 | Acc: 85.030% (8503/10000)

Epoch: 107

Train Loss: 0.213 | Acc: 92.674% (46337/50000)

Test Loss: 0.577 | Acc: 82.850% (8285/10000)

Epoch: 108

Train Loss: 0.214 | Acc: 92.676% (46338/50000)

Test Loss: 0.429 | Acc: 86.090% (8609/10000)

Epoch: 109

Train Loss: 0.202 | Acc: 93.008% (46504/50000)

Test Loss: 0.440 | Acc: 86.210% (8621/10000)

Epoch: 110

Train Loss: 0.201 | Acc: 93.018% (46509/50000)

Test Loss: 0.305 | Acc: 90.210% (9021/10000)

Epoch: 111

Train Loss: 0.198 | Acc: 93.224% (46612/50000)

Test Loss: 0.449 | Acc: 85.600% (8560/10000)

Epoch: 112

Train Loss: 0.197 | Acc: 93.232% (46616/50000)

Test Loss: 0.407 | Acc: 87.170% (8717/10000)

Epoch: 113

Train Loss: 0.195 | Acc: 93.322% (46661/50000)

Test Loss: 0.424 | Acc: 86.510% (8651/10000)

Epoch: 114

Train Loss: 0.188 | Acc: 93.462% (46731/50000)

Test Loss: 0.413 | Acc: 86.820% (8682/10000)

Epoch: 115

Train Loss: 0.188 | Acc: 93.482% (46741/50000)

Test Loss: 0.379 | Acc: 88.270% (8827/10000)

Epoch: 116

Train Loss: 0.182 | Acc: 93.762% (46881/50000)

Test Loss: 0.354 | Acc: 88.700% (8870/10000)

Epoch: 117

Train Loss: 0.176 | Acc: 93.898% (46949/50000)

Test Loss: 0.417 | Acc: 87.070% (8707/10000)

Epoch: 118

Train Loss: 0.176 | Acc: 93.904% (46952/50000)

Test Loss: 0.351 | Acc: 88.710% (8871/10000)

Epoch: 119

Train Loss: 0.176 | Acc: 94.092% (47046/50000)

Test Loss: 0.475 | Acc: 85.610% (8561/10000)

Epoch: 120

Train Loss: 0.169 | Acc: 94.116% (47058/50000)

Test Loss: 0.339 | Acc: 89.390% (8939/10000)

Epoch: 121

Train Loss: 0.161 | Acc: 94.456% (47228/50000)

Test Loss: 0.330 | Acc: 89.570% (8957/10000)

Epoch: 122

Train Loss: 0.162 | Acc: 94.400% (47200/50000)

Test Loss: 0.383 | Acc: 88.150% (8815/10000)

Epoch: 123

Train Loss: 0.156 | Acc: 94.626% (47313/50000)

Test Loss: 0.330 | Acc: 89.530% (8953/10000)

Epoch: 124

Train Loss: 0.158 | Acc: 94.552% (47276/50000)

Test Loss: 0.395 | Acc: 87.740% (8774/10000)

Epoch: 125

Train Loss: 0.149 | Acc: 94.836% (47418/50000)

Test Loss: 0.443 | Acc: 87.180% (8718/10000)

Epoch: 126

Train Loss: 0.149 | Acc: 94.916% (47458/50000)

Test Loss: 0.309 | Acc: 90.350% (9035/10000)

Epoch: 127

Train Loss: 0.143 | Acc: 95.066% (47533/50000)

Test Loss: 0.388 | Acc: 88.780% (8878/10000)

Epoch: 128

Train Loss: 0.143 | Acc: 95.104% (47552/50000)

Test Loss: 0.351 | Acc: 89.690% (8969/10000)

Epoch: 129

Train Loss: 0.138 | Acc: 95.300% (47650/50000)

Test Loss: 0.294 | Acc: 90.750% (9075/10000)

Epoch: 130

Train Loss: 0.130 | Acc: 95.552% (47776/50000)

Test Loss: 0.373 | Acc: 88.260% (8826/10000)

Epoch: 131

Train Loss: 0.136 | Acc: 95.248% (47624/50000)

Test Loss: 0.388 | Acc: 88.540% (8854/10000)

Epoch: 132

Train Loss: 0.130 | Acc: 95.462% (47731/50000)

Test Loss: 0.532 | Acc: 84.820% (8482/10000)

Epoch: 133

Train Loss: 0.120 | Acc: 95.788% (47894/50000)

Test Loss: 0.328 | Acc: 90.330% (9033/10000)

Epoch: 134

Train Loss: 0.117 | Acc: 95.938% (47969/50000)

Test Loss: 0.294 | Acc: 91.040% (9104/10000)

Epoch: 135

Train Loss: 0.119 | Acc: 95.880% (47940/50000)

Test Loss: 0.364 | Acc: 89.410% (8941/10000)

Epoch: 136

Train Loss: 0.112 | Acc: 96.174% (48087/50000)

Test Loss: 0.476 | Acc: 86.540% (8654/10000)

Epoch: 137

Train Loss: 0.109 | Acc: 96.242% (48121/50000)

Test Loss: 0.389 | Acc: 89.360% (8936/10000)

Epoch: 138

Train Loss: 0.105 | Acc: 96.404% (48202/50000)

Test Loss: 0.368 | Acc: 89.180% (8918/10000)

Epoch: 139

Train Loss: 0.104 | Acc: 96.376% (48188/50000)

Test Loss: 0.277 | Acc: 91.300% (9130/10000)

Epoch: 140

Train Loss: 0.099 | Acc: 96.584% (48292/50000)

Test Loss: 0.325 | Acc: 90.640% (9064/10000)

Epoch: 141

Train Loss: 0.093 | Acc: 96.846% (48423/50000)

Test Loss: 0.255 | Acc: 91.960% (9196/10000)

Epoch: 142

Train Loss: 0.088 | Acc: 96.976% (48488/50000)

Test Loss: 0.389 | Acc: 88.730% (8873/10000)

Epoch: 143

Train Loss: 0.088 | Acc: 96.944% (48472/50000)

Test Loss: 0.239 | Acc: 92.800% (9280/10000)

Epoch: 144

Train Loss: 0.075 | Acc: 97.494% (48747/50000)

Test Loss: 0.261 | Acc: 92.260% (9226/10000)

Epoch: 145

Train Loss: 0.080 | Acc: 97.266% (48633/50000)

Test Loss: 0.347 | Acc: 90.560% (9056/10000)

Epoch: 146

Train Loss: 0.076 | Acc: 97.410% (48705/50000)

Test Loss: 0.382 | Acc: 89.630% (8963/10000)

Epoch: 147

Train Loss: 0.074 | Acc: 97.518% (48759/50000)

Test Loss: 0.287 | Acc: 91.570% (9157/10000)

Epoch: 148

Train Loss: 0.068 | Acc: 97.652% (48826/50000)

Test Loss: 0.292 | Acc: 91.740% (9174/10000)

Epoch: 149

Train Loss: 0.063 | Acc: 97.916% (48958/50000)

Test Loss: 0.304 | Acc: 91.410% (9141/10000)

Epoch: 150

Train Loss: 0.064 | Acc: 97.804% (48902/50000)

Test Loss: 0.257 | Acc: 92.600% (9260/10000)

Epoch: 151

Train Loss: 0.060 | Acc: 97.966% (48983/50000)

Test Loss: 0.330 | Acc: 91.120% (9112/10000)

Epoch: 152

Train Loss: 0.055 | Acc: 98.190% (49095/50000)

Test Loss: 0.280 | Acc: 92.490% (9249/10000)

Epoch: 153

Train Loss: 0.052 | Acc: 98.298% (49149/50000)

Test Loss: 0.354 | Acc: 90.100% (9010/10000)

Epoch: 154

Train Loss: 0.054 | Acc: 98.276% (49138/50000)

Test Loss: 0.289 | Acc: 92.580% (9258/10000)

Epoch: 155

Train Loss: 0.043 | Acc: 98.622% (49311/50000)

Test Loss: 0.239 | Acc: 93.460% (9346/10000)

Epoch: 156

Train Loss: 0.044 | Acc: 98.528% (49264/50000)

Test Loss: 0.275 | Acc: 92.460% (9246/10000)

Epoch: 157

Train Loss: 0.036 | Acc: 98.816% (49408/50000)

Test Loss: 0.227 | Acc: 93.830% (9383/10000)

Epoch: 158

Train Loss: 0.035 | Acc: 98.824% (49412/50000)

Test Loss: 0.271 | Acc: 92.860% (9286/10000)

Epoch: 159

Train Loss: 0.030 | Acc: 99.016% (49508/50000)

Test Loss: 0.286 | Acc: 92.480% (9248/10000)

Epoch: 160

Train Loss: 0.030 | Acc: 99.106% (49553/50000)

Test Loss: 0.267 | Acc: 92.870% (9287/10000)

Epoch: 161

Train Loss: 0.026 | Acc: 99.186% (49593/50000)

Test Loss: 0.255 | Acc: 93.320% (9332/10000)

Epoch: 162

Train Loss: 0.026 | Acc: 99.200% (49600/50000)

Test Loss: 0.263 | Acc: 93.130% (9313/10000)

Epoch: 163

Train Loss: 0.024 | Acc: 99.276% (49638/50000)

Test Loss: 0.223 | Acc: 93.950% (9395/10000)

Epoch: 164

Train Loss: 0.021 | Acc: 99.320% (49660/50000)

Test Loss: 0.282 | Acc: 92.790% (9279/10000)

Epoch: 165

Train Loss: 0.019 | Acc: 99.466% (49733/50000)

Test Loss: 0.219 | Acc: 94.150% (9415/10000)

Epoch: 166

Train Loss: 0.016 | Acc: 99.552% (49776/50000)

Test Loss: 0.242 | Acc: 93.720% (9372/10000)

Epoch: 167

Train Loss: 0.013 | Acc: 99.656% (49828/50000)

Test Loss: 0.236 | Acc: 94.020% (9402/10000)

Epoch: 168

Train Loss: 0.014 | Acc: 99.606% (49803/50000)

Test Loss: 0.237 | Acc: 94.090% (9409/10000)

Epoch: 169

Train Loss: 0.011 | Acc: 99.712% (49856/50000)

Test Loss: 0.224 | Acc: 94.250% (9425/10000)

Epoch: 170

Train Loss: 0.010 | Acc: 99.740% (49870/50000)

Test Loss: 0.212 | Acc: 94.500% (9450/10000)

Epoch: 171

Train Loss: 0.008 | Acc: 99.782% (49891/50000)

Test Loss: 0.201 | Acc: 94.770% (9477/10000)

Epoch: 172

Train Loss: 0.008 | Acc: 99.798% (49899/50000)

Test Loss: 0.201 | Acc: 94.810% (9481/10000)

Epoch: 173

Train Loss: 0.007 | Acc: 99.814% (49907/50000)

Test Loss: 0.192 | Acc: 95.070% (9507/10000)

Epoch: 174

Train Loss: 0.005 | Acc: 99.884% (49942/50000)

Test Loss: 0.192 | Acc: 94.990% (9499/10000)

Epoch: 175

Train Loss: 0.005 | Acc: 99.878% (49939/50000)

Test Loss: 0.194 | Acc: 94.940% (9494/10000)

Epoch: 176

Train Loss: 0.005 | Acc: 99.870% (49935/50000)

Test Loss: 0.205 | Acc: 94.810% (9481/10000)

Epoch: 177

Train Loss: 0.004 | Acc: 99.892% (49946/50000)

Test Loss: 0.194 | Acc: 95.120% (9512/10000)

Epoch: 178

Train Loss: 0.003 | Acc: 99.936% (49968/50000)

Test Loss: 0.194 | Acc: 95.060% (9506/10000)

Epoch: 179

Train Loss: 0.004 | Acc: 99.938% (49969/50000)

Test Loss: 0.196 | Acc: 95.020% (9502/10000)

Epoch: 180

Train Loss: 0.004 | Acc: 99.946% (49973/50000)

Test Loss: 0.188 | Acc: 95.470% (9547/10000)

Epoch: 181

Train Loss: 0.003 | Acc: 99.966% (49983/50000)

Test Loss: 0.197 | Acc: 94.990% (9499/10000)

Epoch: 182

Train Loss: 0.003 | Acc: 99.948% (49974/50000)

Test Loss: 0.192 | Acc: 95.140% (9514/10000)

Epoch: 183

Train Loss: 0.002 | Acc: 99.978% (49989/50000)

Test Loss: 0.203 | Acc: 94.990% (9499/10000)

Epoch: 184

Train Loss: 0.003 | Acc: 99.964% (49982/50000)

Test Loss: 0.196 | Acc: 95.040% (9504/10000)

Epoch: 185

Train Loss: 0.002 | Acc: 99.964% (49982/50000)

Test Loss: 0.195 | Acc: 95.010% (9501/10000)

Epoch: 186

Train Loss: 0.002 | Acc: 99.960% (49980/50000)

Test Loss: 0.193 | Acc: 95.020% (9502/10000)

Epoch: 187

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.194 | Acc: 95.200% (9520/10000)

Epoch: 188

Train Loss: 0.002 | Acc: 99.966% (49983/50000)

Test Loss: 0.196 | Acc: 95.120% (9512/10000)

Epoch: 189

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.191 | Acc: 95.240% (9524/10000)

Epoch: 190

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.191 | Acc: 95.190% (9519/10000)

Epoch: 191

Train Loss: 0.002 | Acc: 99.968% (49984/50000)

Test Loss: 0.190 | Acc: 95.240% (9524/10000)

Epoch: 192

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.196 | Acc: 95.070% (9507/10000)

Epoch: 193

Train Loss: 0.002 | Acc: 99.988% (49994/50000)

Test Loss: 0.194 | Acc: 95.070% (9507/10000)

Epoch: 194

Train Loss: 0.002 | Acc: 99.978% (49989/50000)

Test Loss: 0.194 | Acc: 95.270% (9527/10000)

Epoch: 195

Train Loss: 0.002 | Acc: 99.984% (49992/50000)

Test Loss: 0.193 | Acc: 95.230% (9523/10000)

Epoch: 196

Train Loss: 0.002 | Acc: 99.982% (49991/50000)

Test Loss: 0.196 | Acc: 95.140% (9514/10000)

Epoch: 197

Train Loss: 0.002 | Acc: 99.990% (49995/50000)

Test Loss: 0.192 | Acc: 95.280% (9528/10000)

Epoch: 198

Train Loss: 0.002 | Acc: 99.982% (49991/50000)

Test Loss: 0.194 | Acc: 95.260% (9526/10000)

Epoch: 199

Train Loss: 0.002 | Acc: 99.980% (49990/50000)

Test Loss: 0.192 | Acc: 95.190% (9519/10000)

Best\_acc: 95.47%

A graph with numbers and lines

Description automatically generated

A graph with blue lines

Description automatically generated

Resnet152\_4out:

Epoch: 0

Train Loss: 2.445 | Acc: 17.090% (8545/50000)

Test Loss: 2.093 | Acc: 20.160% (2016/10000)

Epoch: 1

Train Loss: 1.730 | Acc: 34.824% (17412/50000)

Test Loss: 1.707 | Acc: 38.540% (3854/10000)

Epoch: 2

Train Loss: 1.478 | Acc: 45.228% (22614/50000)

Test Loss: 1.404 | Acc: 49.170% (4917/10000)

Epoch: 3

Train Loss: 1.278 | Acc: 53.288% (26644/50000)

Test Loss: 1.759 | Acc: 47.510% (4751/10000)

Epoch: 4

Train Loss: 1.095 | Acc: 60.840% (30420/50000)

Test Loss: 1.361 | Acc: 55.490% (5549/10000)

Epoch: 5

Train Loss: 0.938 | Acc: 66.688% (33344/50000)

Test Loss: 1.177 | Acc: 61.820% (6182/10000)

Epoch: 6

Train Loss: 0.827 | Acc: 71.166% (35583/50000)

Test Loss: 1.189 | Acc: 63.400% (6340/10000)

Epoch: 7

Train Loss: 0.746 | Acc: 74.136% (37068/50000)

Test Loss: 1.136 | Acc: 63.470% (6347/10000)

Epoch: 8

Train Loss: 0.693 | Acc: 75.926% (37963/50000)

Test Loss: 0.873 | Acc: 70.230% (7023/10000)

Epoch: 9

Train Loss: 0.667 | Acc: 76.972% (38486/50000)

Test Loss: 1.118 | Acc: 67.450% (6745/10000)

Epoch: 10

Train Loss: 0.632 | Acc: 78.354% (39177/50000)

Test Loss: 0.830 | Acc: 72.270% (7227/10000)

Epoch: 11

Train Loss: 0.607 | Acc: 79.198% (39599/50000)

Test Loss: 0.707 | Acc: 75.740% (7574/10000)

Epoch: 12

Train Loss: 0.579 | Acc: 80.194% (40097/50000)

Test Loss: 0.664 | Acc: 77.230% (7723/10000)

Epoch: 13

Train Loss: 0.555 | Acc: 80.806% (40403/50000)

Test Loss: 0.922 | Acc: 71.330% (7133/10000)

Epoch: 14

Train Loss: 0.544 | Acc: 81.430% (40715/50000)

Test Loss: 0.820 | Acc: 73.310% (7331/10000)

Epoch: 15

Train Loss: 0.536 | Acc: 81.746% (40873/50000)

Test Loss: 0.835 | Acc: 74.100% (7410/10000)

Epoch: 16

Train Loss: 0.523 | Acc: 82.012% (41006/50000)

Test Loss: 0.868 | Acc: 72.900% (7290/10000)

Epoch: 17

Train Loss: 0.507 | Acc: 82.544% (41272/50000)

Test Loss: 0.623 | Acc: 79.810% (7981/10000)

Epoch: 18

Train Loss: 0.499 | Acc: 83.068% (41534/50000)

Test Loss: 1.126 | Acc: 69.260% (6926/10000)

Epoch: 19

Train Loss: 0.485 | Acc: 83.322% (41661/50000)

Test Loss: 0.715 | Acc: 77.450% (7745/10000)

Epoch: 20

Train Loss: 0.477 | Acc: 83.702% (41851/50000)

Test Loss: 0.668 | Acc: 78.540% (7854/10000)

Epoch: 21

Train Loss: 0.469 | Acc: 83.990% (41995/50000)

Test Loss: 0.751 | Acc: 76.470% (7647/10000)

Epoch: 22

Train Loss: 0.454 | Acc: 84.592% (42296/50000)

Test Loss: 0.840 | Acc: 73.460% (7346/10000)

Epoch: 23

Train Loss: 0.456 | Acc: 84.448% (42224/50000)

Test Loss: 0.918 | Acc: 71.650% (7165/10000)

Epoch: 24

Train Loss: 0.444 | Acc: 84.784% (42392/50000)

Test Loss: 0.761 | Acc: 75.500% (7550/10000)

Epoch: 25

Train Loss: 0.437 | Acc: 85.068% (42534/50000)

Test Loss: 0.799 | Acc: 75.970% (7597/10000)

Epoch: 26

Train Loss: 0.433 | Acc: 85.326% (42663/50000)

Test Loss: 0.860 | Acc: 73.400% (7340/10000)

Epoch: 27

Train Loss: 0.435 | Acc: 85.232% (42616/50000)

Test Loss: 0.792 | Acc: 74.440% (7444/10000)

Epoch: 28

Train Loss: 0.426 | Acc: 85.508% (42754/50000)

Test Loss: 0.692 | Acc: 77.730% (7773/10000)

Epoch: 29

Train Loss: 0.419 | Acc: 85.724% (42862/50000)

Test Loss: 0.574 | Acc: 80.280% (8028/10000)

Epoch: 30

Train Loss: 0.421 | Acc: 85.604% (42802/50000)

Test Loss: 1.386 | Acc: 62.540% (6254/10000)

Epoch: 31

Train Loss: 0.408 | Acc: 86.176% (43088/50000)

Test Loss: 0.923 | Acc: 73.340% (7334/10000)

Epoch: 32

Train Loss: 0.407 | Acc: 86.294% (43147/50000)

Test Loss: 0.719 | Acc: 78.280% (7828/10000)

Epoch: 33

Train Loss: 0.401 | Acc: 86.418% (43209/50000)

Test Loss: 0.684 | Acc: 78.920% (7892/10000)

Epoch: 34

Train Loss: 0.401 | Acc: 86.250% (43125/50000)

Test Loss: 0.781 | Acc: 74.960% (7496/10000)

Epoch: 35

Train Loss: 0.393 | Acc: 86.634% (43317/50000)

Test Loss: 0.564 | Acc: 81.710% (8171/10000)

Epoch: 36

Train Loss: 0.395 | Acc: 86.412% (43206/50000)

Test Loss: 0.547 | Acc: 82.420% (8242/10000)

Epoch: 37

Train Loss: 0.387 | Acc: 86.802% (43401/50000)

Test Loss: 0.542 | Acc: 81.830% (8183/10000)

Epoch: 38

Train Loss: 0.392 | Acc: 86.614% (43307/50000)

Test Loss: 0.513 | Acc: 83.640% (8364/10000)

Epoch: 39

Train Loss: 0.384 | Acc: 86.970% (43485/50000)

Test Loss: 0.672 | Acc: 79.010% (7901/10000)

Epoch: 40

Train Loss: 0.381 | Acc: 87.140% (43570/50000)

Test Loss: 0.669 | Acc: 79.770% (7977/10000)

Epoch: 41

Train Loss: 0.374 | Acc: 87.268% (43634/50000)

Test Loss: 0.631 | Acc: 79.080% (7908/10000)

Epoch: 42

Train Loss: 0.367 | Acc: 87.444% (43722/50000)

Test Loss: 0.711 | Acc: 77.750% (7775/10000)

Epoch: 43

Train Loss: 0.369 | Acc: 87.426% (43713/50000)

Test Loss: 0.916 | Acc: 74.570% (7457/10000)

Epoch: 44

Train Loss: 0.364 | Acc: 87.498% (43749/50000)

Test Loss: 0.593 | Acc: 81.470% (8147/10000)

Epoch: 45

Train Loss: 0.361 | Acc: 87.846% (43923/50000)

Test Loss: 0.523 | Acc: 83.300% (8330/10000)

Epoch: 46

Train Loss: 0.364 | Acc: 87.510% (43755/50000)

Test Loss: 0.635 | Acc: 79.880% (7988/10000)

Epoch: 47

Train Loss: 0.354 | Acc: 88.006% (44003/50000)

Test Loss: 0.680 | Acc: 79.490% (7949/10000)

Epoch: 48

Train Loss: 0.351 | Acc: 88.036% (44018/50000)

Test Loss: 0.679 | Acc: 78.860% (7886/10000)

Epoch: 49

Train Loss: 0.347 | Acc: 88.128% (44064/50000)

Test Loss: 0.639 | Acc: 78.740% (7874/10000)

Epoch: 50

Train Loss: 0.347 | Acc: 88.074% (44037/50000)

Test Loss: 0.449 | Acc: 85.230% (8523/10000)

Epoch: 51

Train Loss: 0.349 | Acc: 88.082% (44041/50000)

Test Loss: 0.650 | Acc: 80.730% (8073/10000)

Epoch: 52

Train Loss: 0.339 | Acc: 88.452% (44226/50000)

Test Loss: 0.576 | Acc: 81.640% (8164/10000)

Epoch: 53

Train Loss: 0.338 | Acc: 88.502% (44251/50000)

Test Loss: 0.822 | Acc: 74.430% (7443/10000)

Epoch: 54

Train Loss: 0.340 | Acc: 88.414% (44207/50000)

Test Loss: 0.495 | Acc: 84.540% (8454/10000)

Epoch: 55

Train Loss: 0.329 | Acc: 88.762% (44381/50000)

Test Loss: 0.655 | Acc: 79.880% (7988/10000)

Epoch: 56

Train Loss: 0.324 | Acc: 88.880% (44440/50000)

Test Loss: 0.514 | Acc: 83.900% (8390/10000)

Epoch: 57

Train Loss: 0.331 | Acc: 88.658% (44329/50000)

Test Loss: 0.580 | Acc: 81.770% (8177/10000)

Epoch: 58

Train Loss: 0.327 | Acc: 88.828% (44414/50000)

Test Loss: 0.463 | Acc: 84.730% (8473/10000)

Epoch: 59

Train Loss: 0.317 | Acc: 89.136% (44568/50000)

Test Loss: 0.607 | Acc: 82.010% (8201/10000)

Epoch: 60

Train Loss: 0.321 | Acc: 89.026% (44513/50000)

Test Loss: 0.532 | Acc: 83.480% (8348/10000)

Epoch: 61

Train Loss: 0.321 | Acc: 89.196% (44598/50000)

Test Loss: 0.530 | Acc: 83.770% (8377/10000)

Epoch: 62

Train Loss: 0.318 | Acc: 89.314% (44657/50000)

Test Loss: 0.737 | Acc: 77.910% (7791/10000)

Epoch: 63

Train Loss: 0.313 | Acc: 89.404% (44702/50000)

Test Loss: 0.644 | Acc: 80.150% (8015/10000)

Epoch: 64

Train Loss: 0.316 | Acc: 89.354% (44677/50000)

Test Loss: 0.636 | Acc: 81.360% (8136/10000)

Epoch: 65

Train Loss: 0.310 | Acc: 89.528% (44764/50000)

Test Loss: 0.768 | Acc: 76.920% (7692/10000)

Epoch: 66

Train Loss: 0.304 | Acc: 89.718% (44859/50000)

Test Loss: 0.479 | Acc: 85.240% (8524/10000)

Epoch: 67

Train Loss: 0.305 | Acc: 89.538% (44769/50000)

Test Loss: 0.706 | Acc: 77.920% (7792/10000)

Epoch: 68

Train Loss: 0.301 | Acc: 89.760% (44880/50000)

Test Loss: 0.540 | Acc: 82.730% (8273/10000)

Epoch: 69

Train Loss: 0.299 | Acc: 89.830% (44915/50000)

Test Loss: 0.579 | Acc: 81.430% (8143/10000)

Epoch: 70

Train Loss: 0.297 | Acc: 89.832% (44916/50000)

Test Loss: 0.676 | Acc: 79.580% (7958/10000)

Epoch: 71

Train Loss: 0.296 | Acc: 89.792% (44896/50000)

Test Loss: 0.603 | Acc: 82.730% (8273/10000)

Epoch: 72

Train Loss: 0.293 | Acc: 90.000% (45000/50000)

Test Loss: 0.486 | Acc: 84.880% (8488/10000)

Epoch: 73

Train Loss: 0.292 | Acc: 89.940% (44970/50000)

Test Loss: 0.670 | Acc: 79.850% (7985/10000)

Epoch: 74

Train Loss: 0.292 | Acc: 90.026% (45013/50000)

Test Loss: 0.361 | Acc: 88.050% (8805/10000)

Epoch: 75

Train Loss: 0.287 | Acc: 90.288% (45144/50000)

Test Loss: 0.693 | Acc: 80.320% (8032/10000)

Epoch: 76

Train Loss: 0.285 | Acc: 90.196% (45098/50000)

Test Loss: 0.621 | Acc: 81.260% (8126/10000)

Epoch: 77

Train Loss: 0.281 | Acc: 90.372% (45186/50000)

Test Loss: 0.461 | Acc: 84.900% (8490/10000)

Epoch: 78

Train Loss: 0.277 | Acc: 90.500% (45250/50000)

Test Loss: 0.450 | Acc: 85.330% (8533/10000)

Epoch: 79

Train Loss: 0.275 | Acc: 90.638% (45319/50000)

Test Loss: 0.503 | Acc: 84.170% (8417/10000)

Epoch: 80

Train Loss: 0.270 | Acc: 90.904% (45452/50000)

Test Loss: 0.414 | Acc: 86.720% (8672/10000)

Epoch: 81

Train Loss: 0.273 | Acc: 90.650% (45325/50000)

Test Loss: 0.652 | Acc: 80.530% (8053/10000)

Epoch: 82

Train Loss: 0.273 | Acc: 90.720% (45360/50000)

Test Loss: 0.599 | Acc: 82.290% (8229/10000)

Epoch: 83

Train Loss: 0.265 | Acc: 90.986% (45493/50000)

Test Loss: 0.603 | Acc: 81.370% (8137/10000)

Epoch: 84

Train Loss: 0.265 | Acc: 91.050% (45525/50000)

Test Loss: 0.439 | Acc: 86.000% (8600/10000)

Epoch: 85

Train Loss: 0.258 | Acc: 91.156% (45578/50000)

Test Loss: 0.717 | Acc: 79.620% (7962/10000)

Epoch: 86

Train Loss: 0.257 | Acc: 91.184% (45592/50000)

Test Loss: 0.372 | Acc: 87.650% (8765/10000)

Epoch: 87

Train Loss: 0.257 | Acc: 91.286% (45643/50000)

Test Loss: 1.306 | Acc: 67.880% (6788/10000)

Epoch: 88

Train Loss: 0.257 | Acc: 91.232% (45616/50000)

Test Loss: 0.445 | Acc: 85.590% (8559/10000)

Epoch: 89

Train Loss: 0.254 | Acc: 91.402% (45701/50000)

Test Loss: 0.441 | Acc: 85.790% (8579/10000)

Epoch: 90

Train Loss: 0.251 | Acc: 91.346% (45673/50000)

Test Loss: 0.336 | Acc: 89.100% (8910/10000)

Epoch: 91

Train Loss: 0.249 | Acc: 91.352% (45676/50000)

Test Loss: 0.356 | Acc: 88.130% (8813/10000)

Epoch: 92

Train Loss: 0.246 | Acc: 91.712% (45856/50000)

Test Loss: 0.471 | Acc: 84.090% (8409/10000)

Epoch: 93

Train Loss: 0.238 | Acc: 91.998% (45999/50000)

Test Loss: 0.392 | Acc: 87.240% (8724/10000)

Epoch: 94

Train Loss: 0.236 | Acc: 91.924% (45962/50000)

Test Loss: 0.417 | Acc: 86.910% (8691/10000)

Epoch: 95

Train Loss: 0.243 | Acc: 91.706% (45853/50000)

Test Loss: 0.380 | Acc: 87.100% (8710/10000)

Epoch: 96

Train Loss: 0.234 | Acc: 91.940% (45970/50000)

Test Loss: 0.527 | Acc: 84.200% (8420/10000)

Epoch: 97

Train Loss: 0.235 | Acc: 92.030% (46015/50000)

Test Loss: 0.386 | Acc: 87.650% (8765/10000)

Epoch: 98

Train Loss: 0.229 | Acc: 92.234% (46117/50000)

Test Loss: 0.869 | Acc: 78.190% (7819/10000)

Epoch: 99

Train Loss: 0.221 | Acc: 92.430% (46215/50000)

Test Loss: 0.402 | Acc: 87.580% (8758/10000)

Epoch: 100

Train Loss: 0.227 | Acc: 92.130% (46065/50000)

Test Loss: 0.357 | Acc: 88.350% (8835/10000)

Epoch: 101

Train Loss: 0.215 | Acc: 92.612% (46306/50000)

Test Loss: 0.435 | Acc: 86.560% (8656/10000)

Epoch: 102

Train Loss: 0.219 | Acc: 92.442% (46221/50000)

Test Loss: 0.483 | Acc: 86.190% (8619/10000)

Epoch: 103

Train Loss: 0.217 | Acc: 92.556% (46278/50000)

Test Loss: 0.460 | Acc: 85.680% (8568/10000)

Epoch: 104

Train Loss: 0.211 | Acc: 92.878% (46439/50000)

Test Loss: 0.458 | Acc: 85.620% (8562/10000)

Epoch: 105

Train Loss: 0.206 | Acc: 93.050% (46525/50000)

Test Loss: 0.571 | Acc: 84.030% (8403/10000)

Epoch: 106

Train Loss: 0.204 | Acc: 92.956% (46478/50000)

Test Loss: 0.358 | Acc: 88.600% (8860/10000)

Epoch: 107

Train Loss: 0.204 | Acc: 92.990% (46495/50000)

Test Loss: 0.343 | Acc: 89.070% (8907/10000)

Epoch: 108

Train Loss: 0.195 | Acc: 93.240% (46620/50000)

Test Loss: 0.448 | Acc: 86.410% (8641/10000)

Epoch: 109

Train Loss: 0.204 | Acc: 93.016% (46508/50000)

Test Loss: 0.976 | Acc: 75.380% (7538/10000)

Epoch: 110

Train Loss: 0.191 | Acc: 93.608% (46804/50000)

Test Loss: 0.367 | Acc: 88.140% (8814/10000)

Epoch: 111

Train Loss: 0.195 | Acc: 93.314% (46657/50000)

Test Loss: 0.413 | Acc: 86.860% (8686/10000)

Epoch: 112

Train Loss: 0.189 | Acc: 93.500% (46750/50000)

Test Loss: 0.290 | Acc: 90.760% (9076/10000)

Epoch: 113

Train Loss: 0.183 | Acc: 93.710% (46855/50000)

Test Loss: 0.355 | Acc: 88.850% (8885/10000)

Epoch: 114

Train Loss: 0.186 | Acc: 93.606% (46803/50000)

Test Loss: 0.372 | Acc: 88.440% (8844/10000)

Epoch: 115

Train Loss: 0.177 | Acc: 93.910% (46955/50000)

Test Loss: 0.511 | Acc: 85.230% (8523/10000)

Epoch: 116

Train Loss: 0.181 | Acc: 93.938% (46969/50000)

Test Loss: 0.306 | Acc: 90.080% (9008/10000)

Epoch: 117

Train Loss: 0.175 | Acc: 94.014% (47007/50000)

Test Loss: 0.357 | Acc: 88.840% (8884/10000)

Epoch: 118

Train Loss: 0.171 | Acc: 94.210% (47105/50000)

Test Loss: 0.349 | Acc: 88.850% (8885/10000)

Epoch: 119

Train Loss: 0.167 | Acc: 94.236% (47118/50000)

Test Loss: 0.348 | Acc: 88.930% (8893/10000)

Epoch: 120

Train Loss: 0.162 | Acc: 94.452% (47226/50000)

Test Loss: 0.399 | Acc: 88.170% (8817/10000)

Epoch: 121

Train Loss: 0.164 | Acc: 94.374% (47187/50000)

Test Loss: 0.363 | Acc: 88.750% (8875/10000)

Epoch: 122

Train Loss: 0.155 | Acc: 94.666% (47333/50000)

Test Loss: 0.405 | Acc: 88.200% (8820/10000)

Epoch: 123

Train Loss: 0.160 | Acc: 94.514% (47257/50000)

Test Loss: 0.357 | Acc: 88.540% (8854/10000)

Epoch: 124

Train Loss: 0.150 | Acc: 94.924% (47462/50000)

Test Loss: 0.327 | Acc: 90.240% (9024/10000)

Epoch: 125

Train Loss: 0.144 | Acc: 95.084% (47542/50000)

Test Loss: 0.395 | Acc: 88.550% (8855/10000)

Epoch: 126

Train Loss: 0.147 | Acc: 94.930% (47465/50000)

Test Loss: 0.299 | Acc: 90.630% (9063/10000)

Epoch: 127

Train Loss: 0.138 | Acc: 95.294% (47647/50000)

Test Loss: 0.411 | Acc: 88.430% (8843/10000)

Epoch: 128

Train Loss: 0.136 | Acc: 95.304% (47652/50000)

Test Loss: 0.310 | Acc: 90.300% (9030/10000)

Epoch: 129

Train Loss: 0.130 | Acc: 95.682% (47841/50000)

Test Loss: 0.273 | Acc: 91.810% (9181/10000)

Epoch: 130

Train Loss: 0.132 | Acc: 95.506% (47753/50000)

Test Loss: 0.320 | Acc: 90.160% (9016/10000)

Epoch: 131

Train Loss: 0.129 | Acc: 95.630% (47815/50000)

Test Loss: 0.377 | Acc: 89.170% (8917/10000)

Epoch: 132

Train Loss: 0.126 | Acc: 95.664% (47832/50000)

Test Loss: 0.325 | Acc: 90.430% (9043/10000)

Epoch: 133

Train Loss: 0.123 | Acc: 95.850% (47925/50000)

Test Loss: 0.369 | Acc: 89.210% (8921/10000)

Epoch: 134

Train Loss: 0.126 | Acc: 95.760% (47880/50000)

Test Loss: 0.296 | Acc: 91.130% (9113/10000)

Epoch: 135

Train Loss: 0.116 | Acc: 96.068% (48034/50000)

Test Loss: 0.295 | Acc: 90.800% (9080/10000)

Epoch: 136

Train Loss: 0.107 | Acc: 96.418% (48209/50000)

Test Loss: 0.337 | Acc: 90.490% (9049/10000)

Epoch: 137

Train Loss: 0.111 | Acc: 96.198% (48099/50000)

Test Loss: 0.272 | Acc: 91.790% (9179/10000)

Epoch: 138

Train Loss: 0.109 | Acc: 96.228% (48114/50000)

Test Loss: 0.460 | Acc: 87.210% (8721/10000)

Epoch: 139

Train Loss: 0.103 | Acc: 96.492% (48246/50000)

Test Loss: 0.402 | Acc: 88.670% (8867/10000)

Epoch: 140

Train Loss: 0.094 | Acc: 96.752% (48376/50000)

Test Loss: 0.572 | Acc: 86.270% (8627/10000)

Epoch: 141

Train Loss: 0.095 | Acc: 96.776% (48388/50000)

Test Loss: 0.332 | Acc: 90.610% (9061/10000)

Epoch: 142

Train Loss: 0.093 | Acc: 96.790% (48395/50000)

Test Loss: 0.289 | Acc: 91.470% (9147/10000)

Epoch: 143

Train Loss: 0.083 | Acc: 97.170% (48585/50000)

Test Loss: 0.294 | Acc: 91.820% (9182/10000)

Epoch: 144

Train Loss: 0.083 | Acc: 97.172% (48586/50000)

Test Loss: 0.244 | Acc: 92.630% (9263/10000)

Epoch: 145

Train Loss: 0.078 | Acc: 97.380% (48690/50000)

Test Loss: 0.224 | Acc: 93.280% (9328/10000)

Epoch: 146

Train Loss: 0.081 | Acc: 97.220% (48610/50000)

Test Loss: 0.297 | Acc: 91.360% (9136/10000)

Epoch: 147

Train Loss: 0.072 | Acc: 97.588% (48794/50000)

Test Loss: 0.340 | Acc: 90.660% (9066/10000)

Epoch: 148

Train Loss: 0.069 | Acc: 97.616% (48808/50000)

Test Loss: 0.292 | Acc: 91.770% (9177/10000)

Epoch: 149

Train Loss: 0.068 | Acc: 97.772% (48886/50000)

Test Loss: 0.296 | Acc: 91.560% (9156/10000)

Epoch: 150

Train Loss: 0.064 | Acc: 97.898% (48949/50000)

Test Loss: 0.292 | Acc: 91.890% (9189/10000)

Epoch: 151

Train Loss: 0.061 | Acc: 97.940% (48970/50000)

Test Loss: 0.238 | Acc: 93.220% (9322/10000)

Epoch: 152

Train Loss: 0.058 | Acc: 98.072% (49036/50000)

Test Loss: 0.253 | Acc: 92.970% (9297/10000)

Epoch: 153

Train Loss: 0.054 | Acc: 98.234% (49117/50000)

Test Loss: 0.315 | Acc: 91.280% (9128/10000)

Epoch: 154

Train Loss: 0.051 | Acc: 98.312% (49156/50000)

Test Loss: 0.234 | Acc: 93.430% (9343/10000)

Epoch: 155

Train Loss: 0.048 | Acc: 98.408% (49204/50000)

Test Loss: 0.257 | Acc: 93.150% (9315/10000)

Epoch: 156

Train Loss: 0.048 | Acc: 98.408% (49204/50000)

Test Loss: 0.222 | Acc: 93.820% (9382/10000)

Epoch: 157

Train Loss: 0.044 | Acc: 98.568% (49284/50000)

Test Loss: 0.276 | Acc: 92.570% (9257/10000)

Epoch: 158

Train Loss: 0.038 | Acc: 98.800% (49400/50000)

Test Loss: 0.256 | Acc: 93.270% (9327/10000)

Epoch: 159

Train Loss: 0.036 | Acc: 98.842% (49421/50000)

Test Loss: 0.222 | Acc: 93.570% (9357/10000)

Epoch: 160

Train Loss: 0.033 | Acc: 98.942% (49471/50000)

Test Loss: 0.216 | Acc: 94.190% (9419/10000)

Epoch: 161

Train Loss: 0.033 | Acc: 98.940% (49470/50000)

Test Loss: 0.254 | Acc: 93.410% (9341/10000)

Epoch: 162

Train Loss: 0.030 | Acc: 99.086% (49543/50000)

Test Loss: 0.254 | Acc: 93.600% (9360/10000)

Epoch: 163

Train Loss: 0.025 | Acc: 99.204% (49602/50000)

Test Loss: 0.254 | Acc: 93.720% (9372/10000)

Epoch: 164

Train Loss: 0.022 | Acc: 99.318% (49659/50000)

Test Loss: 0.237 | Acc: 93.840% (9384/10000)

Epoch: 165

Train Loss: 0.021 | Acc: 99.348% (49674/50000)

Test Loss: 0.242 | Acc: 94.190% (9419/10000)

Epoch: 166

Train Loss: 0.020 | Acc: 99.402% (49701/50000)

Test Loss: 0.234 | Acc: 94.110% (9411/10000)

Epoch: 167

Train Loss: 0.015 | Acc: 99.572% (49786/50000)

Test Loss: 0.233 | Acc: 94.290% (9429/10000)

Epoch: 168

Train Loss: 0.015 | Acc: 99.588% (49794/50000)

Test Loss: 0.204 | Acc: 94.970% (9497/10000)

Epoch: 169

Train Loss: 0.012 | Acc: 99.646% (49823/50000)

Test Loss: 0.242 | Acc: 94.300% (9430/10000)

Epoch: 170

Train Loss: 0.012 | Acc: 99.660% (49830/50000)

Test Loss: 0.221 | Acc: 94.800% (9480/10000)

Epoch: 171

Train Loss: 0.013 | Acc: 99.626% (49813/50000)

Test Loss: 0.207 | Acc: 94.910% (9491/10000)

Epoch: 172

Train Loss: 0.009 | Acc: 99.786% (49893/50000)

Test Loss: 0.210 | Acc: 94.890% (9489/10000)

Epoch: 173

Train Loss: 0.008 | Acc: 99.800% (49900/50000)

Test Loss: 0.234 | Acc: 94.750% (9475/10000)

Epoch: 174

Train Loss: 0.007 | Acc: 99.836% (49918/50000)

Test Loss: 0.224 | Acc: 94.800% (9480/10000)

Epoch: 175

Train Loss: 0.006 | Acc: 99.856% (49928/50000)

Test Loss: 0.233 | Acc: 94.790% (9479/10000)

Epoch: 176

Train Loss: 0.005 | Acc: 99.858% (49929/50000)

Test Loss: 0.222 | Acc: 94.990% (9499/10000)

Epoch: 177

Train Loss: 0.005 | Acc: 99.882% (49941/50000)

Test Loss: 0.214 | Acc: 95.030% (9503/10000)

Epoch: 178

Train Loss: 0.005 | Acc: 99.898% (49949/50000)

Test Loss: 0.217 | Acc: 95.140% (9514/10000)

Epoch: 179

Train Loss: 0.003 | Acc: 99.934% (49967/50000)

Test Loss: 0.220 | Acc: 95.220% (9522/10000)

Epoch: 180

Train Loss: 0.003 | Acc: 99.934% (49967/50000)

Test Loss: 0.235 | Acc: 94.910% (9491/10000)

Epoch: 181

Train Loss: 0.003 | Acc: 99.944% (49972/50000)

Test Loss: 0.218 | Acc: 95.270% (9527/10000)

Epoch: 182

Train Loss: 0.003 | Acc: 99.946% (49973/50000)

Test Loss: 0.228 | Acc: 94.940% (9494/10000)

Epoch: 183

Train Loss: 0.003 | Acc: 99.960% (49980/50000)

Test Loss: 0.218 | Acc: 95.180% (9518/10000)

Epoch: 184

Train Loss: 0.002 | Acc: 99.962% (49981/50000)

Test Loss: 0.222 | Acc: 95.220% (9522/10000)

Epoch: 185

Train Loss: 0.002 | Acc: 99.962% (49981/50000)

Test Loss: 0.216 | Acc: 95.220% (9522/10000)

Epoch: 186

Train Loss: 0.002 | Acc: 99.960% (49980/50000)

Test Loss: 0.222 | Acc: 95.190% (9519/10000)

Epoch: 187

Train Loss: 0.002 | Acc: 99.966% (49983/50000)

Test Loss: 0.224 | Acc: 95.170% (9517/10000)

Epoch: 188

Train Loss: 0.002 | Acc: 99.968% (49984/50000)

Test Loss: 0.223 | Acc: 95.230% (9523/10000)

Epoch: 189

Train Loss: 0.002 | Acc: 99.980% (49990/50000)

Test Loss: 0.222 | Acc: 95.310% (9531/10000)

Epoch: 190

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.221 | Acc: 95.300% (9530/10000)

Epoch: 191

Train Loss: 0.001 | Acc: 99.986% (49993/50000)

Test Loss: 0.188 | Acc: 95.520% (9552/10000)

Epoch: 192

Train Loss: 0.002 | Acc: 99.978% (49989/50000)

Test Loss: 0.221 | Acc: 95.190% (9519/10000)

Epoch: 193

Train Loss: 0.002 | Acc: 99.974% (49987/50000)

Test Loss: 0.226 | Acc: 95.110% (9511/10000)

Epoch: 194

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.222 | Acc: 95.180% (9518/10000)

Epoch: 195

Train Loss: 0.002 | Acc: 99.984% (49992/50000)

Test Loss: 0.219 | Acc: 95.250% (9525/10000)

Epoch: 196

Train Loss: 0.002 | Acc: 99.972% (49986/50000)

Test Loss: 0.221 | Acc: 95.240% (9524/10000)

Epoch: 197

Train Loss: 0.002 | Acc: 99.976% (49988/50000)

Test Loss: 0.222 | Acc: 95.090% (9509/10000)

Epoch: 198

Train Loss: 0.002 | Acc: 99.980% (49990/50000)

Test Loss: 0.225 | Acc: 95.280% (9528/10000)

Epoch: 199

Train Loss: 0.001 | Acc: 99.980% (49990/50000)

Test Loss: 0.220 | Acc: 95.240% (9524/10000)

Best\_acc: 95.52%

A graph of a line

Description automatically generated

A graph with blue lines

Description automatically generated

Vgg19\_4out:

Epoch: 0

Train Loss: 2.401 | Acc: 16.184% (8092/50000)

Test Loss: 1.902 | Acc: 23.990% (2399/10000)

Epoch: 1

Train Loss: 1.701 | Acc: 34.082% (17041/50000)

Test Loss: 1.679 | Acc: 39.670% (3967/10000)

Epoch: 2

Train Loss: 1.284 | Acc: 54.422% (27211/50000)

Test Loss: 1.334 | Acc: 50.920% (5092/10000)

Epoch: 3

Train Loss: 1.038 | Acc: 64.236% (32118/50000)

Test Loss: 1.244 | Acc: 59.410% (5941/10000)

Epoch: 4

Train Loss: 0.889 | Acc: 69.934% (34967/50000)

Test Loss: 1.135 | Acc: 61.860% (6186/10000)

Epoch: 5

Train Loss: 0.805 | Acc: 73.346% (36673/50000)

Test Loss: 0.952 | Acc: 69.540% (6954/10000)

Epoch: 6

Train Loss: 0.736 | Acc: 75.758% (37879/50000)

Test Loss: 0.999 | Acc: 68.250% (6825/10000)

Epoch: 7

Train Loss: 0.685 | Acc: 77.678% (38839/50000)

Test Loss: 0.981 | Acc: 67.830% (6783/10000)

Epoch: 8

Train Loss: 0.663 | Acc: 78.428% (39214/50000)

Test Loss: 0.858 | Acc: 72.590% (7259/10000)

Epoch: 9

Train Loss: 0.621 | Acc: 79.698% (39849/50000)

Test Loss: 0.752 | Acc: 75.470% (7547/10000)

Epoch: 10

Train Loss: 0.611 | Acc: 80.348% (40174/50000)

Test Loss: 0.774 | Acc: 75.570% (7557/10000)

Epoch: 11

Train Loss: 0.588 | Acc: 80.812% (40406/50000)

Test Loss: 0.836 | Acc: 76.100% (7610/10000)

Epoch: 12

Train Loss: 0.568 | Acc: 81.570% (40785/50000)

Test Loss: 1.093 | Acc: 66.480% (6648/10000)

Epoch: 13

Train Loss: 0.551 | Acc: 82.080% (41040/50000)

Test Loss: 1.052 | Acc: 71.420% (7142/10000)

Epoch: 14

Train Loss: 0.547 | Acc: 82.314% (41157/50000)

Test Loss: 0.793 | Acc: 74.130% (7413/10000)

Epoch: 15

Train Loss: 0.527 | Acc: 82.982% (41491/50000)

Test Loss: 0.891 | Acc: 72.670% (7267/10000)

Epoch: 16

Train Loss: 0.522 | Acc: 82.990% (41495/50000)

Test Loss: 0.832 | Acc: 74.390% (7439/10000)

Epoch: 17

Train Loss: 0.503 | Acc: 83.682% (41841/50000)

Test Loss: 0.734 | Acc: 76.710% (7671/10000)

Epoch: 18

Train Loss: 0.509 | Acc: 83.458% (41729/50000)

Test Loss: 0.946 | Acc: 71.610% (7161/10000)

Epoch: 19

Train Loss: 0.490 | Acc: 84.068% (42034/50000)

Test Loss: 0.650 | Acc: 79.600% (7960/10000)

Epoch: 20

Train Loss: 0.486 | Acc: 84.282% (42141/50000)

Test Loss: 0.780 | Acc: 76.890% (7689/10000)

Epoch: 21

Train Loss: 0.478 | Acc: 84.330% (42165/50000)

Test Loss: 0.719 | Acc: 77.300% (7730/10000)

Epoch: 22

Train Loss: 0.474 | Acc: 84.632% (42316/50000)

Test Loss: 0.675 | Acc: 78.870% (7887/10000)

Epoch: 23

Train Loss: 0.473 | Acc: 84.776% (42388/50000)

Test Loss: 0.644 | Acc: 78.280% (7828/10000)

Epoch: 24

Train Loss: 0.461 | Acc: 84.994% (42497/50000)

Test Loss: 0.868 | Acc: 75.460% (7546/10000)

Epoch: 25

Train Loss: 0.457 | Acc: 85.132% (42566/50000)

Test Loss: 0.737 | Acc: 78.690% (7869/10000)

Epoch: 26

Train Loss: 0.450 | Acc: 85.412% (42706/50000)

Test Loss: 0.796 | Acc: 74.680% (7468/10000)

Epoch: 27

Train Loss: 0.444 | Acc: 85.580% (42790/50000)

Test Loss: 0.782 | Acc: 76.210% (7621/10000)

Epoch: 28

Train Loss: 0.441 | Acc: 85.502% (42751/50000)

Test Loss: 0.534 | Acc: 82.470% (8247/10000)

Epoch: 29

Train Loss: 0.440 | Acc: 85.694% (42847/50000)

Test Loss: 0.661 | Acc: 78.810% (7881/10000)

Epoch: 30

Train Loss: 0.439 | Acc: 85.720% (42860/50000)

Test Loss: 0.867 | Acc: 74.600% (7460/10000)

Epoch: 31

Train Loss: 0.431 | Acc: 86.038% (43019/50000)

Test Loss: 0.716 | Acc: 77.980% (7798/10000)

Epoch: 32

Train Loss: 0.429 | Acc: 86.166% (43083/50000)

Test Loss: 0.654 | Acc: 79.810% (7981/10000)

Epoch: 33

Train Loss: 0.424 | Acc: 86.460% (43230/50000)

Test Loss: 0.634 | Acc: 80.230% (8023/10000)

Epoch: 34

Train Loss: 0.422 | Acc: 86.310% (43155/50000)

Test Loss: 0.548 | Acc: 82.960% (8296/10000)

Epoch: 35

Train Loss: 0.420 | Acc: 86.298% (43149/50000)

Test Loss: 0.799 | Acc: 77.080% (7708/10000)

Epoch: 36

Train Loss: 0.415 | Acc: 86.522% (43261/50000)

Test Loss: 0.752 | Acc: 77.060% (7706/10000)

Epoch: 37

Train Loss: 0.419 | Acc: 86.424% (43212/50000)

Test Loss: 0.852 | Acc: 73.390% (7339/10000)

Epoch: 38

Train Loss: 0.412 | Acc: 86.652% (43326/50000)

Test Loss: 0.652 | Acc: 79.640% (7964/10000)

Epoch: 39

Train Loss: 0.405 | Acc: 86.888% (43444/50000)

Test Loss: 0.795 | Acc: 76.000% (7600/10000)

Epoch: 40

Train Loss: 0.402 | Acc: 87.058% (43529/50000)

Test Loss: 0.747 | Acc: 78.030% (7803/10000)

Epoch: 41

Train Loss: 0.400 | Acc: 86.954% (43477/50000)

Test Loss: 0.566 | Acc: 81.770% (8177/10000)

Epoch: 42

Train Loss: 0.399 | Acc: 86.992% (43496/50000)

Test Loss: 0.689 | Acc: 77.810% (7781/10000)

Epoch: 43

Train Loss: 0.401 | Acc: 86.982% (43491/50000)

Test Loss: 0.604 | Acc: 81.910% (8191/10000)

Epoch: 44

Train Loss: 0.395 | Acc: 87.338% (43669/50000)

Test Loss: 0.450 | Acc: 85.410% (8541/10000)

Epoch: 45

Train Loss: 0.393 | Acc: 87.174% (43587/50000)

Test Loss: 0.563 | Acc: 82.050% (8205/10000)

Epoch: 46

Train Loss: 0.385 | Acc: 87.334% (43667/50000)

Test Loss: 0.861 | Acc: 75.240% (7524/10000)

Epoch: 47

Train Loss: 0.393 | Acc: 87.276% (43638/50000)

Test Loss: 0.505 | Acc: 83.460% (8346/10000)

Epoch: 48

Train Loss: 0.380 | Acc: 87.672% (43836/50000)

Test Loss: 0.524 | Acc: 83.180% (8318/10000)

Epoch: 49

Train Loss: 0.381 | Acc: 87.556% (43778/50000)

Test Loss: 0.669 | Acc: 78.340% (7834/10000)

Epoch: 50

Train Loss: 0.383 | Acc: 87.512% (43756/50000)

Test Loss: 0.505 | Acc: 84.260% (8426/10000)

Epoch: 51

Train Loss: 0.375 | Acc: 87.878% (43939/50000)

Test Loss: 0.477 | Acc: 85.050% (8505/10000)

Epoch: 52

Train Loss: 0.372 | Acc: 87.888% (43944/50000)

Test Loss: 0.898 | Acc: 73.660% (7366/10000)

Epoch: 53

Train Loss: 0.374 | Acc: 87.928% (43964/50000)

Test Loss: 0.627 | Acc: 80.320% (8032/10000)

Epoch: 54

Train Loss: 0.364 | Acc: 88.094% (44047/50000)

Test Loss: 0.489 | Acc: 84.240% (8424/10000)

Epoch: 55

Train Loss: 0.365 | Acc: 88.068% (44034/50000)

Test Loss: 0.706 | Acc: 78.100% (7810/10000)

Epoch: 56

Train Loss: 0.363 | Acc: 88.072% (44036/50000)

Test Loss: 0.494 | Acc: 84.110% (8411/10000)

Epoch: 57

Train Loss: 0.366 | Acc: 87.802% (43901/50000)

Test Loss: 0.773 | Acc: 77.060% (7706/10000)

Epoch: 58

Train Loss: 0.363 | Acc: 88.116% (44058/50000)

Test Loss: 0.489 | Acc: 84.070% (8407/10000)

Epoch: 59

Train Loss: 0.362 | Acc: 87.986% (43993/50000)

Test Loss: 0.624 | Acc: 81.000% (8100/10000)

Epoch: 60

Train Loss: 0.359 | Acc: 88.250% (44125/50000)

Test Loss: 0.555 | Acc: 82.440% (8244/10000)

Epoch: 61

Train Loss: 0.355 | Acc: 88.388% (44194/50000)

Test Loss: 0.574 | Acc: 82.420% (8242/10000)

Epoch: 62

Train Loss: 0.355 | Acc: 88.302% (44151/50000)

Test Loss: 0.520 | Acc: 83.260% (8326/10000)

Epoch: 63

Train Loss: 0.350 | Acc: 88.546% (44273/50000)

Test Loss: 0.709 | Acc: 79.610% (7961/10000)

Epoch: 64

Train Loss: 0.348 | Acc: 88.608% (44304/50000)

Test Loss: 0.640 | Acc: 79.730% (7973/10000)

Epoch: 65

Train Loss: 0.343 | Acc: 88.820% (44410/50000)

Test Loss: 1.080 | Acc: 69.880% (6988/10000)

Epoch: 66

Train Loss: 0.346 | Acc: 88.606% (44303/50000)

Test Loss: 0.706 | Acc: 79.500% (7950/10000)

Epoch: 67

Train Loss: 0.336 | Acc: 88.946% (44473/50000)

Test Loss: 0.518 | Acc: 83.230% (8323/10000)

Epoch: 68

Train Loss: 0.339 | Acc: 88.956% (44478/50000)

Test Loss: 0.975 | Acc: 74.110% (7411/10000)

Epoch: 69

Train Loss: 0.344 | Acc: 88.780% (44390/50000)

Test Loss: 0.650 | Acc: 80.330% (8033/10000)

Epoch: 70

Train Loss: 0.324 | Acc: 89.398% (44699/50000)

Test Loss: 0.541 | Acc: 83.270% (8327/10000)

Epoch: 71

Train Loss: 0.330 | Acc: 89.118% (44559/50000)

Test Loss: 0.499 | Acc: 84.700% (8470/10000)

Epoch: 72

Train Loss: 0.324 | Acc: 89.556% (44778/50000)

Test Loss: 0.526 | Acc: 83.270% (8327/10000)

Epoch: 73

Train Loss: 0.327 | Acc: 89.230% (44615/50000)

Test Loss: 0.516 | Acc: 84.100% (8410/10000)

Epoch: 74

Train Loss: 0.317 | Acc: 89.510% (44755/50000)

Test Loss: 0.465 | Acc: 84.840% (8484/10000)

Epoch: 75

Train Loss: 0.316 | Acc: 89.698% (44849/50000)

Test Loss: 0.520 | Acc: 84.070% (8407/10000)

Epoch: 76

Train Loss: 0.310 | Acc: 89.714% (44857/50000)

Test Loss: 0.548 | Acc: 83.400% (8340/10000)

Epoch: 77

Train Loss: 0.318 | Acc: 89.560% (44780/50000)

Test Loss: 0.509 | Acc: 83.790% (8379/10000)

Epoch: 78

Train Loss: 0.317 | Acc: 89.562% (44781/50000)

Test Loss: 0.542 | Acc: 83.460% (8346/10000)

Epoch: 79

Train Loss: 0.310 | Acc: 89.734% (44867/50000)

Test Loss: 0.509 | Acc: 84.580% (8458/10000)

Epoch: 80

Train Loss: 0.308 | Acc: 89.874% (44937/50000)

Test Loss: 0.460 | Acc: 85.490% (8549/10000)

Epoch: 81

Train Loss: 0.301 | Acc: 90.230% (45115/50000)

Test Loss: 0.571 | Acc: 82.490% (8249/10000)

Epoch: 82

Train Loss: 0.301 | Acc: 90.024% (45012/50000)

Test Loss: 0.491 | Acc: 85.230% (8523/10000)

Epoch: 83

Train Loss: 0.288 | Acc: 90.592% (45296/50000)

Test Loss: 0.425 | Acc: 86.590% (8659/10000)

Epoch: 84

Train Loss: 0.291 | Acc: 90.412% (45206/50000)

Test Loss: 0.425 | Acc: 86.590% (8659/10000)

Epoch: 85

Train Loss: 0.290 | Acc: 90.394% (45197/50000)

Test Loss: 0.553 | Acc: 82.680% (8268/10000)

Epoch: 86

Train Loss: 0.292 | Acc: 90.466% (45233/50000)

Test Loss: 0.779 | Acc: 79.650% (7965/10000)

Epoch: 87

Train Loss: 0.287 | Acc: 90.488% (45244/50000)

Test Loss: 0.466 | Acc: 84.630% (8463/10000)

Epoch: 88

Train Loss: 0.279 | Acc: 90.810% (45405/50000)

Test Loss: 0.455 | Acc: 85.610% (8561/10000)

Epoch: 89

Train Loss: 0.284 | Acc: 90.634% (45317/50000)

Test Loss: 0.496 | Acc: 85.000% (8500/10000)

Epoch: 90

Train Loss: 0.277 | Acc: 90.772% (45386/50000)

Test Loss: 0.678 | Acc: 81.170% (8117/10000)

Epoch: 91

Train Loss: 0.280 | Acc: 90.854% (45427/50000)

Test Loss: 0.791 | Acc: 77.590% (7759/10000)

Epoch: 92

Train Loss: 0.271 | Acc: 90.920% (45460/50000)

Test Loss: 0.548 | Acc: 82.900% (8290/10000)

Epoch: 93

Train Loss: 0.270 | Acc: 91.196% (45598/50000)

Test Loss: 0.454 | Acc: 86.110% (8611/10000)

Epoch: 94

Train Loss: 0.269 | Acc: 91.078% (45539/50000)

Test Loss: 0.539 | Acc: 84.330% (8433/10000)

Epoch: 95

Train Loss: 0.264 | Acc: 91.102% (45551/50000)

Test Loss: 0.458 | Acc: 85.910% (8591/10000)

Epoch: 96

Train Loss: 0.259 | Acc: 91.538% (45769/50000)

Test Loss: 0.541 | Acc: 83.760% (8376/10000)

Epoch: 97

Train Loss: 0.253 | Acc: 91.796% (45898/50000)

Test Loss: 0.438 | Acc: 86.650% (8665/10000)

Epoch: 98

Train Loss: 0.256 | Acc: 91.428% (45714/50000)

Test Loss: 0.601 | Acc: 82.860% (8286/10000)

Epoch: 99

Train Loss: 0.256 | Acc: 91.518% (45759/50000)

Test Loss: 0.717 | Acc: 79.490% (7949/10000)

Epoch: 100

Train Loss: 0.245 | Acc: 91.846% (45923/50000)

Test Loss: 0.368 | Acc: 88.510% (8851/10000)

Epoch: 101

Train Loss: 0.241 | Acc: 92.052% (46026/50000)

Test Loss: 0.456 | Acc: 85.990% (8599/10000)

Epoch: 102

Train Loss: 0.244 | Acc: 91.862% (45931/50000)

Test Loss: 0.509 | Acc: 85.010% (8501/10000)

Epoch: 103

Train Loss: 0.243 | Acc: 91.904% (45952/50000)

Test Loss: 0.406 | Acc: 87.680% (8768/10000)

Epoch: 104

Train Loss: 0.232 | Acc: 92.270% (46135/50000)

Test Loss: 0.381 | Acc: 88.000% (8800/10000)

Epoch: 105

Train Loss: 0.229 | Acc: 92.328% (46164/50000)

Test Loss: 0.514 | Acc: 84.620% (8462/10000)

Epoch: 106

Train Loss: 0.229 | Acc: 92.290% (46145/50000)

Test Loss: 0.450 | Acc: 86.710% (8671/10000)

Epoch: 107

Train Loss: 0.223 | Acc: 92.518% (46259/50000)

Test Loss: 0.464 | Acc: 86.410% (8641/10000)

Epoch: 108

Train Loss: 0.224 | Acc: 92.602% (46301/50000)

Test Loss: 0.408 | Acc: 87.660% (8766/10000)

Epoch: 109

Train Loss: 0.216 | Acc: 92.866% (46433/50000)

Test Loss: 0.386 | Acc: 88.280% (8828/10000)

Epoch: 110

Train Loss: 0.211 | Acc: 93.050% (46525/50000)

Test Loss: 0.549 | Acc: 84.470% (8447/10000)

Epoch: 111

Train Loss: 0.213 | Acc: 92.924% (46462/50000)

Test Loss: 0.477 | Acc: 85.170% (8517/10000)

Epoch: 112

Train Loss: 0.206 | Acc: 93.064% (46532/50000)

Test Loss: 0.516 | Acc: 85.250% (8525/10000)

Epoch: 113

Train Loss: 0.204 | Acc: 93.078% (46539/50000)

Test Loss: 0.441 | Acc: 86.970% (8697/10000)

Epoch: 114

Train Loss: 0.198 | Acc: 93.392% (46696/50000)

Test Loss: 0.453 | Acc: 85.880% (8588/10000)

Epoch: 115

Train Loss: 0.191 | Acc: 93.656% (46828/50000)

Test Loss: 0.405 | Acc: 87.620% (8762/10000)

Epoch: 116

Train Loss: 0.191 | Acc: 93.546% (46773/50000)

Test Loss: 0.432 | Acc: 86.560% (8656/10000)

Epoch: 117

Train Loss: 0.191 | Acc: 93.768% (46884/50000)

Test Loss: 0.481 | Acc: 86.080% (8608/10000)

Epoch: 118

Train Loss: 0.183 | Acc: 93.758% (46879/50000)

Test Loss: 0.393 | Acc: 88.790% (8879/10000)

Epoch: 119

Train Loss: 0.187 | Acc: 93.732% (46866/50000)

Test Loss: 0.524 | Acc: 84.440% (8444/10000)

Epoch: 120

Train Loss: 0.178 | Acc: 94.072% (47036/50000)

Test Loss: 0.528 | Acc: 84.970% (8497/10000)

Epoch: 121

Train Loss: 0.178 | Acc: 93.998% (46999/50000)

Test Loss: 0.412 | Acc: 87.550% (8755/10000)

Epoch: 122

Train Loss: 0.170 | Acc: 94.216% (47108/50000)

Test Loss: 0.499 | Acc: 85.750% (8575/10000)

Epoch: 123

Train Loss: 0.171 | Acc: 94.286% (47143/50000)

Test Loss: 0.369 | Acc: 89.110% (8911/10000)

Epoch: 124

Train Loss: 0.161 | Acc: 94.504% (47252/50000)

Test Loss: 0.403 | Acc: 88.100% (8810/10000)

Epoch: 125

Train Loss: 0.161 | Acc: 94.670% (47335/50000)

Test Loss: 0.438 | Acc: 87.850% (8785/10000)

Epoch: 126

Train Loss: 0.157 | Acc: 94.660% (47330/50000)

Test Loss: 0.436 | Acc: 87.020% (8702/10000)

Epoch: 127

Train Loss: 0.150 | Acc: 94.798% (47399/50000)

Test Loss: 0.366 | Acc: 88.990% (8899/10000)

Epoch: 128

Train Loss: 0.148 | Acc: 95.048% (47524/50000)

Test Loss: 0.330 | Acc: 90.180% (9018/10000)

Epoch: 129

Train Loss: 0.146 | Acc: 95.062% (47531/50000)

Test Loss: 0.352 | Acc: 89.450% (8945/10000)

Epoch: 130

Train Loss: 0.139 | Acc: 95.268% (47634/50000)

Test Loss: 0.342 | Acc: 89.410% (8941/10000)

Epoch: 131

Train Loss: 0.139 | Acc: 95.412% (47706/50000)

Test Loss: 0.356 | Acc: 89.110% (8911/10000)

Epoch: 132

Train Loss: 0.135 | Acc: 95.462% (47731/50000)

Test Loss: 0.372 | Acc: 89.160% (8916/10000)

Epoch: 133

Train Loss: 0.126 | Acc: 95.782% (47891/50000)

Test Loss: 0.352 | Acc: 89.650% (8965/10000)

Epoch: 134

Train Loss: 0.126 | Acc: 95.714% (47857/50000)

Test Loss: 0.450 | Acc: 86.740% (8674/10000)

Epoch: 135

Train Loss: 0.122 | Acc: 95.830% (47915/50000)

Test Loss: 0.375 | Acc: 89.440% (8944/10000)

Epoch: 136

Train Loss: 0.123 | Acc: 95.914% (47957/50000)

Test Loss: 0.436 | Acc: 87.610% (8761/10000)

Epoch: 137

Train Loss: 0.121 | Acc: 96.008% (48004/50000)

Test Loss: 0.328 | Acc: 90.900% (9090/10000)

Epoch: 138

Train Loss: 0.110 | Acc: 96.276% (48138/50000)

Test Loss: 0.471 | Acc: 86.750% (8675/10000)

Epoch: 139

Train Loss: 0.114 | Acc: 96.196% (48098/50000)

Test Loss: 0.367 | Acc: 89.030% (8903/10000)

Epoch: 140

Train Loss: 0.097 | Acc: 96.772% (48386/50000)

Test Loss: 0.379 | Acc: 88.980% (8898/10000)

Epoch: 141

Train Loss: 0.100 | Acc: 96.604% (48302/50000)

Test Loss: 0.439 | Acc: 87.960% (8796/10000)

Epoch: 142

Train Loss: 0.094 | Acc: 96.846% (48423/50000)

Test Loss: 0.382 | Acc: 89.230% (8923/10000)

Epoch: 143

Train Loss: 0.100 | Acc: 96.656% (48328/50000)

Test Loss: 0.396 | Acc: 88.940% (8894/10000)

Epoch: 144

Train Loss: 0.091 | Acc: 96.874% (48437/50000)

Test Loss: 0.436 | Acc: 87.990% (8799/10000)

Epoch: 145

Train Loss: 0.085 | Acc: 97.106% (48553/50000)

Test Loss: 0.343 | Acc: 90.270% (9027/10000)

Epoch: 146

Train Loss: 0.085 | Acc: 97.122% (48561/50000)

Test Loss: 0.382 | Acc: 89.600% (8960/10000)

Epoch: 147

Train Loss: 0.079 | Acc: 97.314% (48657/50000)

Test Loss: 0.339 | Acc: 90.700% (9070/10000)

Epoch: 148

Train Loss: 0.077 | Acc: 97.484% (48742/50000)

Test Loss: 0.336 | Acc: 90.930% (9093/10000)

Epoch: 149

Train Loss: 0.073 | Acc: 97.596% (48798/50000)

Test Loss: 0.357 | Acc: 90.200% (9020/10000)

Epoch: 150

Train Loss: 0.065 | Acc: 97.802% (48901/50000)

Test Loss: 0.387 | Acc: 89.670% (8967/10000)

Epoch: 151

Train Loss: 0.065 | Acc: 97.812% (48906/50000)

Test Loss: 0.379 | Acc: 89.720% (8972/10000)

Epoch: 152

Train Loss: 0.065 | Acc: 97.932% (48966/50000)

Test Loss: 0.341 | Acc: 90.770% (9077/10000)

Epoch: 153

Train Loss: 0.060 | Acc: 98.034% (49017/50000)

Test Loss: 0.350 | Acc: 90.830% (9083/10000)

Epoch: 154

Train Loss: 0.053 | Acc: 98.270% (49135/50000)

Test Loss: 0.325 | Acc: 91.470% (9147/10000)

Epoch: 155

Train Loss: 0.053 | Acc: 98.190% (49095/50000)

Test Loss: 0.341 | Acc: 90.990% (9099/10000)

Epoch: 156

Train Loss: 0.045 | Acc: 98.470% (49235/50000)

Test Loss: 0.389 | Acc: 90.120% (9012/10000)

Epoch: 157

Train Loss: 0.041 | Acc: 98.642% (49321/50000)

Test Loss: 0.329 | Acc: 91.620% (9162/10000)

Epoch: 158

Train Loss: 0.040 | Acc: 98.686% (49343/50000)

Test Loss: 0.372 | Acc: 90.380% (9038/10000)

Epoch: 159

Train Loss: 0.042 | Acc: 98.594% (49297/50000)

Test Loss: 0.374 | Acc: 90.570% (9057/10000)

Epoch: 160

Train Loss: 0.035 | Acc: 98.856% (49428/50000)

Test Loss: 0.307 | Acc: 91.820% (9182/10000)

Epoch: 161

Train Loss: 0.032 | Acc: 98.934% (49467/50000)

Test Loss: 0.328 | Acc: 91.480% (9148/10000)

Epoch: 162

Train Loss: 0.032 | Acc: 98.950% (49475/50000)

Test Loss: 0.361 | Acc: 90.910% (9091/10000)

Epoch: 163

Train Loss: 0.030 | Acc: 99.058% (49529/50000)

Test Loss: 0.337 | Acc: 91.300% (9130/10000)

Epoch: 164

Train Loss: 0.021 | Acc: 99.284% (49642/50000)

Test Loss: 0.331 | Acc: 92.100% (9210/10000)

Epoch: 165

Train Loss: 0.022 | Acc: 99.334% (49667/50000)

Test Loss: 0.331 | Acc: 91.830% (9183/10000)

Epoch: 166

Train Loss: 0.021 | Acc: 99.334% (49667/50000)

Test Loss: 0.317 | Acc: 92.490% (9249/10000)

Epoch: 167

Train Loss: 0.021 | Acc: 99.334% (49667/50000)

Test Loss: 0.306 | Acc: 92.530% (9253/10000)

Epoch: 168

Train Loss: 0.016 | Acc: 99.514% (49757/50000)

Test Loss: 0.322 | Acc: 92.510% (9251/10000)

Epoch: 169

Train Loss: 0.013 | Acc: 99.630% (49815/50000)

Test Loss: 0.325 | Acc: 92.270% (9227/10000)

Epoch: 170

Train Loss: 0.015 | Acc: 99.554% (49777/50000)

Test Loss: 0.324 | Acc: 92.120% (9212/10000)

Epoch: 171

Train Loss: 0.013 | Acc: 99.596% (49798/50000)

Test Loss: 0.302 | Acc: 92.680% (9268/10000)

Epoch: 172

Train Loss: 0.009 | Acc: 99.736% (49868/50000)

Test Loss: 0.329 | Acc: 92.470% (9247/10000)

Epoch: 173

Train Loss: 0.010 | Acc: 99.700% (49850/50000)

Test Loss: 0.327 | Acc: 92.080% (9208/10000)

Epoch: 174

Train Loss: 0.009 | Acc: 99.760% (49880/50000)

Test Loss: 0.330 | Acc: 92.330% (9233/10000)

Epoch: 175

Train Loss: 0.007 | Acc: 99.820% (49910/50000)

Test Loss: 0.299 | Acc: 92.890% (9289/10000)

Epoch: 176

Train Loss: 0.005 | Acc: 99.850% (49925/50000)

Test Loss: 0.305 | Acc: 92.910% (9291/10000)

Epoch: 177

Train Loss: 0.005 | Acc: 99.868% (49934/50000)

Test Loss: 0.297 | Acc: 93.290% (9329/10000)

Epoch: 178

Train Loss: 0.005 | Acc: 99.880% (49940/50000)

Test Loss: 0.297 | Acc: 93.190% (9319/10000)

Epoch: 179

Train Loss: 0.004 | Acc: 99.896% (49948/50000)

Test Loss: 0.311 | Acc: 92.940% (9294/10000)

Epoch: 180

Train Loss: 0.004 | Acc: 99.874% (49937/50000)

Test Loss: 0.280 | Acc: 93.380% (9338/10000)

Epoch: 181

Train Loss: 0.004 | Acc: 99.898% (49949/50000)

Test Loss: 0.291 | Acc: 93.360% (9336/10000)

Epoch: 182

Train Loss: 0.003 | Acc: 99.932% (49966/50000)

Test Loss: 0.289 | Acc: 93.310% (9331/10000)

Epoch: 183

Train Loss: 0.003 | Acc: 99.938% (49969/50000)

Test Loss: 0.296 | Acc: 93.230% (9323/10000)

Epoch: 184

Train Loss: 0.002 | Acc: 99.952% (49976/50000)

Test Loss: 0.289 | Acc: 93.380% (9338/10000)

Epoch: 185

Train Loss: 0.003 | Acc: 99.938% (49969/50000)

Test Loss: 0.291 | Acc: 93.370% (9337/10000)

Epoch: 186

Train Loss: 0.003 | Acc: 99.946% (49973/50000)

Test Loss: 0.286 | Acc: 93.390% (9339/10000)

Epoch: 187

Train Loss: 0.002 | Acc: 99.950% (49975/50000)

Test Loss: 0.299 | Acc: 93.000% (9300/10000)

Epoch: 188

Train Loss: 0.002 | Acc: 99.950% (49975/50000)

Test Loss: 0.291 | Acc: 93.390% (9339/10000)

Epoch: 189

Train Loss: 0.002 | Acc: 99.964% (49982/50000)

Test Loss: 0.291 | Acc: 93.380% (9338/10000)

Epoch: 190

Train Loss: 0.002 | Acc: 99.954% (49977/50000)

Test Loss: 0.297 | Acc: 93.410% (9341/10000)

Epoch: 191

Train Loss: 0.002 | Acc: 99.952% (49976/50000)

Test Loss: 0.293 | Acc: 93.390% (9339/10000)

Epoch: 192

Train Loss: 0.002 | Acc: 99.966% (49983/50000)

Test Loss: 0.292 | Acc: 93.480% (9348/10000)

Epoch: 193

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.292 | Acc: 93.380% (9338/10000)

Epoch: 194

Train Loss: 0.001 | Acc: 99.980% (49990/50000)

Test Loss: 0.289 | Acc: 93.430% (9343/10000)

Epoch: 195

Train Loss: 0.002 | Acc: 99.970% (49985/50000)

Test Loss: 0.293 | Acc: 93.420% (9342/10000)

Epoch: 196

Train Loss: 0.001 | Acc: 99.974% (49987/50000)

Test Loss: 0.290 | Acc: 93.440% (9344/10000)

Epoch: 197

Train Loss: 0.002 | Acc: 99.980% (49990/50000)

Test Loss: 0.291 | Acc: 93.470% (9347/10000)

Epoch: 198

Train Loss: 0.002 | Acc: 99.966% (49983/50000)

Test Loss: 0.292 | Acc: 93.410% (9341/10000)

Epoch: 199

Train Loss: 0.002 | Acc: 99.960% (49980/50000)

Test Loss: 0.293 | Acc: 93.440% (9344/10000)

Best\_acc: 93.48%

A graph of a line

Description automatically generatedA graph of a graph

Description automatically generated

Vgg19\_tiny:

Epoch: 0

Train Loss: 5.098 | Acc: 2.692% (2692/100000)

Test Loss: 4.671 | Acc: 4.640% (464/10000)

Epoch: 1

Train Loss: 4.529 | Acc: 6.533% (6533/100000)

Test Loss: 4.593 | Acc: 7.010% (701/10000)

Epoch: 2

Train Loss: 4.314 | Acc: 8.943% (8943/100000)

Test Loss: 4.470 | Acc: 8.250% (825/10000)

Epoch: 3

Train Loss: 4.193 | Acc: 10.518% (10518/100000)

Test Loss: 4.230 | Acc: 10.340% (1034/10000)

Epoch: 4

Train Loss: 4.122 | Acc: 11.584% (11584/100000)

Test Loss: 4.141 | Acc: 11.910% (1191/10000)

Epoch: 5

Train Loss: 4.079 | Acc: 12.349% (12349/100000)

Test Loss: 4.408 | Acc: 10.230% (1023/10000)

Epoch: 6

Train Loss: 4.041 | Acc: 13.026% (13026/100000)

Test Loss: 4.333 | Acc: 11.030% (1103/10000)

Epoch: 7

Train Loss: 4.004 | Acc: 13.610% (13610/100000)

Test Loss: 4.326 | Acc: 10.630% (1063/10000)

Epoch: 8

Train Loss: 3.983 | Acc: 13.998% (13998/100000)

Test Loss: 4.095 | Acc: 13.070% (1307/10000)

Epoch: 9

Train Loss: 3.960 | Acc: 14.351% (14351/100000)

Test Loss: 3.955 | Acc: 13.770% (1377/10000)

Epoch: 10

Train Loss: 3.944 | Acc: 14.565% (14565/100000)

Test Loss: 4.032 | Acc: 13.190% (1319/10000)

Epoch: 11

Train Loss: 3.922 | Acc: 14.949% (14949/100000)

Test Loss: 4.159 | Acc: 12.440% (1244/10000)

Epoch: 12

Train Loss: 3.904 | Acc: 15.138% (15138/100000)

Test Loss: 4.410 | Acc: 10.850% (1085/10000)

Epoch: 13

Train Loss: 3.883 | Acc: 15.492% (15492/100000)

Test Loss: 4.528 | Acc: 11.230% (1123/10000)

Epoch: 14

Train Loss: 3.868 | Acc: 15.688% (15688/100000)

Test Loss: 4.444 | Acc: 11.990% (1199/10000)

Epoch: 15

Train Loss: 3.856 | Acc: 16.011% (16011/100000)

Test Loss: 4.021 | Acc: 14.020% (1402/10000)

Epoch: 16

Train Loss: 3.845 | Acc: 16.118% (16118/100000)

Test Loss: 3.967 | Acc: 14.370% (1437/10000)

Epoch: 17

Train Loss: 3.836 | Acc: 16.375% (16375/100000)

Test Loss: 4.284 | Acc: 13.690% (1369/10000)

Epoch: 18

Train Loss: 3.825 | Acc: 16.512% (16512/100000)

Test Loss: 4.290 | Acc: 11.990% (1199/10000)

Epoch: 19

Train Loss: 3.813 | Acc: 16.691% (16691/100000)

Test Loss: 4.155 | Acc: 13.320% (1332/10000)

Epoch: 20

Train Loss: 3.802 | Acc: 16.822% (16822/100000)

Test Loss: 3.762 | Acc: 17.900% (1790/10000)

Epoch: 21

Train Loss: 3.799 | Acc: 17.132% (17132/100000)

Test Loss: 3.835 | Acc: 16.080% (1608/10000)

Epoch: 22

Train Loss: 3.785 | Acc: 17.224% (17224/100000)

Test Loss: 3.984 | Acc: 15.790% (1579/10000)

Epoch: 23

Train Loss: 3.778 | Acc: 17.339% (17339/100000)

Test Loss: 3.997 | Acc: 15.980% (1598/10000)

Epoch: 24

Train Loss: 3.777 | Acc: 17.365% (17365/100000)

Test Loss: 4.334 | Acc: 12.710% (1271/10000)

Epoch: 25

Train Loss: 3.772 | Acc: 17.267% (17267/100000)

Test Loss: 3.996 | Acc: 15.750% (1575/10000)

Epoch: 26

Train Loss: 3.762 | Acc: 17.794% (17794/100000)

Test Loss: 4.200 | Acc: 13.240% (1324/10000)

Epoch: 27

Train Loss: 3.754 | Acc: 17.768% (17768/100000)

Test Loss: 4.126 | Acc: 14.000% (1400/10000)

Epoch: 28

Train Loss: 3.748 | Acc: 17.671% (17671/100000)

Test Loss: 4.223 | Acc: 14.200% (1420/10000)

Epoch: 29

Train Loss: 3.739 | Acc: 17.942% (17942/100000)

Test Loss: 3.869 | Acc: 16.850% (1685/10000)

Epoch: 30

Train Loss: 3.736 | Acc: 18.030% (18030/100000)

Test Loss: 4.062 | Acc: 15.300% (1530/10000)

Epoch: 31

Train Loss: 3.733 | Acc: 18.093% (18093/100000)

Test Loss: 3.874 | Acc: 16.550% (1655/10000)

Epoch: 32

Train Loss: 3.722 | Acc: 18.265% (18265/100000)

Test Loss: 4.116 | Acc: 13.810% (1381/10000)

Epoch: 33

Train Loss: 3.719 | Acc: 18.309% (18309/100000)

Test Loss: 4.107 | Acc: 14.150% (1415/10000)

Epoch: 34

Train Loss: 3.713 | Acc: 18.291% (18291/100000)

Test Loss: 4.166 | Acc: 14.480% (1448/10000)

Epoch: 35

Train Loss: 3.707 | Acc: 18.517% (18517/100000)

Test Loss: 4.298 | Acc: 14.420% (1442/10000)

Epoch: 36

Train Loss: 3.705 | Acc: 18.471% (18471/100000)

Test Loss: 3.974 | Acc: 16.740% (1674/10000)

Epoch: 37

Train Loss: 3.699 | Acc: 18.758% (18758/100000)

Test Loss: 3.978 | Acc: 16.500% (1650/10000)

Epoch: 38

Train Loss: 3.694 | Acc: 18.635% (18635/100000)

Test Loss: 3.983 | Acc: 16.680% (1668/10000)

Epoch: 39

Train Loss: 3.685 | Acc: 18.813% (18813/100000)

Test Loss: 3.815 | Acc: 17.770% (1777/10000)

Epoch: 40

Train Loss: 3.684 | Acc: 19.107% (19107/100000)

Test Loss: 4.144 | Acc: 15.400% (1540/10000)

Epoch: 41

Train Loss: 3.677 | Acc: 19.056% (19056/100000)

Test Loss: 3.881 | Acc: 17.560% (1756/10000)

Epoch: 42

Train Loss: 3.674 | Acc: 19.248% (19248/100000)

Test Loss: 3.883 | Acc: 17.870% (1787/10000)

Epoch: 43

Train Loss: 3.667 | Acc: 19.267% (19267/100000)

Test Loss: 3.803 | Acc: 17.520% (1752/10000)

Epoch: 44

Train Loss: 3.655 | Acc: 19.381% (19381/100000)

Test Loss: 3.864 | Acc: 17.180% (1718/10000)

Epoch: 45

Train Loss: 3.656 | Acc: 19.383% (19383/100000)

Test Loss: 3.760 | Acc: 18.220% (1822/10000)

Epoch: 46

Train Loss: 3.653 | Acc: 19.485% (19485/100000)

Test Loss: 4.066 | Acc: 15.320% (1532/10000)

Epoch: 47

Train Loss: 3.641 | Acc: 19.678% (19678/100000)

Test Loss: 3.758 | Acc: 19.050% (1905/10000)

Epoch: 48

Train Loss: 3.641 | Acc: 19.500% (19500/100000)

Test Loss: 4.080 | Acc: 14.430% (1443/10000)

Epoch: 49

Train Loss: 3.627 | Acc: 19.882% (19882/100000)

Test Loss: 3.864 | Acc: 17.710% (1771/10000)

Epoch: 50

Train Loss: 3.628 | Acc: 19.900% (19900/100000)

Test Loss: 3.790 | Acc: 18.430% (1843/10000)

Epoch: 51

Train Loss: 3.618 | Acc: 19.864% (19864/100000)

Test Loss: 3.759 | Acc: 19.150% (1915/10000)

Epoch: 52

Train Loss: 3.607 | Acc: 20.293% (20293/100000)

Test Loss: 3.773 | Acc: 18.470% (1847/10000)

Epoch: 53

Train Loss: 3.610 | Acc: 20.092% (20092/100000)

Test Loss: 3.862 | Acc: 18.150% (1815/10000)

Epoch: 54

Train Loss: 3.598 | Acc: 20.232% (20232/100000)

Test Loss: 3.850 | Acc: 17.430% (1743/10000)

Epoch: 55

Train Loss: 3.587 | Acc: 20.514% (20514/100000)

Test Loss: 3.754 | Acc: 18.840% (1884/10000)

Epoch: 56

Train Loss: 3.586 | Acc: 20.666% (20666/100000)

Test Loss: 3.630 | Acc: 19.740% (1974/10000)

Epoch: 57

Train Loss: 3.578 | Acc: 20.753% (20753/100000)

Test Loss: 4.001 | Acc: 16.260% (1626/10000)

Epoch: 58

Train Loss: 3.571 | Acc: 20.815% (20815/100000)

Test Loss: 3.710 | Acc: 19.530% (1953/10000)

Epoch: 59

Train Loss: 3.557 | Acc: 20.966% (20966/100000)

Test Loss: 3.850 | Acc: 17.860% (1786/10000)

Epoch: 60

Train Loss: 3.553 | Acc: 21.053% (21053/100000)

Test Loss: 3.827 | Acc: 17.290% (1729/10000)

Epoch: 61

Train Loss: 3.544 | Acc: 21.357% (21357/100000)

Test Loss: 4.517 | Acc: 13.600% (1360/10000)

Epoch: 62

Train Loss: 3.538 | Acc: 21.214% (21214/100000)

Test Loss: 3.816 | Acc: 17.710% (1771/10000)

Epoch: 63

Train Loss: 3.528 | Acc: 21.407% (21407/100000)

Test Loss: 3.760 | Acc: 19.920% (1992/10000)

Epoch: 64

Train Loss: 3.525 | Acc: 21.604% (21604/100000)

Test Loss: 3.651 | Acc: 20.710% (2071/10000)

Epoch: 65

Train Loss: 3.511 | Acc: 21.946% (21946/100000)

Test Loss: 3.586 | Acc: 21.090% (2109/10000)

Epoch: 66

Train Loss: 3.510 | Acc: 21.879% (21879/100000)

Test Loss: 3.560 | Acc: 21.130% (2113/10000)

Epoch: 67

Train Loss: 3.498 | Acc: 22.155% (22155/100000)

Test Loss: 3.705 | Acc: 19.870% (1987/10000)

Epoch: 68

Train Loss: 3.492 | Acc: 22.154% (22154/100000)

Test Loss: 3.771 | Acc: 19.310% (1931/10000)

Epoch: 69

Train Loss: 3.481 | Acc: 22.408% (22408/100000)

Test Loss: 3.791 | Acc: 19.910% (1991/10000)

Epoch: 70

Train Loss: 3.472 | Acc: 22.516% (22516/100000)

Test Loss: 3.608 | Acc: 21.580% (2158/10000)

Epoch: 71

Train Loss: 3.460 | Acc: 22.767% (22767/100000)

Test Loss: 3.538 | Acc: 22.240% (2224/10000)

Epoch: 72

Train Loss: 3.456 | Acc: 23.013% (23013/100000)

Test Loss: 3.420 | Acc: 24.020% (2402/10000)

Epoch: 73

Train Loss: 3.451 | Acc: 23.022% (23022/100000)

Test Loss: 3.572 | Acc: 21.340% (2134/10000)

Epoch: 74

Train Loss: 3.439 | Acc: 23.048% (23048/100000)

Test Loss: 3.714 | Acc: 20.750% (2075/10000)

Epoch: 75

Train Loss: 3.430 | Acc: 23.243% (23243/100000)

Test Loss: 3.684 | Acc: 20.280% (2028/10000)

Epoch: 76

Train Loss: 3.419 | Acc: 23.437% (23437/100000)

Test Loss: 3.473 | Acc: 22.790% (2279/10000)

Epoch: 77

Train Loss: 3.405 | Acc: 23.613% (23613/100000)

Test Loss: 3.658 | Acc: 21.220% (2122/10000)

Epoch: 78

Train Loss: 3.397 | Acc: 23.853% (23853/100000)

Test Loss: 3.639 | Acc: 22.090% (2209/10000)

Epoch: 79

Train Loss: 3.384 | Acc: 24.150% (24150/100000)

Test Loss: 3.522 | Acc: 22.340% (2234/10000)

Epoch: 80

Train Loss: 3.375 | Acc: 24.178% (24178/100000)

Test Loss: 3.496 | Acc: 22.780% (2278/10000)

Epoch: 81

Train Loss: 3.375 | Acc: 24.290% (24290/100000)

Test Loss: 3.654 | Acc: 21.240% (2124/10000)

Epoch: 82

Train Loss: 3.358 | Acc: 24.387% (24387/100000)

Test Loss: 3.447 | Acc: 23.620% (2362/10000)

Epoch: 83

Train Loss: 3.342 | Acc: 24.657% (24657/100000)

Test Loss: 3.496 | Acc: 23.810% (2381/10000)

Epoch: 84

Train Loss: 3.334 | Acc: 24.977% (24977/100000)

Test Loss: 3.557 | Acc: 22.150% (2215/10000)

Epoch: 85

Train Loss: 3.322 | Acc: 25.313% (25313/100000)

Test Loss: 3.536 | Acc: 23.210% (2321/10000)

Epoch: 86

Train Loss: 3.306 | Acc: 25.322% (25322/100000)

Test Loss: 3.758 | Acc: 21.290% (2129/10000)

Epoch: 87

Train Loss: 3.301 | Acc: 25.599% (25599/100000)

Test Loss: 3.658 | Acc: 22.120% (2212/10000)

Epoch: 88

Train Loss: 3.289 | Acc: 25.714% (25714/100000)

Test Loss: 3.564 | Acc: 22.070% (2207/10000)

Epoch: 89

Train Loss: 3.276 | Acc: 25.895% (25895/100000)

Test Loss: 3.419 | Acc: 24.240% (2424/10000)

Epoch: 90

Train Loss: 3.266 | Acc: 26.251% (26251/100000)

Test Loss: 3.540 | Acc: 23.390% (2339/10000)

Epoch: 91

Train Loss: 3.249 | Acc: 26.531% (26531/100000)

Test Loss: 3.593 | Acc: 22.930% (2293/10000)

Epoch: 92

Train Loss: 3.245 | Acc: 26.447% (26447/100000)

Test Loss: 3.417 | Acc: 24.710% (2471/10000)

Epoch: 93

Train Loss: 3.232 | Acc: 26.882% (26882/100000)

Test Loss: 3.358 | Acc: 25.740% (2574/10000)

Epoch: 94

Train Loss: 3.211 | Acc: 27.370% (27370/100000)

Test Loss: 3.643 | Acc: 23.320% (2332/10000)

Epoch: 95

Train Loss: 3.206 | Acc: 27.430% (27430/100000)

Test Loss: 3.431 | Acc: 24.100% (2410/10000)

Epoch: 96

Train Loss: 3.186 | Acc: 27.793% (27793/100000)

Test Loss: 3.267 | Acc: 27.130% (2713/10000)

Epoch: 97

Train Loss: 3.180 | Acc: 27.705% (27705/100000)

Test Loss: 3.329 | Acc: 25.710% (2571/10000)

Epoch: 98

Train Loss: 3.167 | Acc: 27.992% (27992/100000)

Test Loss: 3.320 | Acc: 26.810% (2681/10000)

Epoch: 99

Train Loss: 3.148 | Acc: 28.271% (28271/100000)

Test Loss: 3.298 | Acc: 27.660% (2766/10000)

Epoch: 100

Train Loss: 3.135 | Acc: 28.582% (28582/100000)

Test Loss: 3.298 | Acc: 28.200% (2820/10000)

Epoch: 101

Train Loss: 3.124 | Acc: 28.754% (28754/100000)

Test Loss: 3.281 | Acc: 26.370% (2637/10000)

Epoch: 102

Train Loss: 3.108 | Acc: 29.132% (29132/100000)

Test Loss: 3.446 | Acc: 25.080% (2508/10000)

Epoch: 103

Train Loss: 3.088 | Acc: 29.528% (29528/100000)

Test Loss: 3.589 | Acc: 23.210% (2321/10000)

Epoch: 104

Train Loss: 3.083 | Acc: 29.480% (29480/100000)

Test Loss: 3.157 | Acc: 29.180% (2918/10000)

Epoch: 105

Train Loss: 3.071 | Acc: 29.714% (29714/100000)

Test Loss: 3.404 | Acc: 25.900% (2590/10000)

Epoch: 106

Train Loss: 3.054 | Acc: 30.132% (30132/100000)

Test Loss: 3.284 | Acc: 27.240% (2724/10000)

Epoch: 107

Train Loss: 3.039 | Acc: 30.392% (30392/100000)

Test Loss: 3.061 | Acc: 30.870% (3087/10000)

Epoch: 108

Train Loss: 3.020 | Acc: 30.799% (30799/100000)

Test Loss: 3.222 | Acc: 28.680% (2868/10000)

Epoch: 109

Train Loss: 3.007 | Acc: 31.132% (31132/100000)

Test Loss: 3.265 | Acc: 28.270% (2827/10000)

Epoch: 110

Train Loss: 2.989 | Acc: 31.349% (31349/100000)

Test Loss: 3.258 | Acc: 28.800% (2880/10000)

Epoch: 111

Train Loss: 2.976 | Acc: 31.432% (31432/100000)

Test Loss: 3.019 | Acc: 31.310% (3131/10000)

Epoch: 112

Train Loss: 2.956 | Acc: 31.828% (31828/100000)

Test Loss: 3.031 | Acc: 31.480% (3148/10000)

Epoch: 113

Train Loss: 2.940 | Acc: 32.339% (32339/100000)

Test Loss: 3.076 | Acc: 31.000% (3100/10000)

Epoch: 114

Train Loss: 2.924 | Acc: 32.448% (32448/100000)

Test Loss: 2.975 | Acc: 31.410% (3141/10000)

Epoch: 115

Train Loss: 2.906 | Acc: 32.699% (32699/100000)

Test Loss: 3.219 | Acc: 28.820% (2882/10000)

Epoch: 116

Train Loss: 2.887 | Acc: 33.356% (33356/100000)

Test Loss: 3.027 | Acc: 31.240% (3124/10000)

Epoch: 117

Train Loss: 2.866 | Acc: 33.694% (33694/100000)

Test Loss: 2.996 | Acc: 32.320% (3232/10000)

Epoch: 118

Train Loss: 2.851 | Acc: 33.836% (33836/100000)

Test Loss: 2.985 | Acc: 33.320% (3332/10000)

Epoch: 119

Train Loss: 2.831 | Acc: 34.458% (34458/100000)

Test Loss: 2.958 | Acc: 33.530% (3353/10000)

Epoch: 120

Train Loss: 2.820 | Acc: 34.552% (34552/100000)

Test Loss: 2.976 | Acc: 33.800% (3380/10000)

Epoch: 121

Train Loss: 2.792 | Acc: 35.043% (35043/100000)

Test Loss: 2.959 | Acc: 32.800% (3280/10000)

Epoch: 122

Train Loss: 2.777 | Acc: 35.377% (35377/100000)

Test Loss: 3.026 | Acc: 32.090% (3209/10000)

Epoch: 123

Train Loss: 2.754 | Acc: 35.693% (35693/100000)

Test Loss: 2.894 | Acc: 34.420% (3442/10000)

Epoch: 124

Train Loss: 2.735 | Acc: 36.242% (36242/100000)

Test Loss: 2.972 | Acc: 33.220% (3322/10000)

Epoch: 125

Train Loss: 2.711 | Acc: 36.630% (36630/100000)

Test Loss: 2.819 | Acc: 35.550% (3555/10000)

Epoch: 126

Train Loss: 2.693 | Acc: 37.182% (37182/100000)

Test Loss: 2.868 | Acc: 35.680% (3568/10000)

Epoch: 127

Train Loss: 2.679 | Acc: 37.186% (37186/100000)

Test Loss: 2.975 | Acc: 33.420% (3342/10000)

Epoch: 128

Train Loss: 2.659 | Acc: 37.607% (37607/100000)

Test Loss: 2.824 | Acc: 36.090% (3609/10000)

Epoch: 129

Train Loss: 2.628 | Acc: 38.344% (38344/100000)

Test Loss: 2.725 | Acc: 37.910% (3791/10000)

Epoch: 130

Train Loss: 2.612 | Acc: 38.575% (38575/100000)

Test Loss: 2.743 | Acc: 36.950% (3695/10000)

Epoch: 131

Train Loss: 2.591 | Acc: 38.983% (38983/100000)

Test Loss: 2.689 | Acc: 38.400% (3840/10000)

Epoch: 132

Train Loss: 2.565 | Acc: 39.663% (39663/100000)

Test Loss: 2.726 | Acc: 37.840% (3784/10000)

Epoch: 133

Train Loss: 2.551 | Acc: 39.917% (39917/100000)

Test Loss: 2.722 | Acc: 38.290% (3829/10000)

Epoch: 134

Train Loss: 2.517 | Acc: 40.517% (40517/100000)

Test Loss: 2.765 | Acc: 37.490% (3749/10000)

Epoch: 135

Train Loss: 2.500 | Acc: 40.862% (40862/100000)

Test Loss: 2.709 | Acc: 38.840% (3884/10000)

Epoch: 136

Train Loss: 2.468 | Acc: 41.613% (41613/100000)

Test Loss: 2.752 | Acc: 38.930% (3893/10000)

Epoch: 137

Train Loss: 2.447 | Acc: 41.854% (41854/100000)

Test Loss: 2.654 | Acc: 39.470% (3947/10000)

Epoch: 138

Train Loss: 2.427 | Acc: 42.406% (42406/100000)

Test Loss: 2.705 | Acc: 38.340% (3834/10000)

Epoch: 139

Train Loss: 2.400 | Acc: 42.857% (42857/100000)

Test Loss: 2.658 | Acc: 39.540% (3954/10000)

Epoch: 140

Train Loss: 2.370 | Acc: 43.545% (43545/100000)

Test Loss: 2.638 | Acc: 40.000% (4000/10000)

Epoch: 141

Train Loss: 2.352 | Acc: 43.755% (43755/100000)

Test Loss: 2.497 | Acc: 42.500% (4250/10000)

Epoch: 142

Train Loss: 2.317 | Acc: 44.521% (44521/100000)

Test Loss: 2.672 | Acc: 39.730% (3973/10000)

Epoch: 143

Train Loss: 2.291 | Acc: 44.977% (44977/100000)

Test Loss: 2.523 | Acc: 42.630% (4263/10000)

Epoch: 144

Train Loss: 2.259 | Acc: 45.539% (45539/100000)

Test Loss: 2.524 | Acc: 42.470% (4247/10000)

Epoch: 145

Train Loss: 2.236 | Acc: 46.023% (46023/100000)

Test Loss: 2.462 | Acc: 43.370% (4337/10000)

Epoch: 146

Train Loss: 2.203 | Acc: 46.819% (46819/100000)

Test Loss: 2.470 | Acc: 43.360% (4336/10000)

Epoch: 147

Train Loss: 2.172 | Acc: 47.538% (47538/100000)

Test Loss: 2.470 | Acc: 43.770% (4377/10000)

Epoch: 148

Train Loss: 2.146 | Acc: 47.983% (47983/100000)

Test Loss: 2.544 | Acc: 41.700% (4170/10000)

Epoch: 149

Train Loss: 2.111 | Acc: 48.760% (48760/100000)

Test Loss: 2.357 | Acc: 45.140% (4514/10000)

Epoch: 150

Train Loss: 2.081 | Acc: 49.270% (49270/100000)

Test Loss: 2.469 | Acc: 44.070% (4407/10000)

Epoch: 151

Train Loss: 2.044 | Acc: 49.968% (49968/100000)

Test Loss: 2.485 | Acc: 43.210% (4321/10000)

Epoch: 152

Train Loss: 2.013 | Acc: 50.567% (50567/100000)

Test Loss: 2.404 | Acc: 44.620% (4462/10000)

Epoch: 153

Train Loss: 1.982 | Acc: 51.314% (51314/100000)

Test Loss: 2.357 | Acc: 46.430% (4643/10000)

Epoch: 154

Train Loss: 1.943 | Acc: 52.080% (52080/100000)

Test Loss: 2.372 | Acc: 46.570% (4657/10000)

Epoch: 155

Train Loss: 1.911 | Acc: 52.838% (52838/100000)

Test Loss: 2.327 | Acc: 46.790% (4679/10000)

Epoch: 156

Train Loss: 1.875 | Acc: 53.541% (53541/100000)

Test Loss: 2.436 | Acc: 45.460% (4546/10000)

Epoch: 157

Train Loss: 1.838 | Acc: 54.241% (54241/100000)

Test Loss: 2.253 | Acc: 48.920% (4892/10000)

Epoch: 158

Train Loss: 1.801 | Acc: 54.999% (54999/100000)

Test Loss: 2.281 | Acc: 47.880% (4788/10000)

Epoch: 159

Train Loss: 1.758 | Acc: 55.830% (55830/100000)

Test Loss: 2.201 | Acc: 49.330% (4933/10000)

Epoch: 160

Train Loss: 1.715 | Acc: 56.919% (56919/100000)

Test Loss: 2.230 | Acc: 48.990% (4899/10000)

Epoch: 161

Train Loss: 1.674 | Acc: 57.693% (57693/100000)

Test Loss: 2.368 | Acc: 47.090% (4709/10000)

Epoch: 162

Train Loss: 1.629 | Acc: 58.619% (58619/100000)

Test Loss: 2.183 | Acc: 50.050% (5005/10000)

Epoch: 163

Train Loss: 1.585 | Acc: 59.459% (59459/100000)

Test Loss: 2.180 | Acc: 50.390% (5039/10000)

Epoch: 164

Train Loss: 1.541 | Acc: 60.704% (60704/100000)

Test Loss: 2.147 | Acc: 51.050% (5105/10000)

Epoch: 165

Train Loss: 1.489 | Acc: 61.844% (61844/100000)

Test Loss: 2.118 | Acc: 51.770% (5177/10000)

Epoch: 166

Train Loss: 1.442 | Acc: 62.719% (62719/100000)

Test Loss: 2.115 | Acc: 52.170% (5217/10000)

Epoch: 167

Train Loss: 1.394 | Acc: 63.699% (63699/100000)

Test Loss: 2.127 | Acc: 52.110% (5211/10000)

Epoch: 168

Train Loss: 1.334 | Acc: 65.015% (65015/100000)

Test Loss: 2.094 | Acc: 53.200% (5320/10000)

Epoch: 169

Train Loss: 1.283 | Acc: 66.215% (66215/100000)

Test Loss: 2.190 | Acc: 51.960% (5196/10000)

Epoch: 170

Train Loss: 1.230 | Acc: 67.519% (67519/100000)

Test Loss: 2.127 | Acc: 53.200% (5320/10000)

Epoch: 171

Train Loss: 1.176 | Acc: 68.560% (68560/100000)

Test Loss: 2.157 | Acc: 53.050% (5305/10000)

Epoch: 172

Train Loss: 1.114 | Acc: 70.225% (70225/100000)

Test Loss: 2.172 | Acc: 52.670% (5267/10000)

Epoch: 173

Train Loss: 1.049 | Acc: 71.492% (71492/100000)

Test Loss: 2.173 | Acc: 53.260% (5326/10000)

Epoch: 174

Train Loss: 0.989 | Acc: 72.976% (72976/100000)

Test Loss: 2.131 | Acc: 54.680% (5468/10000)

Epoch: 175

Train Loss: 0.923 | Acc: 74.455% (74455/100000)

Test Loss: 2.141 | Acc: 55.120% (5512/10000)

Epoch: 176

Train Loss: 0.855 | Acc: 76.123% (76123/100000)

Test Loss: 2.173 | Acc: 54.930% (5493/10000)

Epoch: 177

Train Loss: 0.787 | Acc: 77.841% (77841/100000)

Test Loss: 2.182 | Acc: 54.810% (5481/10000)

Epoch: 178

Train Loss: 0.722 | Acc: 79.424% (79424/100000)

Test Loss: 2.162 | Acc: 56.150% (5615/10000)

Epoch: 179

Train Loss: 0.655 | Acc: 81.160% (81160/100000)

Test Loss: 2.242 | Acc: 55.300% (5530/10000)

Epoch: 180

Train Loss: 0.580 | Acc: 83.225% (83225/100000)

Test Loss: 2.221 | Acc: 56.530% (5653/10000)

Epoch: 181

Train Loss: 0.504 | Acc: 85.320% (85320/100000)

Test Loss: 2.269 | Acc: 56.070% (5607/10000)

Epoch: 182

Train Loss: 0.436 | Acc: 87.152% (87152/100000)

Test Loss: 2.308 | Acc: 56.820% (5682/10000)

Epoch: 183

Train Loss: 0.374 | Acc: 88.903% (88903/100000)

Test Loss: 2.319 | Acc: 57.500% (5750/10000)

Epoch: 184

Train Loss: 0.311 | Acc: 90.658% (90658/100000)

Test Loss: 2.357 | Acc: 57.400% (5740/10000)

Epoch: 185

Train Loss: 0.260 | Acc: 92.193% (92193/100000)

Test Loss: 2.401 | Acc: 57.350% (5735/10000)

Epoch: 186

Train Loss: 0.217 | Acc: 93.492% (93492/100000)

Test Loss: 2.412 | Acc: 58.040% (5804/10000)

Epoch: 187

Train Loss: 0.170 | Acc: 94.878% (94878/100000)

Test Loss: 2.471 | Acc: 58.080% (5808/10000)

Epoch: 188

Train Loss: 0.138 | Acc: 95.888% (95888/100000)

Test Loss: 2.468 | Acc: 58.470% (5847/10000)

Epoch: 189

Train Loss: 0.115 | Acc: 96.613% (96613/100000)

Test Loss: 2.463 | Acc: 58.750% (5875/10000)

Epoch: 190

Train Loss: 0.091 | Acc: 97.300% (97300/100000)

Test Loss: 2.474 | Acc: 58.850% (5885/10000)

Epoch: 191

Train Loss: 0.075 | Acc: 97.810% (97810/100000)

Test Loss: 2.478 | Acc: 58.970% (5897/10000)

Epoch: 192

Train Loss: 0.066 | Acc: 98.132% (98132/100000)

Test Loss: 2.470 | Acc: 59.270% (5927/10000)

Epoch: 193

Train Loss: 0.057 | Acc: 98.412% (98412/100000)

Test Loss: 2.485 | Acc: 59.480% (5948/10000)

Epoch: 194

Train Loss: 0.050 | Acc: 98.654% (98654/100000)

Test Loss: 2.475 | Acc: 59.450% (5945/10000)

Epoch: 195

Train Loss: 0.047 | Acc: 98.732% (98732/100000)

Test Loss: 2.479 | Acc: 59.790% (5979/10000)

Epoch: 196

Train Loss: 0.043 | Acc: 98.829% (98829/100000)

Test Loss: 2.487 | Acc: 59.910% (5991/10000)

Epoch: 197

Train Loss: 0.040 | Acc: 98.936% (98936/100000)

Test Loss: 2.491 | Acc: 59.310% (5931/10000)

Epoch: 198

Train Loss: 0.039 | Acc: 98.951% (98951/100000)

Test Loss: 2.485 | Acc: 59.760% (5976/10000)

Epoch: 199

Train Loss: 0.038 | Acc: 99.023% (99023/100000)

Test Loss: 2.482 | Acc: 59.590% (5959/10000)

Trained weights saved to: vgg19\_dis\_tiny.pth

Best\_acc: 59.91%

Resnet50\_tiny:

Epoch: 0

Train Loss: 4.865 | Acc: 4.696% (4696/100000)

Test Loss: 4.429 | Acc: 7.840% (784/10000)

Epoch: 1

Train Loss: 4.098 | Acc: 11.753% (11753/100000)

Test Loss: 4.688 | Acc: 8.940% (894/10000)

Epoch: 2

Train Loss: 3.869 | Acc: 15.193% (15193/100000)

Test Loss: 3.906 | Acc: 15.620% (1562/10000)

Epoch: 3

Train Loss: 3.757 | Acc: 16.823% (16823/100000)

Test Loss: 4.262 | Acc: 13.600% (1360/10000)

Epoch: 4

Train Loss: 3.695 | Acc: 17.841% (17841/100000)

Test Loss: 3.910 | Acc: 15.960% (1596/10000)

Epoch: 5

Train Loss: 3.646 | Acc: 18.710% (18710/100000)

Test Loss: 3.951 | Acc: 15.840% (1584/10000)

Epoch: 6

Train Loss: 3.608 | Acc: 19.352% (19352/100000)

Test Loss: 3.785 | Acc: 17.040% (1704/10000)

Epoch: 7

Train Loss: 3.574 | Acc: 20.104% (20104/100000)

Test Loss: 3.969 | Acc: 17.180% (1718/10000)

Epoch: 8

Train Loss: 3.540 | Acc: 20.513% (20513/100000)

Test Loss: 4.451 | Acc: 12.280% (1228/10000)

Epoch: 9

Train Loss: 3.519 | Acc: 20.988% (20988/100000)

Test Loss: 4.283 | Acc: 14.920% (1492/10000)

Epoch: 10

Train Loss: 3.505 | Acc: 20.990% (20990/100000)

Test Loss: 4.031 | Acc: 16.460% (1646/10000)

Epoch: 11

Train Loss: 3.482 | Acc: 21.363% (21363/100000)

Test Loss: 3.984 | Acc: 16.870% (1687/10000)

Epoch: 12

Train Loss: 3.481 | Acc: 21.515% (21515/100000)

Test Loss: 3.723 | Acc: 19.980% (1998/10000)

Epoch: 13

Train Loss: 3.467 | Acc: 21.855% (21855/100000)

Test Loss: 3.730 | Acc: 17.880% (1788/10000)

Epoch: 14

Train Loss: 3.455 | Acc: 21.950% (21950/100000)

Test Loss: 3.494 | Acc: 21.670% (2167/10000)

Epoch: 15

Train Loss: 3.446 | Acc: 22.208% (22208/100000)

Test Loss: 3.787 | Acc: 18.360% (1836/10000)

Epoch: 16

Train Loss: 3.439 | Acc: 22.157% (22157/100000)

Test Loss: 3.887 | Acc: 17.530% (1753/10000)

Epoch: 17

Train Loss: 3.425 | Acc: 22.581% (22581/100000)

Test Loss: 3.712 | Acc: 19.410% (1941/10000)

Epoch: 18

Train Loss: 3.405 | Acc: 22.763% (22763/100000)

Test Loss: 3.895 | Acc: 18.940% (1894/10000)

Epoch: 19

Train Loss: 3.393 | Acc: 22.793% (22793/100000)

Test Loss: 3.845 | Acc: 19.470% (1947/10000)

Epoch: 20

Train Loss: 3.385 | Acc: 23.195% (23195/100000)

Test Loss: 3.586 | Acc: 21.520% (2152/10000)

Epoch: 21

Train Loss: 3.373 | Acc: 23.330% (23330/100000)

Test Loss: 3.700 | Acc: 19.670% (1967/10000)

Epoch: 22

Train Loss: 3.364 | Acc: 23.366% (23366/100000)

Test Loss: 3.623 | Acc: 20.140% (2014/10000)

Epoch: 23

Train Loss: 3.363 | Acc: 23.450% (23450/100000)

Test Loss: 4.040 | Acc: 16.600% (1660/10000)

Epoch: 24

Train Loss: 3.355 | Acc: 23.675% (23675/100000)

Test Loss: 3.510 | Acc: 21.400% (2140/10000)

Epoch: 25

Train Loss: 3.346 | Acc: 23.944% (23944/100000)

Test Loss: 3.636 | Acc: 20.510% (2051/10000)

Epoch: 26

Train Loss: 3.335 | Acc: 24.048% (24048/100000)

Test Loss: 3.763 | Acc: 19.320% (1932/10000)

Epoch: 27

Train Loss: 3.332 | Acc: 24.099% (24099/100000)

Test Loss: 4.088 | Acc: 16.860% (1686/10000)

Epoch: 28

Train Loss: 3.325 | Acc: 24.329% (24329/100000)

Test Loss: 3.726 | Acc: 19.130% (1913/10000)

Epoch: 29

Train Loss: 3.325 | Acc: 24.344% (24344/100000)

Test Loss: 3.504 | Acc: 23.040% (2304/10000)

Epoch: 30

Train Loss: 3.321 | Acc: 24.447% (24447/100000)

Test Loss: 3.810 | Acc: 19.420% (1942/10000)

Epoch: 31

Train Loss: 3.315 | Acc: 24.346% (24346/100000)

Test Loss: 3.645 | Acc: 21.400% (2140/10000)

Epoch: 32

Train Loss: 3.305 | Acc: 24.506% (24506/100000)

Test Loss: 3.695 | Acc: 20.200% (2020/10000)

Epoch: 33

Train Loss: 3.307 | Acc: 24.650% (24650/100000)

Test Loss: 3.485 | Acc: 22.590% (2259/10000)

Epoch: 34

Train Loss: 3.299 | Acc: 24.776% (24776/100000)

Test Loss: 3.653 | Acc: 21.540% (2154/10000)

Epoch: 35

Train Loss: 3.290 | Acc: 24.874% (24874/100000)

Test Loss: 3.590 | Acc: 21.020% (2102/10000)

Epoch: 36

Train Loss: 3.287 | Acc: 24.847% (24847/100000)

Test Loss: 3.740 | Acc: 20.440% (2044/10000)

Epoch: 37

Train Loss: 3.282 | Acc: 25.028% (25028/100000)

Test Loss: 3.452 | Acc: 22.930% (2293/10000)

Epoch: 38

Train Loss: 3.277 | Acc: 25.211% (25211/100000)

Test Loss: 3.666 | Acc: 20.570% (2057/10000)

Epoch: 39

Train Loss: 3.270 | Acc: 25.209% (25209/100000)

Test Loss: 3.525 | Acc: 22.950% (2295/10000)

Epoch: 40

Train Loss: 3.265 | Acc: 25.282% (25282/100000)

Test Loss: 3.373 | Acc: 24.110% (2411/10000)

Epoch: 41

Train Loss: 3.259 | Acc: 25.268% (25268/100000)

Test Loss: 3.618 | Acc: 21.500% (2150/10000)

Epoch: 42

Train Loss: 3.256 | Acc: 25.345% (25345/100000)

Test Loss: 3.717 | Acc: 21.060% (2106/10000)

Epoch: 43

Train Loss: 3.248 | Acc: 25.546% (25546/100000)

Test Loss: 3.463 | Acc: 22.960% (2296/10000)

Epoch: 44

Train Loss: 3.247 | Acc: 25.699% (25699/100000)

Test Loss: 3.508 | Acc: 23.040% (2304/10000)

Epoch: 45

Train Loss: 3.241 | Acc: 25.783% (25783/100000)

Test Loss: 3.837 | Acc: 19.570% (1957/10000)

Epoch: 46

Train Loss: 3.237 | Acc: 25.706% (25706/100000)

Test Loss: 3.855 | Acc: 20.890% (2089/10000)

Epoch: 47

Train Loss: 3.231 | Acc: 25.868% (25868/100000)

Test Loss: 3.403 | Acc: 23.070% (2307/10000)

Epoch: 48

Train Loss: 3.227 | Acc: 26.154% (26154/100000)

Test Loss: 3.411 | Acc: 23.340% (2334/10000)

Epoch: 49

Train Loss: 3.223 | Acc: 26.133% (26133/100000)

Test Loss: 3.580 | Acc: 21.940% (2194/10000)

Epoch: 50

Train Loss: 3.215 | Acc: 26.206% (26206/100000)

Test Loss: 3.735 | Acc: 20.270% (2027/10000)

Epoch: 51

Train Loss: 3.207 | Acc: 26.652% (26652/100000)

Test Loss: 3.655 | Acc: 21.420% (2142/10000)

Epoch: 52

Train Loss: 3.203 | Acc: 26.325% (26325/100000)

Test Loss: 3.750 | Acc: 20.020% (2002/10000)

Epoch: 53

Train Loss: 3.199 | Acc: 26.418% (26418/100000)

Test Loss: 3.452 | Acc: 22.990% (2299/10000)

Epoch: 54

Train Loss: 3.192 | Acc: 26.551% (26551/100000)

Test Loss: 3.771 | Acc: 21.300% (2130/10000)

Epoch: 55

Train Loss: 3.182 | Acc: 26.753% (26753/100000)

Test Loss: 3.286 | Acc: 25.100% (2510/10000)

Epoch: 56

Train Loss: 3.174 | Acc: 26.774% (26774/100000)

Test Loss: 3.574 | Acc: 23.750% (2375/10000)

Epoch: 57

Train Loss: 3.170 | Acc: 27.046% (27046/100000)

Test Loss: 3.675 | Acc: 20.510% (2051/10000)

Epoch: 58

Train Loss: 3.158 | Acc: 27.086% (27086/100000)

Test Loss: 3.338 | Acc: 24.610% (2461/10000)

Epoch: 59

Train Loss: 3.160 | Acc: 27.091% (27091/100000)

Test Loss: 3.576 | Acc: 23.310% (2331/10000)

Epoch: 60

Train Loss: 3.145 | Acc: 27.547% (27547/100000)

Test Loss: 3.388 | Acc: 24.310% (2431/10000)

Epoch: 61

Train Loss: 3.141 | Acc: 27.470% (27470/100000)

Test Loss: 3.248 | Acc: 26.490% (2649/10000)

Epoch: 62

Train Loss: 3.138 | Acc: 27.418% (27418/100000)

Test Loss: 3.296 | Acc: 25.530% (2553/10000)

Epoch: 63

Train Loss: 3.127 | Acc: 27.800% (27800/100000)

Test Loss: 3.573 | Acc: 23.010% (2301/10000)

Epoch: 64

Train Loss: 3.119 | Acc: 27.890% (27890/100000)

Test Loss: 3.414 | Acc: 23.540% (2354/10000)

Epoch: 65

Train Loss: 3.112 | Acc: 27.980% (27980/100000)

Test Loss: 3.701 | Acc: 21.700% (2170/10000)

Epoch: 66

Train Loss: 3.109 | Acc: 28.048% (28048/100000)

Test Loss: 3.524 | Acc: 23.040% (2304/10000)

Epoch: 67

Train Loss: 3.102 | Acc: 28.109% (28109/100000)

Test Loss: 3.272 | Acc: 26.870% (2687/10000)

Epoch: 68

Train Loss: 3.090 | Acc: 28.463% (28463/100000)

Test Loss: 3.436 | Acc: 24.440% (2444/10000)

Epoch: 69

Train Loss: 3.078 | Acc: 28.587% (28587/100000)

Test Loss: 3.357 | Acc: 25.480% (2548/10000)

Epoch: 70

Train Loss: 3.075 | Acc: 28.624% (28624/100000)

Test Loss: 3.183 | Acc: 27.640% (2764/10000)

Epoch: 71

Train Loss: 3.067 | Acc: 28.894% (28894/100000)

Test Loss: 3.432 | Acc: 23.770% (2377/10000)

Epoch: 72

Train Loss: 3.059 | Acc: 28.925% (28925/100000)

Test Loss: 3.257 | Acc: 28.190% (2819/10000)

Epoch: 73

Train Loss: 3.049 | Acc: 29.136% (29136/100000)

Test Loss: 3.266 | Acc: 25.750% (2575/10000)

Epoch: 74

Train Loss: 3.044 | Acc: 29.097% (29097/100000)

Test Loss: 3.338 | Acc: 25.400% (2540/10000)

Epoch: 75

Train Loss: 3.031 | Acc: 29.596% (29596/100000)

Test Loss: 3.173 | Acc: 28.630% (2863/10000)

Epoch: 76

Train Loss: 3.024 | Acc: 29.599% (29599/100000)

Test Loss: 3.180 | Acc: 28.240% (2824/10000)

Epoch: 77

Train Loss: 3.019 | Acc: 29.567% (29567/100000)

Test Loss: 3.066 | Acc: 29.260% (2926/10000)

Epoch: 78

Train Loss: 3.002 | Acc: 30.004% (30004/100000)

Test Loss: 3.439 | Acc: 24.130% (2413/10000)

Epoch: 79

Train Loss: 3.002 | Acc: 30.162% (30162/100000)

Test Loss: 2.997 | Acc: 30.190% (3019/10000)

Epoch: 80

Train Loss: 2.988 | Acc: 30.046% (30046/100000)

Test Loss: 3.305 | Acc: 25.830% (2583/10000)

Epoch: 81

Train Loss: 2.979 | Acc: 30.807% (30807/100000)

Test Loss: 3.151 | Acc: 28.880% (2888/10000)

Epoch: 82

Train Loss: 2.972 | Acc: 30.511% (30511/100000)

Test Loss: 3.187 | Acc: 27.950% (2795/10000)

Epoch: 83

Train Loss: 2.962 | Acc: 30.715% (30715/100000)

Test Loss: 3.430 | Acc: 25.200% (2520/10000)

Epoch: 84

Train Loss: 2.951 | Acc: 31.013% (31013/100000)

Test Loss: 3.480 | Acc: 24.060% (2406/10000)

Epoch: 85

Train Loss: 2.941 | Acc: 31.239% (31239/100000)

Test Loss: 3.232 | Acc: 27.730% (2773/10000)

Epoch: 86

Train Loss: 2.934 | Acc: 31.379% (31379/100000)

Test Loss: 3.161 | Acc: 28.410% (2841/10000)

Epoch: 87

Train Loss: 2.928 | Acc: 31.537% (31537/100000)

Test Loss: 3.120 | Acc: 29.370% (2937/10000)

Epoch: 88

Train Loss: 2.911 | Acc: 31.766% (31766/100000)

Test Loss: 3.104 | Acc: 28.530% (2853/10000)

Epoch: 89

Train Loss: 2.903 | Acc: 31.923% (31923/100000)

Test Loss: 2.973 | Acc: 31.660% (3166/10000)

Epoch: 90

Train Loss: 2.891 | Acc: 32.069% (32069/100000)

Test Loss: 2.990 | Acc: 31.500% (3150/10000)

Epoch: 91

Train Loss: 2.880 | Acc: 32.408% (32408/100000)

Test Loss: 3.313 | Acc: 26.430% (2643/10000)

Epoch: 92

Train Loss: 2.873 | Acc: 32.442% (32442/100000)

Test Loss: 3.180 | Acc: 28.790% (2879/10000)

Epoch: 93

Train Loss: 2.866 | Acc: 32.580% (32580/100000)

Test Loss: 3.081 | Acc: 29.550% (2955/10000)

Epoch: 94

Train Loss: 2.853 | Acc: 32.740% (32740/100000)

Test Loss: 3.038 | Acc: 30.720% (3072/10000)

Epoch: 95

Train Loss: 2.840 | Acc: 33.036% (33036/100000)

Test Loss: 3.287 | Acc: 28.370% (2837/10000)

Epoch: 96

Train Loss: 2.823 | Acc: 33.530% (33530/100000)

Test Loss: 3.245 | Acc: 28.530% (2853/10000)

Epoch: 97

Train Loss: 2.818 | Acc: 33.725% (33725/100000)

Test Loss: 2.972 | Acc: 30.740% (3074/10000)

Epoch: 98

Train Loss: 2.808 | Acc: 33.769% (33769/100000)

Test Loss: 3.163 | Acc: 29.240% (2924/10000)

Epoch: 99

Train Loss: 2.799 | Acc: 34.021% (34021/100000)

Test Loss: 2.859 | Acc: 33.420% (3342/10000)

Epoch: 100

Train Loss: 2.789 | Acc: 34.220% (34220/100000)

Test Loss: 3.007 | Acc: 30.950% (3095/10000)

Epoch: 101

Train Loss: 2.772 | Acc: 34.349% (34349/100000)

Test Loss: 2.949 | Acc: 31.930% (3193/10000)

Epoch: 102

Train Loss: 2.760 | Acc: 34.703% (34703/100000)

Test Loss: 2.933 | Acc: 32.520% (3252/10000)

Epoch: 103

Train Loss: 2.748 | Acc: 34.868% (34868/100000)

Test Loss: 2.865 | Acc: 33.480% (3348/10000)

Epoch: 104

Train Loss: 2.732 | Acc: 35.275% (35275/100000)

Test Loss: 2.884 | Acc: 33.620% (3362/10000)

Epoch: 105

Train Loss: 2.721 | Acc: 35.450% (35450/100000)

Test Loss: 2.797 | Acc: 34.400% (3440/10000)

Epoch: 106

Train Loss: 2.708 | Acc: 35.775% (35775/100000)

Test Loss: 2.836 | Acc: 33.700% (3370/10000)

Epoch: 107

Train Loss: 2.700 | Acc: 35.660% (35660/100000)

Test Loss: 2.968 | Acc: 33.090% (3309/10000)

Epoch: 108

Train Loss: 2.680 | Acc: 36.352% (36352/100000)

Test Loss: 2.889 | Acc: 33.070% (3307/10000)

Epoch: 109

Train Loss: 2.668 | Acc: 36.574% (36574/100000)

Test Loss: 2.862 | Acc: 33.140% (3314/10000)

Epoch: 110

Train Loss: 2.656 | Acc: 36.563% (36563/100000)

Test Loss: 2.837 | Acc: 34.210% (3421/10000)

Epoch: 111

Train Loss: 2.645 | Acc: 36.925% (36925/100000)

Test Loss: 2.648 | Acc: 37.440% (3744/10000)

Epoch: 112

Train Loss: 2.629 | Acc: 37.328% (37328/100000)

Test Loss: 2.944 | Acc: 33.110% (3311/10000)

Epoch: 113

Train Loss: 2.614 | Acc: 37.377% (37377/100000)

Test Loss: 2.728 | Acc: 36.200% (3620/10000)

Epoch: 114

Train Loss: 2.603 | Acc: 37.733% (37733/100000)

Test Loss: 2.795 | Acc: 35.370% (3537/10000)

Epoch: 115

Train Loss: 2.591 | Acc: 37.895% (37895/100000)

Test Loss: 2.893 | Acc: 33.600% (3360/10000)

Epoch: 116

Train Loss: 2.570 | Acc: 38.410% (38410/100000)

Test Loss: 2.638 | Acc: 37.150% (3715/10000)

Epoch: 117

Train Loss: 2.556 | Acc: 38.647% (38647/100000)

Test Loss: 2.853 | Acc: 35.020% (3502/10000)

Epoch: 118

Train Loss: 2.546 | Acc: 38.854% (38854/100000)

Test Loss: 2.806 | Acc: 36.130% (3613/10000)

Epoch: 119

Train Loss: 2.528 | Acc: 39.117% (39117/100000)

Test Loss: 2.746 | Acc: 35.800% (3580/10000)

Epoch: 120

Train Loss: 2.508 | Acc: 39.510% (39510/100000)

Test Loss: 2.783 | Acc: 35.780% (3578/10000)

Epoch: 121

Train Loss: 2.498 | Acc: 39.879% (39879/100000)

Test Loss: 2.638 | Acc: 37.830% (3783/10000)

Epoch: 122

Train Loss: 2.475 | Acc: 40.388% (40388/100000)

Test Loss: 2.687 | Acc: 37.180% (3718/10000)

Epoch: 123

Train Loss: 2.463 | Acc: 40.540% (40540/100000)

Test Loss: 2.780 | Acc: 35.730% (3573/10000)

Epoch: 124

Train Loss: 2.449 | Acc: 40.766% (40766/100000)

Test Loss: 2.617 | Acc: 38.850% (3885/10000)

Epoch: 125

Train Loss: 2.429 | Acc: 41.350% (41350/100000)

Test Loss: 2.645 | Acc: 38.920% (3892/10000)

Epoch: 126

Train Loss: 2.415 | Acc: 41.617% (41617/100000)

Test Loss: 2.483 | Acc: 40.840% (4084/10000)

Epoch: 127

Train Loss: 2.403 | Acc: 41.849% (41849/100000)

Test Loss: 2.738 | Acc: 36.710% (3671/10000)

Epoch: 128

Train Loss: 2.382 | Acc: 42.304% (42304/100000)

Test Loss: 2.526 | Acc: 40.430% (4043/10000)

Epoch: 129

Train Loss: 2.367 | Acc: 42.305% (42305/100000)

Test Loss: 2.504 | Acc: 40.910% (4091/10000)

Epoch: 130

Train Loss: 2.340 | Acc: 43.138% (43138/100000)

Test Loss: 2.580 | Acc: 39.770% (3977/10000)

Epoch: 131

Train Loss: 2.329 | Acc: 43.311% (43311/100000)

Test Loss: 2.540 | Acc: 40.770% (4077/10000)

Epoch: 132

Train Loss: 2.314 | Acc: 43.684% (43684/100000)

Test Loss: 2.674 | Acc: 37.120% (3712/10000)

Epoch: 133

Train Loss: 2.295 | Acc: 44.072% (44072/100000)

Test Loss: 2.362 | Acc: 43.490% (4349/10000)

Epoch: 134

Train Loss: 2.274 | Acc: 44.585% (44585/100000)

Test Loss: 2.498 | Acc: 40.990% (4099/10000)

Epoch: 135

Train Loss: 2.255 | Acc: 44.797% (44797/100000)

Test Loss: 2.378 | Acc: 43.370% (4337/10000)

Epoch: 136

Train Loss: 2.238 | Acc: 45.333% (45333/100000)

Test Loss: 2.510 | Acc: 41.210% (4121/10000)

Epoch: 137

Train Loss: 2.213 | Acc: 45.833% (45833/100000)

Test Loss: 2.476 | Acc: 41.590% (4159/10000)

Epoch: 138

Train Loss: 2.198 | Acc: 45.876% (45876/100000)

Test Loss: 2.443 | Acc: 42.000% (4200/10000)

Epoch: 139

Train Loss: 2.182 | Acc: 46.521% (46521/100000)

Test Loss: 2.472 | Acc: 41.930% (4193/10000)

Epoch: 140

Train Loss: 2.158 | Acc: 46.995% (46995/100000)

Test Loss: 2.299 | Acc: 44.910% (4491/10000)

Epoch: 141

Train Loss: 2.138 | Acc: 47.296% (47296/100000)

Test Loss: 2.273 | Acc: 45.500% (4550/10000)

Epoch: 142

Train Loss: 2.118 | Acc: 47.673% (47673/100000)

Test Loss: 2.328 | Acc: 43.690% (4369/10000)

Epoch: 143

Train Loss: 2.099 | Acc: 48.121% (48121/100000)

Test Loss: 2.265 | Acc: 45.620% (4562/10000)

Epoch: 144

Train Loss: 2.073 | Acc: 48.667% (48667/100000)

Test Loss: 2.240 | Acc: 46.120% (4612/10000)

Epoch: 145

Train Loss: 2.047 | Acc: 49.260% (49260/100000)

Test Loss: 2.209 | Acc: 47.160% (4716/10000)

Epoch: 146

Train Loss: 2.027 | Acc: 49.712% (49712/100000)

Test Loss: 2.186 | Acc: 47.370% (4737/10000)

Epoch: 147

Train Loss: 2.004 | Acc: 50.137% (50137/100000)

Test Loss: 2.196 | Acc: 47.480% (4748/10000)

Epoch: 148

Train Loss: 1.982 | Acc: 50.512% (50512/100000)

Test Loss: 2.198 | Acc: 46.630% (4663/10000)

Epoch: 149

Train Loss: 1.960 | Acc: 51.156% (51156/100000)

Test Loss: 2.088 | Acc: 48.870% (4887/10000)

Epoch: 150

Train Loss: 1.936 | Acc: 51.525% (51525/100000)

Test Loss: 2.274 | Acc: 45.740% (4574/10000)

Epoch: 151

Train Loss: 1.914 | Acc: 52.282% (52282/100000)

Test Loss: 2.130 | Acc: 49.120% (4912/10000)

Epoch: 152

Train Loss: 1.890 | Acc: 52.738% (52738/100000)

Test Loss: 2.107 | Acc: 49.140% (4914/10000)

Epoch: 153

Train Loss: 1.865 | Acc: 53.184% (53184/100000)

Test Loss: 2.109 | Acc: 48.740% (4874/10000)

Epoch: 154

Train Loss: 1.837 | Acc: 53.719% (53719/100000)

Test Loss: 2.045 | Acc: 50.560% (5056/10000)

Epoch: 155

Train Loss: 1.813 | Acc: 54.212% (54212/100000)

Test Loss: 2.021 | Acc: 50.640% (5064/10000)

Epoch: 156

Train Loss: 1.786 | Acc: 54.797% (54797/100000)

Test Loss: 2.005 | Acc: 50.790% (5079/10000)

Epoch: 157

Train Loss: 1.761 | Acc: 55.487% (55487/100000)

Test Loss: 1.974 | Acc: 51.780% (5178/10000)

Epoch: 158

Train Loss: 1.727 | Acc: 56.334% (56334/100000)

Test Loss: 1.958 | Acc: 52.630% (5263/10000)

Epoch: 159

Train Loss: 1.703 | Acc: 56.795% (56795/100000)

Test Loss: 1.976 | Acc: 52.120% (5212/10000)

Epoch: 160

Train Loss: 1.672 | Acc: 57.343% (57343/100000)

Test Loss: 1.955 | Acc: 52.790% (5279/10000)

Epoch: 161

Train Loss: 1.646 | Acc: 58.061% (58061/100000)

Test Loss: 1.941 | Acc: 52.990% (5299/10000)

Epoch: 162

Train Loss: 1.616 | Acc: 58.702% (58702/100000)

Test Loss: 1.942 | Acc: 53.160% (5316/10000)

Epoch: 163

Train Loss: 1.586 | Acc: 59.373% (59373/100000)

Test Loss: 1.926 | Acc: 53.260% (5326/10000)

Epoch: 164

Train Loss: 1.548 | Acc: 60.242% (60242/100000)

Test Loss: 1.943 | Acc: 53.480% (5348/10000)

Epoch: 165

Train Loss: 1.515 | Acc: 60.938% (60938/100000)

Test Loss: 1.960 | Acc: 53.520% (5352/10000)

Epoch: 166

Train Loss: 1.487 | Acc: 61.551% (61551/100000)

Test Loss: 1.874 | Acc: 54.950% (5495/10000)

Epoch: 167

Train Loss: 1.448 | Acc: 62.463% (62463/100000)

Test Loss: 1.870 | Acc: 55.060% (5506/10000)

Epoch: 168

Train Loss: 1.416 | Acc: 62.965% (62965/100000)

Test Loss: 1.868 | Acc: 55.200% (5520/10000)

Epoch: 169

Train Loss: 1.375 | Acc: 64.165% (64165/100000)

Test Loss: 1.824 | Acc: 56.250% (5625/10000)

Epoch: 170

Train Loss: 1.335 | Acc: 64.989% (64989/100000)

Test Loss: 1.774 | Acc: 56.990% (5699/10000)

Epoch: 171

Train Loss: 1.300 | Acc: 65.796% (65796/100000)

Test Loss: 1.810 | Acc: 56.560% (5656/10000)

Epoch: 172

Train Loss: 1.263 | Acc: 66.705% (66705/100000)

Test Loss: 1.795 | Acc: 56.690% (5669/10000)

Epoch: 173

Train Loss: 1.218 | Acc: 67.609% (67609/100000)

Test Loss: 1.711 | Acc: 58.650% (5865/10000)

Epoch: 174

Train Loss: 1.175 | Acc: 68.958% (68958/100000)

Test Loss: 1.791 | Acc: 57.680% (5768/10000)

Epoch: 175

Train Loss: 1.129 | Acc: 69.851% (69851/100000)

Test Loss: 1.703 | Acc: 59.570% (5957/10000)

Epoch: 176

Train Loss: 1.078 | Acc: 71.112% (71112/100000)

Test Loss: 1.725 | Acc: 59.150% (5915/10000)

Epoch: 177

Train Loss: 1.040 | Acc: 72.030% (72030/100000)

Test Loss: 1.685 | Acc: 59.790% (5979/10000)

Epoch: 178

Train Loss: 0.984 | Acc: 73.440% (73440/100000)

Test Loss: 1.685 | Acc: 60.170% (6017/10000)

Epoch: 179

Train Loss: 0.934 | Acc: 74.767% (74767/100000)

Test Loss: 1.684 | Acc: 60.690% (6069/10000)

Epoch: 180

Train Loss: 0.883 | Acc: 75.821% (75821/100000)

Test Loss: 1.709 | Acc: 60.360% (6036/10000)

Epoch: 181

Train Loss: 0.829 | Acc: 77.153% (77153/100000)

Test Loss: 1.708 | Acc: 60.500% (6050/10000)

Epoch: 182

Train Loss: 0.781 | Acc: 78.578% (78578/100000)

Test Loss: 1.687 | Acc: 60.770% (6077/10000)

Epoch: 183

Train Loss: 0.719 | Acc: 80.019% (80019/100000)

Test Loss: 1.689 | Acc: 61.040% (6104/10000)

Epoch: 184

Train Loss: 0.662 | Acc: 81.718% (81718/100000)

Test Loss: 1.702 | Acc: 61.440% (6144/10000)

Epoch: 185

Train Loss: 0.605 | Acc: 83.245% (83245/100000)

Test Loss: 1.702 | Acc: 62.090% (6209/10000)

Epoch: 186

Train Loss: 0.549 | Acc: 84.795% (84795/100000)

Test Loss: 1.690 | Acc: 62.260% (6226/10000)

Epoch: 187

Train Loss: 0.494 | Acc: 86.287% (86287/100000)

Test Loss: 1.691 | Acc: 62.610% (6261/10000)

Epoch: 188

Train Loss: 0.436 | Acc: 88.150% (88150/100000)

Test Loss: 1.687 | Acc: 63.000% (6300/10000)

Epoch: 189

Train Loss: 0.387 | Acc: 89.393% (89393/100000)

Test Loss: 1.680 | Acc: 63.340% (6334/10000)

Epoch: 190

Train Loss: 0.339 | Acc: 90.863% (90863/100000)

Test Loss: 1.697 | Acc: 63.170% (6317/10000)

Epoch: 191

Train Loss: 0.298 | Acc: 92.154% (92154/100000)

Test Loss: 1.690 | Acc: 63.430% (6343/10000)

Epoch: 192

Train Loss: 0.265 | Acc: 93.117% (93117/100000)

Test Loss: 1.705 | Acc: 63.420% (6342/10000)

Epoch: 193

Train Loss: 0.236 | Acc: 93.992% (93992/100000)

Test Loss: 1.702 | Acc: 63.940% (6394/10000)

Epoch: 194

Train Loss: 0.211 | Acc: 94.853% (94853/100000)

Test Loss: 1.718 | Acc: 63.770% (6377/10000)

Epoch: 195

Train Loss: 0.193 | Acc: 95.398% (95398/100000)

Test Loss: 1.706 | Acc: 63.960% (6396/10000)

Epoch: 196

Train Loss: 0.180 | Acc: 95.783% (95783/100000)

Test Loss: 1.710 | Acc: 64.160% (6416/10000)

Epoch: 197

Train Loss: 0.171 | Acc: 95.994% (95994/100000)

Test Loss: 1.708 | Acc: 64.130% (6413/10000)

Epoch: 198

Train Loss: 0.163 | Acc: 96.358% (96358/100000)

Test Loss: 1.717 | Acc: 64.170% (6417/10000)

Epoch: 199

Train Loss: 0.162 | Acc: 96.366% (96366/100000)

Test Loss: 1.710 | Acc: 63.970% (6397/10000)

Best\_acc: 64.17%

Resnet101\_tiny:

Epoch: 0

Train Loss: 5.092 | Acc: 2.742% (2742/100000)

Test Loss: 4.608 | Acc: 6.190% (619/10000)

Epoch: 1

Train Loss: 4.316 | Acc: 9.225% (9225/100000)

Test Loss: 4.430 | Acc: 9.030% (903/10000)

Epoch: 2

Train Loss: 3.978 | Acc: 13.530% (13530/100000)

Test Loss: 4.855 | Acc: 8.320% (832/10000)

Epoch: 3

Train Loss: 3.827 | Acc: 15.701% (15701/100000)

Test Loss: 4.036 | Acc: 14.750% (1475/10000)

Epoch: 4

Train Loss: 3.743 | Acc: 17.057% (17057/100000)

Test Loss: 4.105 | Acc: 14.920% (1492/10000)

Epoch: 5

Train Loss: 3.682 | Acc: 18.047% (18047/100000)

Test Loss: 3.717 | Acc: 17.080% (1708/10000)

Epoch: 6

Train Loss: 3.641 | Acc: 18.765% (18765/100000)

Test Loss: 3.879 | Acc: 16.400% (1640/10000)

Epoch: 7

Train Loss: 3.604 | Acc: 19.483% (19483/100000)

Test Loss: 4.169 | Acc: 14.380% (1438/10000)

Epoch: 8

Train Loss: 3.567 | Acc: 20.000% (20000/100000)

Test Loss: 3.943 | Acc: 16.890% (1689/10000)

Epoch: 9

Train Loss: 3.546 | Acc: 20.419% (20419/100000)

Test Loss: 3.948 | Acc: 16.160% (1616/10000)

Epoch: 10

Train Loss: 3.523 | Acc: 20.770% (20770/100000)

Test Loss: 3.655 | Acc: 19.690% (1969/10000)

Epoch: 11

Train Loss: 3.500 | Acc: 21.009% (21009/100000)

Test Loss: 4.012 | Acc: 15.260% (1526/10000)

Epoch: 12

Train Loss: 3.483 | Acc: 21.498% (21498/100000)

Test Loss: 3.643 | Acc: 20.130% (2013/10000)

Epoch: 13

Train Loss: 3.471 | Acc: 21.733% (21733/100000)

Test Loss: 3.996 | Acc: 16.480% (1648/10000)

Epoch: 14

Train Loss: 3.466 | Acc: 21.862% (21862/100000)

Test Loss: 3.551 | Acc: 21.780% (2178/10000)

Epoch: 15

Train Loss: 3.443 | Acc: 22.263% (22263/100000)

Test Loss: 3.877 | Acc: 18.020% (1802/10000)

Epoch: 16

Train Loss: 3.440 | Acc: 22.178% (22178/100000)

Test Loss: 3.675 | Acc: 20.060% (2006/10000)

Epoch: 17

Train Loss: 3.423 | Acc: 22.526% (22526/100000)

Test Loss: 3.622 | Acc: 20.710% (2071/10000)

Epoch: 18

Train Loss: 3.426 | Acc: 22.579% (22579/100000)

Test Loss: 3.602 | Acc: 20.720% (2072/10000)

Epoch: 19

Train Loss: 3.413 | Acc: 22.806% (22806/100000)

Test Loss: 3.526 | Acc: 21.660% (2166/10000)

Epoch: 20

Train Loss: 3.400 | Acc: 23.023% (23023/100000)

Test Loss: 3.587 | Acc: 21.420% (2142/10000)

Epoch: 21

Train Loss: 3.400 | Acc: 22.864% (22864/100000)

Test Loss: 3.736 | Acc: 19.080% (1908/10000)

Epoch: 22

Train Loss: 3.388 | Acc: 23.085% (23085/100000)

Test Loss: 3.798 | Acc: 19.700% (1970/10000)

Epoch: 23

Train Loss: 3.364 | Acc: 23.633% (23633/100000)

Test Loss: 3.705 | Acc: 20.270% (2027/10000)

Epoch: 24

Train Loss: 3.354 | Acc: 23.710% (23710/100000)

Test Loss: 3.757 | Acc: 19.210% (1921/10000)

Epoch: 25

Train Loss: 3.343 | Acc: 23.956% (23956/100000)

Test Loss: 4.058 | Acc: 16.730% (1673/10000)

Epoch: 26

Train Loss: 3.342 | Acc: 23.992% (23992/100000)

Test Loss: 3.723 | Acc: 19.220% (1922/10000)

Epoch: 27

Train Loss: 3.329 | Acc: 24.362% (24362/100000)

Test Loss: 3.884 | Acc: 20.240% (2024/10000)

Epoch: 28

Train Loss: 3.319 | Acc: 24.331% (24331/100000)

Test Loss: 3.972 | Acc: 18.550% (1855/10000)

Epoch: 29

Train Loss: 3.314 | Acc: 24.534% (24534/100000)

Test Loss: 3.603 | Acc: 21.710% (2171/10000)

Epoch: 30

Train Loss: 3.308 | Acc: 24.533% (24533/100000)

Test Loss: 3.565 | Acc: 21.920% (2192/10000)

Epoch: 31

Train Loss: 3.301 | Acc: 24.590% (24590/100000)

Test Loss: 3.403 | Acc: 24.040% (2404/10000)

Epoch: 32

Train Loss: 3.294 | Acc: 24.786% (24786/100000)

Test Loss: 3.594 | Acc: 23.000% (2300/10000)

Epoch: 33

Train Loss: 3.292 | Acc: 24.861% (24861/100000)

Test Loss: 3.474 | Acc: 23.720% (2372/10000)

Epoch: 34

Train Loss: 3.278 | Acc: 24.965% (24965/100000)

Test Loss: 3.373 | Acc: 24.550% (2455/10000)

Epoch: 35

Train Loss: 3.282 | Acc: 25.019% (25019/100000)

Test Loss: 3.735 | Acc: 21.010% (2101/10000)

Epoch: 36

Train Loss: 3.277 | Acc: 25.102% (25102/100000)

Test Loss: 3.415 | Acc: 22.680% (2268/10000)

Epoch: 37

Train Loss: 3.272 | Acc: 25.073% (25073/100000)

Test Loss: 3.729 | Acc: 19.550% (1955/10000)

Epoch: 38

Train Loss: 3.259 | Acc: 25.417% (25417/100000)

Test Loss: 3.682 | Acc: 21.300% (2130/10000)

Epoch: 39

Train Loss: 3.248 | Acc: 25.578% (25578/100000)

Test Loss: 3.357 | Acc: 24.170% (2417/10000)

Epoch: 40

Train Loss: 3.246 | Acc: 25.597% (25597/100000)

Test Loss: 3.538 | Acc: 22.670% (2267/10000)

Epoch: 41

Train Loss: 3.237 | Acc: 25.990% (25990/100000)

Test Loss: 3.495 | Acc: 24.050% (2405/10000)

Epoch: 42

Train Loss: 3.237 | Acc: 25.808% (25808/100000)

Test Loss: 3.335 | Acc: 25.190% (2519/10000)

Epoch: 43

Train Loss: 3.225 | Acc: 26.002% (26002/100000)

Test Loss: 3.637 | Acc: 21.680% (2168/10000)

Epoch: 44

Train Loss: 3.220 | Acc: 26.050% (26050/100000)

Test Loss: 3.796 | Acc: 20.630% (2063/10000)

Epoch: 45

Train Loss: 3.209 | Acc: 26.384% (26384/100000)

Test Loss: 3.448 | Acc: 23.410% (2341/10000)

Epoch: 46

Train Loss: 3.208 | Acc: 26.217% (26217/100000)

Test Loss: 3.285 | Acc: 26.010% (2601/10000)

Epoch: 47

Train Loss: 3.202 | Acc: 26.336% (26336/100000)

Test Loss: 3.499 | Acc: 23.290% (2329/10000)

Epoch: 48

Train Loss: 3.202 | Acc: 26.440% (26440/100000)

Test Loss: 3.587 | Acc: 21.910% (2191/10000)

Epoch: 49

Train Loss: 3.184 | Acc: 26.725% (26725/100000)

Test Loss: 3.497 | Acc: 23.440% (2344/10000)

Epoch: 50

Train Loss: 3.186 | Acc: 26.736% (26736/100000)

Test Loss: 3.268 | Acc: 25.930% (2593/10000)

Epoch: 51

Train Loss: 3.175 | Acc: 26.831% (26831/100000)

Test Loss: 3.580 | Acc: 22.050% (2205/10000)

Epoch: 52

Train Loss: 3.168 | Acc: 26.842% (26842/100000)

Test Loss: 3.397 | Acc: 24.040% (2404/10000)

Epoch: 53

Train Loss: 3.175 | Acc: 27.030% (27030/100000)

Test Loss: 3.409 | Acc: 24.400% (2440/10000)

Epoch: 54

Train Loss: 3.167 | Acc: 27.066% (27066/100000)

Test Loss: 3.559 | Acc: 23.340% (2334/10000)

Epoch: 55

Train Loss: 3.151 | Acc: 27.286% (27286/100000)

Test Loss: 3.170 | Acc: 27.720% (2772/10000)

Epoch: 56

Train Loss: 3.148 | Acc: 27.450% (27450/100000)

Test Loss: 3.612 | Acc: 23.750% (2375/10000)

Epoch: 57

Train Loss: 3.137 | Acc: 27.573% (27573/100000)

Test Loss: 3.297 | Acc: 25.470% (2547/10000)

Epoch: 58

Train Loss: 3.132 | Acc: 27.708% (27708/100000)

Test Loss: 3.293 | Acc: 25.590% (2559/10000)

Epoch: 59

Train Loss: 3.117 | Acc: 27.870% (27870/100000)

Test Loss: 3.290 | Acc: 25.820% (2582/10000)

Epoch: 60

Train Loss: 3.111 | Acc: 27.964% (27964/100000)

Test Loss: 3.396 | Acc: 24.970% (2497/10000)

Epoch: 61

Train Loss: 3.111 | Acc: 28.050% (28050/100000)

Test Loss: 3.354 | Acc: 25.150% (2515/10000)

Epoch: 62

Train Loss: 3.099 | Acc: 28.223% (28223/100000)

Test Loss: 3.190 | Acc: 27.600% (2760/10000)

Epoch: 63

Train Loss: 3.096 | Acc: 28.325% (28325/100000)

Test Loss: 3.371 | Acc: 24.440% (2444/10000)

Epoch: 64

Train Loss: 3.092 | Acc: 28.397% (28397/100000)

Test Loss: 3.753 | Acc: 20.040% (2004/10000)

Epoch: 65

Train Loss: 3.079 | Acc: 28.857% (28857/100000)

Test Loss: 3.620 | Acc: 22.630% (2263/10000)

Epoch: 66

Train Loss: 3.072 | Acc: 28.790% (28790/100000)

Test Loss: 3.293 | Acc: 26.340% (2634/10000)

Epoch: 67

Train Loss: 3.069 | Acc: 28.692% (28692/100000)

Test Loss: 3.253 | Acc: 26.980% (2698/10000)

Epoch: 68

Train Loss: 3.055 | Acc: 29.066% (29066/100000)

Test Loss: 3.274 | Acc: 26.700% (2670/10000)

Epoch: 69

Train Loss: 3.047 | Acc: 29.229% (29229/100000)

Test Loss: 3.351 | Acc: 25.630% (2563/10000)

Epoch: 70

Train Loss: 3.045 | Acc: 29.452% (29452/100000)

Test Loss: 3.432 | Acc: 25.090% (2509/10000)

Epoch: 71

Train Loss: 3.034 | Acc: 29.503% (29503/100000)

Test Loss: 3.183 | Acc: 28.000% (2800/10000)

Epoch: 72

Train Loss: 3.025 | Acc: 29.771% (29771/100000)

Test Loss: 3.232 | Acc: 27.750% (2775/10000)

Epoch: 73

Train Loss: 3.021 | Acc: 29.678% (29678/100000)

Test Loss: 3.155 | Acc: 28.050% (2805/10000)

Epoch: 74

Train Loss: 3.012 | Acc: 29.994% (29994/100000)

Test Loss: 3.315 | Acc: 25.480% (2548/10000)

Epoch: 75

Train Loss: 3.002 | Acc: 30.030% (30030/100000)

Test Loss: 3.082 | Acc: 29.780% (2978/10000)

Epoch: 76

Train Loss: 2.988 | Acc: 30.363% (30363/100000)

Test Loss: 3.149 | Acc: 28.220% (2822/10000)

Epoch: 77

Train Loss: 2.987 | Acc: 30.309% (30309/100000)

Test Loss: 3.150 | Acc: 28.110% (2811/10000)

Epoch: 78

Train Loss: 2.974 | Acc: 30.544% (30544/100000)

Test Loss: 3.199 | Acc: 28.460% (2846/10000)

Epoch: 79

Train Loss: 2.962 | Acc: 30.845% (30845/100000)

Test Loss: 3.218 | Acc: 27.900% (2790/10000)

Epoch: 80

Train Loss: 2.954 | Acc: 30.918% (30918/100000)

Test Loss: 3.094 | Acc: 29.690% (2969/10000)

Epoch: 81

Train Loss: 2.948 | Acc: 31.127% (31127/100000)

Test Loss: 3.055 | Acc: 29.130% (2913/10000)

Epoch: 82

Train Loss: 2.938 | Acc: 31.271% (31271/100000)

Test Loss: 2.946 | Acc: 31.410% (3141/10000)

Epoch: 83

Train Loss: 2.925 | Acc: 31.593% (31593/100000)

Test Loss: 3.382 | Acc: 26.610% (2661/10000)

Epoch: 84

Train Loss: 2.918 | Acc: 31.753% (31753/100000)

Test Loss: 3.028 | Acc: 30.180% (3018/10000)

Epoch: 85

Train Loss: 2.905 | Acc: 31.885% (31885/100000)

Test Loss: 3.024 | Acc: 30.950% (3095/10000)

Epoch: 86

Train Loss: 2.897 | Acc: 32.029% (32029/100000)

Test Loss: 3.195 | Acc: 28.320% (2832/10000)

Epoch: 87

Train Loss: 2.889 | Acc: 32.086% (32086/100000)

Test Loss: 3.301 | Acc: 27.090% (2709/10000)

Epoch: 88

Train Loss: 2.876 | Acc: 32.371% (32371/100000)

Test Loss: 3.107 | Acc: 28.900% (2890/10000)

Epoch: 89

Train Loss: 2.865 | Acc: 32.609% (32609/100000)

Test Loss: 3.039 | Acc: 31.550% (3155/10000)

Epoch: 90

Train Loss: 2.852 | Acc: 32.772% (32772/100000)

Test Loss: 3.028 | Acc: 30.350% (3035/10000)

Epoch: 91

Train Loss: 2.846 | Acc: 32.878% (32878/100000)

Test Loss: 3.185 | Acc: 28.700% (2870/10000)

Epoch: 92

Train Loss: 2.830 | Acc: 33.081% (33081/100000)

Test Loss: 3.051 | Acc: 29.400% (2940/10000)

Epoch: 93

Train Loss: 2.825 | Acc: 33.358% (33358/100000)

Test Loss: 3.271 | Acc: 27.940% (2794/10000)

Epoch: 94

Train Loss: 2.814 | Acc: 33.645% (33645/100000)

Test Loss: 3.120 | Acc: 28.350% (2835/10000)

Epoch: 95

Train Loss: 2.805 | Acc: 34.063% (34063/100000)

Test Loss: 3.110 | Acc: 31.630% (3163/10000)

Epoch: 96

Train Loss: 2.793 | Acc: 33.959% (33959/100000)

Test Loss: 3.130 | Acc: 29.990% (2999/10000)

Epoch: 97

Train Loss: 2.779 | Acc: 34.328% (34328/100000)

Test Loss: 2.988 | Acc: 30.990% (3099/10000)

Epoch: 98

Train Loss: 2.772 | Acc: 34.396% (34396/100000)

Test Loss: 3.234 | Acc: 27.890% (2789/10000)

Epoch: 99

Train Loss: 2.756 | Acc: 34.646% (34646/100000)

Test Loss: 3.053 | Acc: 30.760% (3076/10000)

Epoch: 100

Train Loss: 2.749 | Acc: 34.866% (34866/100000)

Test Loss: 2.998 | Acc: 31.120% (3112/10000)

Epoch: 101

Train Loss: 2.729 | Acc: 35.173% (35173/100000)

Test Loss: 2.996 | Acc: 31.880% (3188/10000)

Epoch: 102

Train Loss: 2.722 | Acc: 35.362% (35362/100000)

Test Loss: 2.848 | Acc: 34.180% (3418/10000)

Epoch: 103

Train Loss: 2.712 | Acc: 35.567% (35567/100000)

Test Loss: 2.926 | Acc: 32.680% (3268/10000)

Epoch: 104

Train Loss: 2.698 | Acc: 35.650% (35650/100000)

Test Loss: 2.799 | Acc: 34.040% (3404/10000)

Epoch: 105

Train Loss: 2.680 | Acc: 36.238% (36238/100000)

Test Loss: 2.967 | Acc: 32.720% (3272/10000)

Epoch: 106

Train Loss: 2.670 | Acc: 36.448% (36448/100000)

Test Loss: 2.789 | Acc: 35.060% (3506/10000)

Epoch: 107

Train Loss: 2.657 | Acc: 36.732% (36732/100000)

Test Loss: 2.812 | Acc: 34.500% (3450/10000)

Epoch: 108

Train Loss: 2.649 | Acc: 36.905% (36905/100000)

Test Loss: 2.819 | Acc: 34.650% (3465/10000)

Epoch: 109

Train Loss: 2.630 | Acc: 37.142% (37142/100000)

Test Loss: 2.787 | Acc: 35.020% (3502/10000)

Epoch: 110

Train Loss: 2.619 | Acc: 37.518% (37518/100000)

Test Loss: 2.969 | Acc: 32.610% (3261/10000)

Epoch: 111

Train Loss: 2.603 | Acc: 37.677% (37677/100000)

Test Loss: 2.814 | Acc: 35.700% (3570/10000)

Epoch: 112

Train Loss: 2.595 | Acc: 37.979% (37979/100000)

Test Loss: 2.705 | Acc: 35.740% (3574/10000)

Epoch: 113

Train Loss: 2.582 | Acc: 38.190% (38190/100000)

Test Loss: 2.850 | Acc: 35.370% (3537/10000)

Epoch: 114

Train Loss: 2.565 | Acc: 38.612% (38612/100000)

Test Loss: 2.726 | Acc: 36.420% (3642/10000)

Epoch: 115

Train Loss: 2.551 | Acc: 38.749% (38749/100000)

Test Loss: 2.739 | Acc: 36.230% (3623/10000)

Epoch: 116

Train Loss: 2.535 | Acc: 38.967% (38967/100000)

Test Loss: 2.633 | Acc: 37.320% (3732/10000)

Epoch: 117

Train Loss: 2.522 | Acc: 39.502% (39502/100000)

Test Loss: 2.704 | Acc: 37.590% (3759/10000)

Epoch: 118

Train Loss: 2.507 | Acc: 39.480% (39480/100000)

Test Loss: 2.689 | Acc: 36.890% (3689/10000)

Epoch: 119

Train Loss: 2.489 | Acc: 40.117% (40117/100000)

Test Loss: 2.591 | Acc: 38.720% (3872/10000)

Epoch: 120

Train Loss: 2.475 | Acc: 40.331% (40331/100000)

Test Loss: 2.638 | Acc: 38.030% (3803/10000)

Epoch: 121

Train Loss: 2.459 | Acc: 40.718% (40718/100000)

Test Loss: 2.559 | Acc: 39.680% (3968/10000)

Epoch: 122

Train Loss: 2.444 | Acc: 40.982% (40982/100000)

Test Loss: 2.632 | Acc: 38.920% (3892/10000)

Epoch: 123

Train Loss: 2.426 | Acc: 41.333% (41333/100000)

Test Loss: 2.721 | Acc: 36.730% (3673/10000)

Epoch: 124

Train Loss: 2.415 | Acc: 41.458% (41458/100000)

Test Loss: 2.852 | Acc: 36.660% (3666/10000)

Epoch: 125

Train Loss: 2.394 | Acc: 41.883% (41883/100000)

Test Loss: 2.635 | Acc: 38.510% (3851/10000)

Epoch: 126

Train Loss: 2.378 | Acc: 42.269% (42269/100000)

Test Loss: 2.480 | Acc: 41.090% (4109/10000)

Epoch: 127

Train Loss: 2.363 | Acc: 42.634% (42634/100000)

Test Loss: 2.548 | Acc: 40.530% (4053/10000)

Epoch: 128

Train Loss: 2.349 | Acc: 42.797% (42797/100000)

Test Loss: 2.490 | Acc: 41.130% (4113/10000)

Epoch: 129

Train Loss: 2.323 | Acc: 43.386% (43386/100000)

Test Loss: 2.709 | Acc: 37.580% (3758/10000)

Epoch: 130

Train Loss: 2.313 | Acc: 43.635% (43635/100000)

Test Loss: 2.502 | Acc: 40.660% (4066/10000)

Epoch: 131

Train Loss: 2.292 | Acc: 44.043% (44043/100000)

Test Loss: 2.422 | Acc: 42.210% (4221/10000)

Epoch: 132

Train Loss: 2.276 | Acc: 44.537% (44537/100000)

Test Loss: 2.476 | Acc: 41.700% (4170/10000)

Epoch: 133

Train Loss: 2.259 | Acc: 44.691% (44691/100000)

Test Loss: 2.485 | Acc: 41.580% (4158/10000)

Epoch: 134

Train Loss: 2.238 | Acc: 45.162% (45162/100000)

Test Loss: 2.379 | Acc: 43.230% (4323/10000)

Epoch: 135

Train Loss: 2.216 | Acc: 45.796% (45796/100000)

Test Loss: 2.428 | Acc: 42.420% (4242/10000)

Epoch: 136

Train Loss: 2.203 | Acc: 46.020% (46020/100000)

Test Loss: 2.340 | Acc: 43.890% (4389/10000)

Epoch: 137

Train Loss: 2.181 | Acc: 46.491% (46491/100000)

Test Loss: 2.421 | Acc: 42.540% (4254/10000)

Epoch: 138

Train Loss: 2.161 | Acc: 46.710% (46710/100000)

Test Loss: 2.293 | Acc: 45.100% (4510/10000)

Epoch: 139

Train Loss: 2.141 | Acc: 47.240% (47240/100000)

Test Loss: 2.334 | Acc: 44.580% (4458/10000)

Epoch: 140

Train Loss: 2.118 | Acc: 47.742% (47742/100000)

Test Loss: 2.248 | Acc: 45.600% (4560/10000)

Epoch: 141

Train Loss: 2.099 | Acc: 48.131% (48131/100000)

Test Loss: 2.327 | Acc: 44.120% (4412/10000)

Epoch: 142

Train Loss: 2.080 | Acc: 48.610% (48610/100000)

Test Loss: 2.329 | Acc: 44.630% (4463/10000)

Epoch: 143

Train Loss: 2.056 | Acc: 49.033% (49033/100000)

Test Loss: 2.238 | Acc: 46.560% (4656/10000)

Epoch: 144

Train Loss: 2.036 | Acc: 49.486% (49486/100000)

Test Loss: 2.263 | Acc: 45.150% (4515/10000)

Epoch: 145

Train Loss: 2.011 | Acc: 49.876% (49876/100000)

Test Loss: 2.226 | Acc: 46.950% (4695/10000)

Epoch: 146

Train Loss: 1.994 | Acc: 50.468% (50468/100000)

Test Loss: 2.151 | Acc: 47.780% (4778/10000)

Epoch: 147

Train Loss: 1.965 | Acc: 50.926% (50926/100000)

Test Loss: 2.175 | Acc: 47.040% (4704/10000)

Epoch: 148

Train Loss: 1.940 | Acc: 51.487% (51487/100000)

Test Loss: 2.120 | Acc: 48.320% (4832/10000)

Epoch: 149

Train Loss: 1.916 | Acc: 51.940% (51940/100000)

Test Loss: 2.135 | Acc: 48.630% (4863/10000)

Epoch: 150

Train Loss: 1.899 | Acc: 52.311% (52311/100000)

Test Loss: 2.131 | Acc: 48.590% (4859/10000)

Epoch: 151

Train Loss: 1.870 | Acc: 53.043% (53043/100000)

Test Loss: 2.102 | Acc: 49.750% (4975/10000)

Epoch: 152

Train Loss: 1.847 | Acc: 53.598% (53598/100000)

Test Loss: 2.082 | Acc: 50.150% (5015/10000)

Epoch: 153

Train Loss: 1.825 | Acc: 54.135% (54135/100000)

Test Loss: 2.093 | Acc: 49.970% (4997/10000)

Epoch: 154

Train Loss: 1.798 | Acc: 54.563% (54563/100000)

Test Loss: 2.080 | Acc: 50.110% (5011/10000)

Epoch: 155

Train Loss: 1.769 | Acc: 55.175% (55175/100000)

Test Loss: 1.977 | Acc: 52.160% (5216/10000)

Epoch: 156

Train Loss: 1.741 | Acc: 55.857% (55857/100000)

Test Loss: 2.004 | Acc: 52.350% (5235/10000)

Epoch: 157

Train Loss: 1.717 | Acc: 56.401% (56401/100000)

Test Loss: 2.039 | Acc: 51.700% (5170/10000)

Epoch: 158

Train Loss: 1.690 | Acc: 57.061% (57061/100000)

Test Loss: 1.988 | Acc: 51.550% (5155/10000)

Epoch: 159

Train Loss: 1.653 | Acc: 57.987% (57987/100000)

Test Loss: 2.061 | Acc: 50.890% (5089/10000)

Epoch: 160

Train Loss: 1.630 | Acc: 58.302% (58302/100000)

Test Loss: 1.907 | Acc: 53.940% (5394/10000)

Epoch: 161

Train Loss: 1.602 | Acc: 58.954% (58954/100000)

Test Loss: 1.870 | Acc: 54.240% (5424/10000)

Epoch: 162

Train Loss: 1.566 | Acc: 59.502% (59502/100000)

Test Loss: 1.854 | Acc: 54.720% (5472/10000)

Epoch: 163

Train Loss: 1.536 | Acc: 60.343% (60343/100000)

Test Loss: 1.921 | Acc: 53.560% (5356/10000)

Epoch: 164

Train Loss: 1.506 | Acc: 61.206% (61206/100000)

Test Loss: 1.849 | Acc: 54.890% (5489/10000)

Epoch: 165

Train Loss: 1.472 | Acc: 61.774% (61774/100000)

Test Loss: 1.836 | Acc: 55.410% (5541/10000)

Epoch: 166

Train Loss: 1.439 | Acc: 62.507% (62507/100000)

Test Loss: 1.859 | Acc: 54.730% (5473/10000)

Epoch: 167

Train Loss: 1.401 | Acc: 63.530% (63530/100000)

Test Loss: 1.788 | Acc: 56.210% (5621/10000)

Epoch: 168

Train Loss: 1.367 | Acc: 64.260% (64260/100000)

Test Loss: 1.829 | Acc: 56.330% (5633/10000)

Epoch: 169

Train Loss: 1.328 | Acc: 65.076% (65076/100000)

Test Loss: 1.785 | Acc: 57.080% (5708/10000)

Epoch: 170

Train Loss: 1.292 | Acc: 66.100% (66100/100000)

Test Loss: 1.754 | Acc: 57.930% (5793/10000)

Epoch: 171

Train Loss: 1.252 | Acc: 66.782% (66782/100000)

Test Loss: 1.774 | Acc: 57.830% (5783/10000)

Epoch: 172

Train Loss: 1.215 | Acc: 67.857% (67857/100000)

Test Loss: 1.780 | Acc: 57.640% (5764/10000)

Epoch: 173

Train Loss: 1.163 | Acc: 68.937% (68937/100000)

Test Loss: 1.800 | Acc: 56.960% (5696/10000)

Epoch: 174

Train Loss: 1.126 | Acc: 69.793% (69793/100000)

Test Loss: 1.754 | Acc: 57.910% (5791/10000)

Epoch: 175

Train Loss: 1.080 | Acc: 70.996% (70996/100000)

Test Loss: 1.729 | Acc: 58.440% (5844/10000)

Epoch: 176

Train Loss: 1.032 | Acc: 72.100% (72100/100000)

Test Loss: 1.744 | Acc: 59.130% (5913/10000)

Epoch: 177

Train Loss: 0.985 | Acc: 73.277% (73277/100000)

Test Loss: 1.705 | Acc: 60.120% (6012/10000)

Epoch: 178

Train Loss: 0.937 | Acc: 74.438% (74438/100000)

Test Loss: 1.705 | Acc: 60.160% (6016/10000)

Epoch: 179

Train Loss: 0.885 | Acc: 75.789% (75789/100000)

Test Loss: 1.676 | Acc: 60.430% (6043/10000)

Epoch: 180

Train Loss: 0.828 | Acc: 77.215% (77215/100000)

Test Loss: 1.689 | Acc: 59.960% (5996/10000)

Epoch: 181

Train Loss: 0.771 | Acc: 78.700% (78700/100000)

Test Loss: 1.686 | Acc: 61.390% (6139/10000)

Epoch: 182

Train Loss: 0.712 | Acc: 80.274% (80274/100000)

Test Loss: 1.685 | Acc: 61.300% (6130/10000)

Epoch: 183

Train Loss: 0.659 | Acc: 81.737% (81737/100000)

Test Loss: 1.693 | Acc: 61.500% (6150/10000)

Epoch: 184

Train Loss: 0.604 | Acc: 83.134% (83134/100000)

Test Loss: 1.677 | Acc: 61.710% (6171/10000)

Epoch: 185

Train Loss: 0.541 | Acc: 84.992% (84992/100000)

Test Loss: 1.695 | Acc: 62.220% (6222/10000)

Epoch: 186

Train Loss: 0.482 | Acc: 86.653% (86653/100000)

Test Loss: 1.662 | Acc: 62.770% (6277/10000)

Epoch: 187

Train Loss: 0.427 | Acc: 88.067% (88067/100000)

Test Loss: 1.689 | Acc: 63.040% (6304/10000)

Epoch: 188

Train Loss: 0.374 | Acc: 89.783% (89783/100000)

Test Loss: 1.710 | Acc: 62.770% (6277/10000)

Epoch: 189

Train Loss: 0.328 | Acc: 91.152% (91152/100000)

Test Loss: 1.709 | Acc: 63.040% (6304/10000)

Epoch: 190

Train Loss: 0.285 | Acc: 92.324% (92324/100000)

Test Loss: 1.705 | Acc: 63.260% (6326/10000)

Epoch: 191

Train Loss: 0.247 | Acc: 93.566% (93566/100000)

Test Loss: 1.696 | Acc: 63.660% (6366/10000)

Epoch: 192

Train Loss: 0.214 | Acc: 94.615% (94615/100000)

Test Loss: 1.701 | Acc: 63.890% (6389/10000)

Epoch: 193

Train Loss: 0.187 | Acc: 95.455% (95455/100000)

Test Loss: 1.706 | Acc: 64.300% (6430/10000)

Epoch: 194

Train Loss: 0.168 | Acc: 96.012% (96012/100000)

Test Loss: 1.687 | Acc: 64.270% (6427/10000)

Epoch: 195

Train Loss: 0.150 | Acc: 96.615% (96615/100000)

Test Loss: 1.698 | Acc: 64.700% (6470/10000)

Epoch: 196

Train Loss: 0.139 | Acc: 96.959% (96959/100000)

Test Loss: 1.701 | Acc: 64.390% (6439/10000)

Epoch: 197

Train Loss: 0.130 | Acc: 97.188% (97188/100000)

Test Loss: 1.699 | Acc: 64.290% (6429/10000)

Epoch: 198

Train Loss: 0.128 | Acc: 97.263% (97263/100000)

Test Loss: 1.699 | Acc: 64.410% (6441/10000)

Epoch: 199

Train Loss: 0.125 | Acc: 97.315% (97315/100000)

Test Loss: 1.703 | Acc: 64.400% (6440/10000)

Best\_acc: 64.70%

Resnet152\_tiny:

Epoch: 0

Train Loss: 5.040 | Acc: 3.359% (3359/100000)

Test Loss: 4.716 | Acc: 5.770% (577/10000)

Epoch: 1

Train Loss: 4.394 | Acc: 8.402% (8402/100000)

Test Loss: 4.402 | Acc: 9.270% (927/10000)

Epoch: 2

Train Loss: 4.023 | Acc: 12.877% (12877/100000)

Test Loss: 4.300 | Acc: 11.000% (1100/10000)

Epoch: 3

Train Loss: 3.863 | Acc: 15.344% (15344/100000)

Test Loss: 4.250 | Acc: 12.100% (1210/10000)

Epoch: 4

Train Loss: 3.768 | Acc: 16.678% (16678/100000)

Test Loss: 4.066 | Acc: 14.340% (1434/10000)

Epoch: 5

Train Loss: 3.697 | Acc: 17.958% (17958/100000)

Test Loss: 4.191 | Acc: 13.930% (1393/10000)

Epoch: 6

Train Loss: 3.639 | Acc: 18.933% (18933/100000)

Test Loss: 3.890 | Acc: 16.640% (1664/10000)

Epoch: 7

Train Loss: 3.601 | Acc: 19.567% (19567/100000)

Test Loss: 3.951 | Acc: 16.290% (1629/10000)

Epoch: 8

Train Loss: 3.572 | Acc: 20.136% (20136/100000)

Test Loss: 3.771 | Acc: 18.400% (1840/10000)

Epoch: 9

Train Loss: 3.542 | Acc: 20.468% (20468/100000)

Test Loss: 3.836 | Acc: 18.560% (1856/10000)

Epoch: 10

Train Loss: 3.521 | Acc: 20.997% (20997/100000)

Test Loss: 4.065 | Acc: 15.160% (1516/10000)

Epoch: 11

Train Loss: 3.494 | Acc: 21.377% (21377/100000)

Test Loss: 3.771 | Acc: 18.520% (1852/10000)

Epoch: 12

Train Loss: 3.465 | Acc: 22.053% (22053/100000)

Test Loss: 3.669 | Acc: 20.120% (2012/10000)

Epoch: 13

Train Loss: 3.447 | Acc: 22.011% (22011/100000)

Test Loss: 3.515 | Acc: 21.010% (2101/10000)

Epoch: 14

Train Loss: 3.424 | Acc: 22.440% (22440/100000)

Test Loss: 3.703 | Acc: 19.640% (1964/10000)

Epoch: 15

Train Loss: 3.413 | Acc: 22.772% (22772/100000)

Test Loss: 3.472 | Acc: 22.790% (2279/10000)

Epoch: 16

Train Loss: 3.400 | Acc: 23.058% (23058/100000)

Test Loss: 3.610 | Acc: 19.660% (1966/10000)

Epoch: 17

Train Loss: 3.391 | Acc: 22.922% (22922/100000)

Test Loss: 3.600 | Acc: 21.030% (2103/10000)

Epoch: 18

Train Loss: 3.383 | Acc: 23.207% (23207/100000)

Test Loss: 3.651 | Acc: 21.060% (2106/10000)

Epoch: 19

Train Loss: 3.365 | Acc: 23.616% (23616/100000)

Test Loss: 3.689 | Acc: 19.700% (1970/10000)

Epoch: 20

Train Loss: 3.359 | Acc: 23.596% (23596/100000)

Test Loss: 3.547 | Acc: 20.920% (2092/10000)

Epoch: 21

Train Loss: 3.346 | Acc: 23.910% (23910/100000)

Test Loss: 3.571 | Acc: 21.560% (2156/10000)

Epoch: 22

Train Loss: 3.346 | Acc: 23.750% (23750/100000)

Test Loss: 3.652 | Acc: 20.530% (2053/10000)

Epoch: 23

Train Loss: 3.341 | Acc: 24.059% (24059/100000)

Test Loss: 3.566 | Acc: 21.280% (2128/10000)

Epoch: 24

Train Loss: 3.336 | Acc: 24.129% (24129/100000)

Test Loss: 3.698 | Acc: 20.120% (2012/10000)

Epoch: 25

Train Loss: 3.328 | Acc: 24.246% (24246/100000)

Test Loss: 4.092 | Acc: 17.130% (1713/10000)

Epoch: 26

Train Loss: 3.319 | Acc: 24.362% (24362/100000)

Test Loss: 4.354 | Acc: 14.470% (1447/10000)

Epoch: 27

Train Loss: 3.310 | Acc: 24.457% (24457/100000)

Test Loss: 3.531 | Acc: 22.510% (2251/10000)

Epoch: 28

Train Loss: 3.303 | Acc: 24.721% (24721/100000)

Test Loss: 3.432 | Acc: 23.200% (2320/10000)

Epoch: 29

Train Loss: 3.302 | Acc: 24.609% (24609/100000)

Test Loss: 4.067 | Acc: 17.520% (1752/10000)

Epoch: 30

Train Loss: 3.301 | Acc: 24.695% (24695/100000)

Test Loss: 4.002 | Acc: 17.880% (1788/10000)

Epoch: 31

Train Loss: 3.293 | Acc: 24.790% (24790/100000)

Test Loss: 3.649 | Acc: 21.010% (2101/10000)

Epoch: 32

Train Loss: 3.284 | Acc: 25.175% (25175/100000)

Test Loss: 3.451 | Acc: 23.510% (2351/10000)

Epoch: 33

Train Loss: 3.283 | Acc: 24.977% (24977/100000)

Test Loss: 3.578 | Acc: 21.850% (2185/10000)

Epoch: 34

Train Loss: 3.277 | Acc: 25.110% (25110/100000)

Test Loss: 3.621 | Acc: 20.980% (2098/10000)

Epoch: 35

Train Loss: 3.273 | Acc: 25.376% (25376/100000)

Test Loss: 3.939 | Acc: 18.270% (1827/10000)

Epoch: 36

Train Loss: 3.268 | Acc: 25.082% (25082/100000)

Test Loss: 3.812 | Acc: 19.610% (1961/10000)

Epoch: 37

Train Loss: 3.265 | Acc: 25.392% (25392/100000)

Test Loss: 3.632 | Acc: 21.780% (2178/10000)

Epoch: 38

Train Loss: 3.254 | Acc: 25.677% (25677/100000)

Test Loss: 4.204 | Acc: 16.670% (1667/10000)

Epoch: 39

Train Loss: 3.256 | Acc: 25.410% (25410/100000)

Test Loss: 3.878 | Acc: 19.100% (1910/10000)

Epoch: 40

Train Loss: 3.247 | Acc: 25.703% (25703/100000)

Test Loss: 3.583 | Acc: 22.300% (2230/10000)

Epoch: 41

Train Loss: 3.243 | Acc: 25.713% (25713/100000)

Test Loss: 3.666 | Acc: 20.450% (2045/10000)

Epoch: 42

Train Loss: 3.234 | Acc: 25.981% (25981/100000)

Test Loss: 3.405 | Acc: 23.250% (2325/10000)

Epoch: 43

Train Loss: 3.225 | Acc: 26.049% (26049/100000)

Test Loss: 3.469 | Acc: 22.710% (2271/10000)

Epoch: 44

Train Loss: 3.223 | Acc: 26.067% (26067/100000)

Test Loss: 3.537 | Acc: 22.560% (2256/10000)

Epoch: 45

Train Loss: 3.219 | Acc: 26.169% (26169/100000)

Test Loss: 3.497 | Acc: 22.980% (2298/10000)

Epoch: 46

Train Loss: 3.215 | Acc: 26.123% (26123/100000)

Test Loss: 3.509 | Acc: 23.250% (2325/10000)

Epoch: 47

Train Loss: 3.210 | Acc: 26.319% (26319/100000)

Test Loss: 3.570 | Acc: 22.080% (2208/10000)

Epoch: 48

Train Loss: 3.201 | Acc: 26.187% (26187/100000)

Test Loss: 3.300 | Acc: 25.710% (2571/10000)

Epoch: 49

Train Loss: 3.194 | Acc: 26.614% (26614/100000)

Test Loss: 3.634 | Acc: 21.550% (2155/10000)

Epoch: 50

Train Loss: 3.197 | Acc: 26.673% (26673/100000)

Test Loss: 3.743 | Acc: 20.950% (2095/10000)

Epoch: 51

Train Loss: 3.189 | Acc: 26.888% (26888/100000)

Test Loss: 3.339 | Acc: 25.530% (2553/10000)

Epoch: 52

Train Loss: 3.182 | Acc: 26.789% (26789/100000)

Test Loss: 3.466 | Acc: 23.710% (2371/10000)

Epoch: 53

Train Loss: 3.174 | Acc: 26.858% (26858/100000)

Test Loss: 3.404 | Acc: 24.390% (2439/10000)

Epoch: 54

Train Loss: 3.166 | Acc: 27.139% (27139/100000)

Test Loss: 3.481 | Acc: 22.770% (2277/10000)

Epoch: 55

Train Loss: 3.159 | Acc: 27.269% (27269/100000)

Test Loss: 3.976 | Acc: 18.840% (1884/10000)

Epoch: 56

Train Loss: 3.157 | Acc: 27.106% (27106/100000)

Test Loss: 3.375 | Acc: 24.740% (2474/10000)

Epoch: 57

Train Loss: 3.150 | Acc: 27.367% (27367/100000)

Test Loss: 3.644 | Acc: 21.360% (2136/10000)

Epoch: 58

Train Loss: 3.144 | Acc: 27.517% (27517/100000)

Test Loss: 3.588 | Acc: 22.340% (2234/10000)

Epoch: 59

Train Loss: 3.137 | Acc: 27.706% (27706/100000)

Test Loss: 3.588 | Acc: 23.550% (2355/10000)

Epoch: 60

Train Loss: 3.130 | Acc: 27.716% (27716/100000)

Test Loss: 3.428 | Acc: 24.240% (2424/10000)

Epoch: 61

Train Loss: 3.121 | Acc: 28.062% (28062/100000)

Test Loss: 3.321 | Acc: 26.380% (2638/10000)

Epoch: 62

Train Loss: 3.121 | Acc: 28.005% (28005/100000)

Test Loss: 3.262 | Acc: 26.650% (2665/10000)

Epoch: 63

Train Loss: 3.102 | Acc: 28.328% (28328/100000)

Test Loss: 3.368 | Acc: 24.100% (2410/10000)

Epoch: 64

Train Loss: 3.101 | Acc: 28.127% (28127/100000)

Test Loss: 3.152 | Acc: 27.740% (2774/10000)

Epoch: 65

Train Loss: 3.098 | Acc: 28.232% (28232/100000)

Test Loss: 3.530 | Acc: 22.780% (2278/10000)

Epoch: 66

Train Loss: 3.086 | Acc: 28.557% (28557/100000)

Test Loss: 3.498 | Acc: 22.990% (2299/10000)

Epoch: 67

Train Loss: 3.077 | Acc: 28.837% (28837/100000)

Test Loss: 3.227 | Acc: 27.700% (2770/10000)

Epoch: 68

Train Loss: 3.069 | Acc: 28.867% (28867/100000)

Test Loss: 3.531 | Acc: 23.580% (2358/10000)

Epoch: 69

Train Loss: 3.066 | Acc: 29.017% (29017/100000)

Test Loss: 3.085 | Acc: 29.290% (2929/10000)

Epoch: 70

Train Loss: 3.054 | Acc: 29.161% (29161/100000)

Test Loss: 3.411 | Acc: 24.600% (2460/10000)

Epoch: 71

Train Loss: 3.045 | Acc: 29.210% (29210/100000)

Test Loss: 3.441 | Acc: 23.410% (2341/10000)

Epoch: 72

Train Loss: 3.039 | Acc: 29.402% (29402/100000)

Test Loss: 3.272 | Acc: 25.650% (2565/10000)

Epoch: 73

Train Loss: 3.030 | Acc: 29.566% (29566/100000)

Test Loss: 3.330 | Acc: 26.730% (2673/10000)

Epoch: 74

Train Loss: 3.020 | Acc: 29.815% (29815/100000)

Test Loss: 3.316 | Acc: 27.510% (2751/10000)

Epoch: 75

Train Loss: 3.020 | Acc: 29.949% (29949/100000)

Test Loss: 3.311 | Acc: 26.320% (2632/10000)

Epoch: 76

Train Loss: 3.003 | Acc: 30.035% (30035/100000)

Test Loss: 3.196 | Acc: 27.200% (2720/10000)

Epoch: 77

Train Loss: 3.002 | Acc: 30.025% (30025/100000)

Test Loss: 3.325 | Acc: 26.070% (2607/10000)

Epoch: 78

Train Loss: 2.986 | Acc: 30.443% (30443/100000)

Test Loss: 3.268 | Acc: 28.220% (2822/10000)

Epoch: 79

Train Loss: 2.977 | Acc: 30.585% (30585/100000)

Test Loss: 3.489 | Acc: 24.670% (2467/10000)

Epoch: 80

Train Loss: 2.975 | Acc: 30.548% (30548/100000)

Test Loss: 3.357 | Acc: 26.460% (2646/10000)

Epoch: 81

Train Loss: 2.960 | Acc: 30.799% (30799/100000)

Test Loss: 3.448 | Acc: 24.240% (2424/10000)

Epoch: 82

Train Loss: 2.953 | Acc: 31.009% (31009/100000)

Test Loss: 3.322 | Acc: 25.970% (2597/10000)

Epoch: 83

Train Loss: 2.947 | Acc: 31.144% (31144/100000)

Test Loss: 3.075 | Acc: 28.810% (2881/10000)

Epoch: 84

Train Loss: 2.933 | Acc: 31.332% (31332/100000)

Test Loss: 3.370 | Acc: 26.980% (2698/10000)

Epoch: 85

Train Loss: 2.925 | Acc: 31.488% (31488/100000)

Test Loss: 3.026 | Acc: 30.140% (3014/10000)

Epoch: 86

Train Loss: 2.918 | Acc: 31.671% (31671/100000)

Test Loss: 3.171 | Acc: 29.040% (2904/10000)

Epoch: 87

Train Loss: 2.903 | Acc: 32.022% (32022/100000)

Test Loss: 3.523 | Acc: 24.220% (2422/10000)

Epoch: 88

Train Loss: 2.901 | Acc: 31.998% (31998/100000)

Test Loss: 2.941 | Acc: 31.880% (3188/10000)

Epoch: 89

Train Loss: 2.884 | Acc: 32.365% (32365/100000)

Test Loss: 3.247 | Acc: 28.050% (2805/10000)

Epoch: 90

Train Loss: 2.870 | Acc: 32.471% (32471/100000)

Test Loss: 3.057 | Acc: 31.700% (3170/10000)

Epoch: 91

Train Loss: 2.858 | Acc: 32.773% (32773/100000)

Test Loss: 3.041 | Acc: 30.930% (3093/10000)

Epoch: 92

Train Loss: 2.851 | Acc: 32.889% (32889/100000)

Test Loss: 3.210 | Acc: 28.180% (2818/10000)

Epoch: 93

Train Loss: 2.841 | Acc: 33.159% (33159/100000)

Test Loss: 3.115 | Acc: 30.830% (3083/10000)

Epoch: 94

Train Loss: 2.827 | Acc: 33.352% (33352/100000)

Test Loss: 3.109 | Acc: 29.890% (2989/10000)

Epoch: 95

Train Loss: 2.816 | Acc: 33.559% (33559/100000)

Test Loss: 3.121 | Acc: 29.420% (2942/10000)

Epoch: 96

Train Loss: 2.806 | Acc: 33.941% (33941/100000)

Test Loss: 3.017 | Acc: 31.050% (3105/10000)

Epoch: 97

Train Loss: 2.797 | Acc: 33.942% (33942/100000)

Test Loss: 3.076 | Acc: 30.180% (3018/10000)

Epoch: 98

Train Loss: 2.788 | Acc: 34.189% (34189/100000)

Test Loss: 3.056 | Acc: 30.660% (3066/10000)

Epoch: 99

Train Loss: 2.771 | Acc: 34.426% (34426/100000)

Test Loss: 3.104 | Acc: 30.500% (3050/10000)

Epoch: 100

Train Loss: 2.766 | Acc: 34.723% (34723/100000)

Test Loss: 2.860 | Acc: 34.040% (3404/10000)

Epoch: 101

Train Loss: 2.750 | Acc: 34.802% (34802/100000)

Test Loss: 2.960 | Acc: 32.330% (3233/10000)

Epoch: 102

Train Loss: 2.739 | Acc: 35.003% (35003/100000)

Test Loss: 2.885 | Acc: 32.080% (3208/10000)

Epoch: 103

Train Loss: 2.725 | Acc: 35.514% (35514/100000)

Test Loss: 2.896 | Acc: 33.270% (3327/10000)

Epoch: 104

Train Loss: 2.710 | Acc: 35.766% (35766/100000)

Test Loss: 2.964 | Acc: 31.500% (3150/10000)

Epoch: 105

Train Loss: 2.697 | Acc: 35.719% (35719/100000)

Test Loss: 2.876 | Acc: 33.410% (3341/10000)

Epoch: 106

Train Loss: 2.685 | Acc: 36.071% (36071/100000)

Test Loss: 3.231 | Acc: 29.260% (2926/10000)

Epoch: 107

Train Loss: 2.674 | Acc: 36.388% (36388/100000)

Test Loss: 2.777 | Acc: 35.170% (3517/10000)

Epoch: 108

Train Loss: 2.663 | Acc: 36.598% (36598/100000)

Test Loss: 2.828 | Acc: 34.180% (3418/10000)

Epoch: 109

Train Loss: 2.652 | Acc: 36.846% (36846/100000)

Test Loss: 2.908 | Acc: 34.970% (3497/10000)

Epoch: 110

Train Loss: 2.640 | Acc: 37.083% (37083/100000)

Test Loss: 2.813 | Acc: 34.030% (3403/10000)

Epoch: 111

Train Loss: 2.621 | Acc: 37.441% (37441/100000)

Test Loss: 2.814 | Acc: 34.540% (3454/10000)

Epoch: 112

Train Loss: 2.611 | Acc: 37.533% (37533/100000)

Test Loss: 2.667 | Acc: 36.560% (3656/10000)

Epoch: 113

Train Loss: 2.594 | Acc: 37.842% (37842/100000)

Test Loss: 2.808 | Acc: 35.870% (3587/10000)

Epoch: 114

Train Loss: 2.580 | Acc: 38.210% (38210/100000)

Test Loss: 2.815 | Acc: 35.540% (3554/10000)

Epoch: 115

Train Loss: 2.565 | Acc: 38.645% (38645/100000)

Test Loss: 2.701 | Acc: 36.330% (3633/10000)

Epoch: 116

Train Loss: 2.552 | Acc: 38.757% (38757/100000)

Test Loss: 2.703 | Acc: 36.840% (3684/10000)

Epoch: 117

Train Loss: 2.539 | Acc: 39.074% (39074/100000)

Test Loss: 2.546 | Acc: 39.140% (3914/10000)

Epoch: 118

Train Loss: 2.519 | Acc: 39.380% (39380/100000)

Test Loss: 2.729 | Acc: 36.690% (3669/10000)

Epoch: 119

Train Loss: 2.504 | Acc: 39.675% (39675/100000)

Test Loss: 2.591 | Acc: 38.960% (3896/10000)

Epoch: 120

Train Loss: 2.494 | Acc: 39.902% (39902/100000)

Test Loss: 2.677 | Acc: 37.740% (3774/10000)

Epoch: 121

Train Loss: 2.471 | Acc: 40.485% (40485/100000)

Test Loss: 2.723 | Acc: 36.670% (3667/10000)

Epoch: 122

Train Loss: 2.460 | Acc: 40.678% (40678/100000)

Test Loss: 2.657 | Acc: 38.770% (3877/10000)

Epoch: 123

Train Loss: 2.443 | Acc: 40.968% (40968/100000)

Test Loss: 2.532 | Acc: 39.890% (3989/10000)

Epoch: 124

Train Loss: 2.429 | Acc: 41.274% (41274/100000)

Test Loss: 2.607 | Acc: 38.550% (3855/10000)

Epoch: 125

Train Loss: 2.417 | Acc: 41.522% (41522/100000)

Test Loss: 2.669 | Acc: 38.150% (3815/10000)

Epoch: 126

Train Loss: 2.395 | Acc: 42.039% (42039/100000)

Test Loss: 2.722 | Acc: 37.950% (3795/10000)

Epoch: 127

Train Loss: 2.385 | Acc: 42.072% (42072/100000)

Test Loss: 2.825 | Acc: 35.750% (3575/10000)

Epoch: 128

Train Loss: 2.363 | Acc: 42.749% (42749/100000)

Test Loss: 2.615 | Acc: 38.310% (3831/10000)

Epoch: 129

Train Loss: 2.347 | Acc: 43.063% (43063/100000)

Test Loss: 2.548 | Acc: 40.910% (4091/10000)

Epoch: 130

Train Loss: 2.328 | Acc: 43.332% (43332/100000)

Test Loss: 2.445 | Acc: 41.090% (4109/10000)

Epoch: 131

Train Loss: 2.312 | Acc: 43.681% (43681/100000)

Test Loss: 2.497 | Acc: 40.560% (4056/10000)

Epoch: 132

Train Loss: 2.289 | Acc: 43.986% (43986/100000)

Test Loss: 2.372 | Acc: 42.920% (4292/10000)

Epoch: 133

Train Loss: 2.277 | Acc: 44.265% (44265/100000)

Test Loss: 2.565 | Acc: 39.690% (3969/10000)

Epoch: 134

Train Loss: 2.252 | Acc: 44.892% (44892/100000)

Test Loss: 2.442 | Acc: 42.030% (4203/10000)

Epoch: 135

Train Loss: 2.240 | Acc: 45.263% (45263/100000)

Test Loss: 2.475 | Acc: 41.610% (4161/10000)

Epoch: 136

Train Loss: 2.221 | Acc: 45.465% (45465/100000)

Test Loss: 2.375 | Acc: 43.470% (4347/10000)

Epoch: 137

Train Loss: 2.199 | Acc: 45.901% (45901/100000)

Test Loss: 2.424 | Acc: 42.870% (4287/10000)

Epoch: 138

Train Loss: 2.182 | Acc: 46.426% (46426/100000)

Test Loss: 2.373 | Acc: 43.210% (4321/10000)

Epoch: 139

Train Loss: 2.163 | Acc: 46.766% (46766/100000)

Test Loss: 2.386 | Acc: 42.500% (4250/10000)

Epoch: 140

Train Loss: 2.144 | Acc: 47.146% (47146/100000)

Test Loss: 2.326 | Acc: 44.530% (4453/10000)

Epoch: 141

Train Loss: 2.119 | Acc: 47.779% (47779/100000)

Test Loss: 2.241 | Acc: 45.800% (4580/10000)

Epoch: 142

Train Loss: 2.107 | Acc: 48.007% (48007/100000)

Test Loss: 2.238 | Acc: 46.530% (4653/10000)

Epoch: 143

Train Loss: 2.078 | Acc: 48.656% (48656/100000)

Test Loss: 2.326 | Acc: 44.620% (4462/10000)

Epoch: 144

Train Loss: 2.056 | Acc: 49.106% (49106/100000)

Test Loss: 2.256 | Acc: 45.860% (4586/10000)

Epoch: 145

Train Loss: 2.037 | Acc: 49.610% (49610/100000)

Test Loss: 2.190 | Acc: 47.440% (4744/10000)

Epoch: 146

Train Loss: 2.015 | Acc: 49.988% (49988/100000)

Test Loss: 2.261 | Acc: 45.960% (4596/10000)

Epoch: 147

Train Loss: 1.992 | Acc: 50.495% (50495/100000)

Test Loss: 2.532 | Acc: 42.230% (4223/10000)

Epoch: 148

Train Loss: 1.964 | Acc: 50.948% (50948/100000)

Test Loss: 2.219 | Acc: 47.170% (4717/10000)

Epoch: 149

Train Loss: 1.944 | Acc: 51.460% (51460/100000)

Test Loss: 2.142 | Acc: 48.070% (4807/10000)

Epoch: 150

Train Loss: 1.927 | Acc: 51.731% (51731/100000)

Test Loss: 2.150 | Acc: 48.400% (4840/10000)

Epoch: 151

Train Loss: 1.899 | Acc: 52.452% (52452/100000)

Test Loss: 2.118 | Acc: 49.220% (4922/10000)

Epoch: 152

Train Loss: 1.876 | Acc: 53.021% (53021/100000)

Test Loss: 2.121 | Acc: 49.100% (4910/10000)

Epoch: 153

Train Loss: 1.852 | Acc: 53.464% (53464/100000)

Test Loss: 2.089 | Acc: 49.170% (4917/10000)

Epoch: 154

Train Loss: 1.825 | Acc: 54.237% (54237/100000)

Test Loss: 2.098 | Acc: 49.770% (4977/10000)

Epoch: 155

Train Loss: 1.801 | Acc: 54.568% (54568/100000)

Test Loss: 2.024 | Acc: 50.850% (5085/10000)

Epoch: 156

Train Loss: 1.770 | Acc: 55.143% (55143/100000)

Test Loss: 2.045 | Acc: 50.740% (5074/10000)

Epoch: 157

Train Loss: 1.741 | Acc: 56.003% (56003/100000)

Test Loss: 1.988 | Acc: 51.600% (5160/10000)

Epoch: 158

Train Loss: 1.721 | Acc: 56.245% (56245/100000)

Test Loss: 1.984 | Acc: 51.900% (5190/10000)

Epoch: 159

Train Loss: 1.694 | Acc: 56.827% (56827/100000)

Test Loss: 1.968 | Acc: 52.210% (5221/10000)

Epoch: 160

Train Loss: 1.662 | Acc: 57.581% (57581/100000)

Test Loss: 1.930 | Acc: 53.000% (5300/10000)

Epoch: 161

Train Loss: 1.633 | Acc: 58.269% (58269/100000)

Test Loss: 1.992 | Acc: 51.830% (5183/10000)

Epoch: 162

Train Loss: 1.602 | Acc: 59.085% (59085/100000)

Test Loss: 1.915 | Acc: 53.700% (5370/10000)

Epoch: 163

Train Loss: 1.572 | Acc: 59.412% (59412/100000)

Test Loss: 1.945 | Acc: 53.280% (5328/10000)

Epoch: 164

Train Loss: 1.535 | Acc: 60.474% (60474/100000)

Test Loss: 1.860 | Acc: 54.730% (5473/10000)

Epoch: 165

Train Loss: 1.503 | Acc: 61.290% (61290/100000)

Test Loss: 1.890 | Acc: 54.470% (5447/10000)

Epoch: 166

Train Loss: 1.475 | Acc: 61.728% (61728/100000)

Test Loss: 1.849 | Acc: 55.100% (5510/10000)

Epoch: 167

Train Loss: 1.440 | Acc: 62.510% (62510/100000)

Test Loss: 1.780 | Acc: 56.330% (5633/10000)

Epoch: 168

Train Loss: 1.402 | Acc: 63.412% (63412/100000)

Test Loss: 1.801 | Acc: 56.360% (5636/10000)

Epoch: 169

Train Loss: 1.364 | Acc: 64.355% (64355/100000)

Test Loss: 1.792 | Acc: 56.570% (5657/10000)

Epoch: 170

Train Loss: 1.329 | Acc: 65.014% (65014/100000)

Test Loss: 1.797 | Acc: 56.390% (5639/10000)

Epoch: 171

Train Loss: 1.285 | Acc: 66.114% (66114/100000)

Test Loss: 1.807 | Acc: 56.820% (5682/10000)

Epoch: 172

Train Loss: 1.249 | Acc: 66.909% (66909/100000)

Test Loss: 1.789 | Acc: 57.080% (5708/10000)

Epoch: 173

Train Loss: 1.205 | Acc: 67.968% (67968/100000)

Test Loss: 1.774 | Acc: 58.130% (5813/10000)

Epoch: 174

Train Loss: 1.164 | Acc: 68.869% (68869/100000)

Test Loss: 1.752 | Acc: 57.880% (5788/10000)

Epoch: 175

Train Loss: 1.120 | Acc: 69.874% (69874/100000)

Test Loss: 1.716 | Acc: 59.010% (5901/10000)

Epoch: 176

Train Loss: 1.072 | Acc: 71.258% (71258/100000)

Test Loss: 1.754 | Acc: 58.640% (5864/10000)

Epoch: 177

Train Loss: 1.025 | Acc: 72.339% (72339/100000)

Test Loss: 1.723 | Acc: 58.990% (5899/10000)

Epoch: 178

Train Loss: 0.982 | Acc: 73.372% (73372/100000)

Test Loss: 1.703 | Acc: 59.530% (5953/10000)

Epoch: 179

Train Loss: 0.933 | Acc: 74.502% (74502/100000)

Test Loss: 1.690 | Acc: 60.120% (6012/10000)

Epoch: 180

Train Loss: 0.880 | Acc: 75.996% (75996/100000)

Test Loss: 1.647 | Acc: 61.480% (6148/10000)

Epoch: 181

Train Loss: 0.823 | Acc: 77.544% (77544/100000)

Test Loss: 1.709 | Acc: 60.810% (6081/10000)

Epoch: 182

Train Loss: 0.769 | Acc: 78.928% (78928/100000)

Test Loss: 1.643 | Acc: 61.990% (6199/10000)

Epoch: 183

Train Loss: 0.718 | Acc: 79.985% (79985/100000)

Test Loss: 1.650 | Acc: 62.240% (6224/10000)

Epoch: 184

Train Loss: 0.660 | Acc: 81.674% (81674/100000)

Test Loss: 1.688 | Acc: 61.740% (6174/10000)

Epoch: 185

Train Loss: 0.604 | Acc: 83.109% (83109/100000)

Test Loss: 1.672 | Acc: 62.030% (6203/10000)

Epoch: 186

Train Loss: 0.547 | Acc: 84.773% (84773/100000)

Test Loss: 1.657 | Acc: 62.490% (6249/10000)

Epoch: 187

Train Loss: 0.492 | Acc: 86.276% (86276/100000)

Test Loss: 1.655 | Acc: 63.500% (6350/10000)

Epoch: 188

Train Loss: 0.437 | Acc: 87.951% (87951/100000)

Test Loss: 1.682 | Acc: 62.500% (6250/10000)

Epoch: 189

Train Loss: 0.387 | Acc: 89.365% (89365/100000)

Test Loss: 1.669 | Acc: 63.170% (6317/10000)

Epoch: 190

Train Loss: 0.338 | Acc: 90.832% (90832/100000)

Test Loss: 1.664 | Acc: 63.810% (6381/10000)

Epoch: 191

Train Loss: 0.298 | Acc: 92.067% (92067/100000)

Test Loss: 1.671 | Acc: 63.590% (6359/10000)

Epoch: 192

Train Loss: 0.263 | Acc: 93.150% (93150/100000)

Test Loss: 1.669 | Acc: 64.210% (6421/10000)

Epoch: 193

Train Loss: 0.233 | Acc: 94.045% (94045/100000)

Test Loss: 1.663 | Acc: 64.410% (6441/10000)

Epoch: 194

Train Loss: 0.211 | Acc: 94.802% (94802/100000)

Test Loss: 1.653 | Acc: 64.700% (6470/10000)

Epoch: 195

Train Loss: 0.189 | Acc: 95.468% (95468/100000)

Test Loss: 1.684 | Acc: 64.510% (6451/10000)

Epoch: 196

Train Loss: 0.177 | Acc: 95.855% (95855/100000)

Test Loss: 1.664 | Acc: 64.910% (6491/10000)

Epoch: 197

Train Loss: 0.166 | Acc: 96.173% (96173/100000)

Test Loss: 1.675 | Acc: 64.840% (6484/10000)

Epoch: 198

Train Loss: 0.161 | Acc: 96.260% (96260/100000)

Test Loss: 1.668 | Acc: 64.650% (6465/10000)

Epoch: 199

Train Loss: 0.158 | Acc: 96.495% (96495/100000)

Test Loss: 1.667 | Acc: 64.990% (6499/10000)

Best\_acc: 64.99%

Cifar-10:

|  |  |  |
| --- | --- | --- |
| Model | Original | 4outputs |
| VGG19 | 93.17% | 93.48% |
| ResNet50 | 94.53% | 95.15% |
| ResNet101 | 95.28% | 95.47% |
| ResNet152 | 95.41% | 95.52% |

Tiny-ImageNet:

|  |  |  |
| --- | --- | --- |
| Model | Original | 4outputs |
| VGG19 | 55.85% | 59.91% |
| ResNet50 | 61.45% | 64.17% |
| ResNet101 | 62.94% | 64.70% |
| ResNet152 | 62.99% | 64.99% |

Cifar-10-kout:

|  |  |  |
| --- | --- | --- |
| outputs | ResNet101 | ResNet152 |
| 4 | 95.47% | 95.52% |
| 8 | 95.23% | 95.28% |
| 12 | 95.21% | 95.36% |
| 16 |  |  |

Tiny-imagenet-kout:

|  |  |  |
| --- | --- | --- |
| outputs | ResNet101 | ResNet152 |
| 4 | 64.70% | 64.99% |
| 8 |  |  |
| 12 |  |  |
| 16 |  |  |