下载源文件

得分100.00　最后一次提交时间:2023-03-04 15:19:09
Accept

MNIST测试数据集平均分类正确率
0.9825

Fully connected layer with input 784, output 32.
Fully connected layer with input 784, output 32.
test fc err rate: 0.000000%
ReLU layer.
ReLU layer.
test relu err rate: 0.000000%
Softmax loss layer.
Softmax loss layer.
test softmax err rate: 0.000000%
TEST FOWARD PASS.
test softmax err rate: 0.000000%
test relu err rate: 0.000000%
test fc err rate: 0.000000%
TEST BACKWARD PASS.

Loading MNIST data from files...
Load images from ../mnist_data/train-images-idx3-ubyte, number: 60000, data shape: (60000, 784)
Load images from ../mnist_data/train-labels-idx1-ubyte, number: 60000, data shape: (60000, 1)
Load images from ../mnist_data/t10k-images-idx3-ubyte, number: 10000, data shape: (10000, 784)
Load images from ../mnist_data/t10k-labels-idx1-ubyte, number: 10000, data shape: (10000, 1)
Building multi-layer perception model...
Fully connected layer with input 784, output 120.
ReLU layer.
Fully connected layer with input 120, output 32.
ReLU layer.
Fully connected layer with input 32, output 10.
Softmax loss layer.
Initializing parameters of each layer in MLP...
Start training...
Randomly shuffle MNIST data...
Epoch 0, iter 0, loss: 2.319740
Epoch 0, iter 100, loss: 0.535750
Epoch 0, iter 200, loss: 0.344667
Epoch 0, iter 300, loss: 0.282668
Epoch 0, iter 400, loss: 0.168354
Epoch 0, iter 500, loss: 0.127370
Randomly shuffle MNIST data...
Epoch 1, iter 0, loss: 0.114541
Epoch 1, iter 100, loss: 0.131278
Epoch 1, iter 200, loss: 0.148788
Epoch 1, iter 300, loss: 0.065849
Epoch 1, iter 400, loss: 0.103737
Epoch 1, iter 500, loss: 0.095683
Randomly shuffle MNIST data...
Epoch 2, iter 0, loss: 0.062867
Epoch 2, iter 100, loss: 0.073918
Epoch 2, iter 200, loss: 0.067889
Epoch 2, iter 300, loss: 0.070085
Epoch 2, iter 400, loss: 0.051566
Epoch 2, iter 500, loss: 0.096245
Randomly shuffle MNIST data...

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Epoch 3, iter 0, loss: 0.120912
Epoch 3, iter 100, loss: 0.081390
Epoch 3, iter 200, loss: 0.053256
Epoch 3, iter 300, loss: 0.067384
Epoch 3, iter 400, loss: 0.014736
Epoch 3, iter 500, loss: 0.043567
Randomly shuffle MNIST data...
Epoch 4, iter 0, loss: 0.110568
Epoch 4, iter 100, loss: 0.141156
Epoch 4, iter 200, loss: 0.064433
Epoch 4, iter 300, loss: 0.071067
Epoch 4, iter 400, loss: 0.061128
Epoch 4, iter 500, loss: 0.011663
Randomly shuffle MNIST data...
Epoch 5, iter 0, loss: 0.028907
Epoch 5, iter 100, loss: 0.094816
Epoch 5, iter 200, loss: 0.085776
Epoch 5, iter 300, loss: 0.066553
Epoch 5, iter 400, loss: 0.008956
Epoch 5, iter 500, loss: 0.007522
Randomly shuffle MNIST data...
Epoch 6, iter 0, loss: 0.015542
Epoch 6, iter 100, loss: 0.006663
Epoch 6, iter 200, loss: 0.013243
Epoch 6, iter 300, loss: 0.032967
Epoch 6, iter 400, loss: 0.015943
Epoch 6, iter 500, loss: 0.010280
Randomly shuffle MNIST data...
Epoch 7, iter 0, loss: 0.007289
Epoch 7, iter 100, loss: 0.052961
Epoch 7, iter 200, loss: 0.039183
Epoch 7, iter 300, loss: 0.010584
Epoch 7, iter 400, loss: 0.028208
Epoch 7, iter 500, loss: 0.011571
Randomly shuffle MNIST data...
Epoch 8, iter 0, loss: 0.019612
Epoch 8, iter 100, loss: 0.021478
Epoch 8, iter 200, loss: 0.032481
Epoch 8, iter 300, loss: 0.042579
Epoch 8, iter 400, loss: 0.022655
Epoch 8, iter 500, loss: 0.005578
Randomly shuffle MNIST data...
Epoch 9, iter 0, loss: 0.025415
Epoch 9, iter 100, loss: 0.012266
Epoch 9, iter 200, loss: 0.033683
Epoch 9, iter 300, loss: 0.011203
Epoch 9, iter 400, loss: 0.061571
Epoch 9, iter 500, loss: 0.012828
Randomly shuffle MNIST data...
Epoch 10, iter 0, loss: 0.004561
Epoch 10, iter 100, loss: 0.002194
Epoch 10, iter 200, loss: 0.005584
Epoch 10, iter 300, loss: 0.003072
Epoch 10, iter 400, loss: 0.046564
Epoch 10, iter 500, loss: 0.001113
Randomly shuffle MNIST data...
Epoch 11, iter 0, loss: 0.014360
Epoch 11, iter 100, loss: 0.001581
Epoch 11, iter 200, loss: 0.003415
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Epoch 11, iter 300, loss: 0.010787
Epoch 11, iter 400, loss: 0.002614
Epoch 11, iter 500, loss: 0.008353
Randomly shuffle MNIST data...
Epoch 12, iter 0, loss: 0.011913
Epoch 12, iter 100, loss: 0.004817
Epoch 12, iter 200, loss: 0.000960
Epoch 12, iter 300, loss: 0.014781
Epoch 12, iter 400, loss: 0.027029
Epoch 12, iter 500, loss: 0.004490
Randomly shuffle MNIST data...
Epoch 13, iter 0, loss: 0.011987
Epoch 13, iter 100, loss: 0.001794
Epoch 13, iter 200, loss: 0.005304
Epoch 13, iter 300, loss: 0.008450
Epoch 13, iter 400, loss: 0.011510
Epoch 13, iter 500, loss: 0.026576
Randomly shuffle MNIST data...
Epoch 14, iter 0, loss: 0.002726
Epoch 14, iter 100, loss: 0.010249
Epoch 14, iter 200, loss: 0.002635
Epoch 14, iter 300, loss: 0.001570
Epoch 14, iter 400, loss: 0.000431
Epoch 14, iter 500, loss: 0.002964
Randomly shuffle MNIST data...
Epoch 15, iter 0, loss: 0.000672
Epoch 15, iter 100, loss: 0.000939
Epoch 15, iter 200, loss: 0.002349
Epoch 15, iter 300, loss: 0.001253
Epoch 15, iter 400, loss: 0.002188
Epoch 15, iter 500, loss: 0.002237
Randomly shuffle MNIST data...
Epoch 16, iter 0, loss: 0.004468
Epoch 16, iter 100, loss: 0.002959
Epoch 16, iter 200, loss: 0.003045
Epoch 16, iter 300, loss: 0.001458
Epoch 16, iter 400, loss: 0.002079
Epoch 16, iter 500, loss: 0.026973
Randomly shuffle MNIST data...
Epoch 17, iter 0, loss: 0.004040
Epoch 17, iter 100, loss: 0.003376
Epoch 17, iter 200, loss: 0.001995
Epoch 17, iter 300, loss: 0.001518
Epoch 17, iter 400, loss: 0.000321
Epoch 17, iter 500, loss: 0.002294
Randomly shuffle MNIST data...
Epoch 18, iter 0, loss: 0.003333
Epoch 18, iter 100, loss: 0.000816
Epoch 18, iter 200, loss: 0.000519
Epoch 18, iter 300, loss: 0.000072
Epoch 18, iter 400, loss: 0.000560
Epoch 18, iter 500, loss: 0.000539
Randomly shuffle MNIST data...
Epoch 19, iter 0, loss: 0.001925
Epoch 19, iter 100, loss: 0.000191
Epoch 19, iter 200, loss: 0.000429
Epoch 19, iter 300, loss: 0.000440
Epoch 19, iter 400, loss: 0.000400
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Epoch 19, iter 500, loss: 0.000667
Saving parameters to file mlp-120-32-20epoch.npy
Accuracy in test set: 0.982500
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