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NetID(s): yunfany3
Team name on Kaggle leaderboard: yunfany3

For each of the sections below, your reported test accuracy should approximately match the accuracy reported on Kaggle.

Perceptron

I've tried hyperparameters of lr = 0.5 through 5 and n_epochs = 5 through 20.
I've also added a geometric learning rate decay by multiplying the learning rate by 0.1 after each epoch finishes.

MUSHROOM DATASET-1

Optimal hyperparameters:	lr = 0.5 n_epochs = 10
Training accuracy:	94.255232
Validation accuracy:	94.092308
Test accuracy:	93.784615

Fashion-MNIST DATASET-2

Optimal hyperparameters:	lr = 5 n_epochs = 5
Training accuracy:	84.552000
Validation accuracy:	82.660000
Test accuracy:	81.610000

SVM

I've tried lr from 0.0005 through 0.05, n_epochs from 5 to 15 and reg_const from 0.0005 to 0.05
I also added an exponential learning rate decay by multiplying learning rate by np.exp(-4*epoch_n)

MUSHROOM DATASET

Optimal hyperparameters:	lr = 0.00055 n_epochs = 5 reg_const = 0.0005
Training accuracy:	90.254411
Validation accuracy:	89.353846
Test accuracy:	89.292308

Fashion-MNIST DATASET

Optimal hyperparameters:	lr = 0.0005 n_epochs = 15 reg_const = 0.005
Training accuracy:	84.468000
Validation accuracy:	83.200000
Test accuracy:	82.280000

Softmax

I've tried lr from 0.005 through 0.09, n_epochs from 5 to 15 and reg_const from 0.0005 to 0.5
I also added an exponential learning rate decay by multiplying learning rate by np.exp(-2*epoch_n)

MUSHROOM DATASET

Optimal hyperparameters:	lr = 0.03 n_epochs = 5 reg_const = 0.05
Training accuracy:	93.106278
Validation accuracy:	92.246154
Test accuracy:	92.369231

Fashion-MNIST DATASET

Optimal hyperparameters:	lr = 0.005 n_epochs = 10 reg_const = 0.5
Training accuracy:	84.446000
Validation accuracy:	82.950000
Test accuracy:	81.740000

Logistic

I've tried lr from 0.0001 through 0.05, n_epochs from 5 to 100 and threshold from 0.1 to 0.999
I also added an exponential learning rate decay by multiplying learning rate by np.exp(-4*epoch_n)

MUSHROOM DATASET

Optimal hyperparameters:	learning_rate = 0.0013 n_epochs = 30 threshold = 0.985
Training accuracy:	82.581042
Validation accuracy:	81.476923
Test accuracy:	80.246154