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Team name on Kaggle leaderboard: Pratt

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

Perceptron

Briefly describe the hyperparameter settings you tried. In particular, you should list the different values for learning rate and number of epochs you tried. You should also mention whether adding a learning rate decay helped and how you implemented this decay. Report the optimal hyperparameter setting you found in the table below. Report your training, validation, and testing accuracy with your optimal hyperparameter setting.

RICE DATASET

Optimal hyperparameters:	lr = 0.9, n_epochs = 100 self.lr = (1/(1+20*epoch)) * self.lr
Training accuracy:	99.844194
Validation accuracy:	99.807534
Test accuracy:	99.752543

Fashion-MNIST DATASET

Optimal hyperparameters:	lr = 0.7 n_epochs = 100 self.lr = (1/(1+20*epoch)) * self.lr
Training accuracy:	84.792000
Validation accuracy:	82.910000
Test accuracy:	81.880000

SVM

Describe the hyperparameter tuning you tried for learning rate, number of epochs, and regularization constant. Report the optimal hyperparameter setting you found in the table below. Also report your training, validation, and testing accuracy with your optimal hyperparameter setting.

RICE DATASET

Optimal hyperparameters:	lr = 0.05, n_epochs = 100, reg_const = 0.06, batch_size = 600
Training accuracy:	79.103657
Validation accuracy:	78.828705
Test accuracy:	79.323618

Fashion-MNIST DATASET

Optimal hyperparameters:	lr = 0.8, n_epochs = 100, reg_const = 0.05, batch_size = 600
Training accuracy:	82.792000
Validation accuracy:	81.950000
Test accuracy:	81.290000

Softmax

Once again, describe the hyperparameter tuning you tried for learning rate, number of epochs, and regularization constant. Report the optimal hyperparameter setting you found in the table below. Also report your training, validation, and testing accuracy with your optimal hyperparameter setting.

RICE DATASET

Optimal hyperparameters:	lr = 0.5 n_epochs = 100 reg_const = 0.05
Training accuracy:	70.030245
Validation accuracy:	70.992576
Test accuracy:	70.415177

Fashion-MNIST DATASET

Optimal hyperparameters:	lr = 0.7 n_epochs = 500 reg_const = 0.05
Training accuracy:	83.578000
Validation accuracy:	82.400000
Test accuracy:	81.460000

Logistic

Once again, describe the hyperparameter tuning you tried for learning rate, number of epochs, and threshold. Report the optimal hyperparameter setting you found in the table below. Also report your training, validation, and testing accuracy with your optimal hyperparameter setting.

RICE DATASET

Optimal hyperparameters:	learning_rate = 0.45 n_epochs = 500 threshold = 0.5
Training accuracy:	75.987536
Validation accuracy:	76.684080
Test accuracy:	75.061864