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Team name on Kaggle leaderboard: Tejveer

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

KNN

Report the different k values you tried and the k value that you found to be best in the table below. In addition, report the validation and testing accuracy for your implementation with this best k value:

k values tried:	1,3,5,7
Best k value:	5
Validation accuracy:	36.500000%
Test accuracy:	38.500000%

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.

Optimal hyperparameters:	$\text{Alpha} = 0.5 * 100 / (100 + \text{epoch})$, epoch = 100
Training accuracy:	33.144898%
Validation accuracy:	26.800000%
Test accuracy:	28.660000%

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.

Optimal hyperparameters:	$\alpha = 0.01 * 100 / (100 + \text{epoch})$, epoch = 20, reg_const = 0.02
Training accuracy:	31.251020%
Validation accuracy:	31.900000%
Test accuracy:	31.520000%

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.

Optimal hyperparameters:	$\alpha = 0.01 * 100 / (100 + \text{epoch})$, epoch = 20, reg_const = 0.01
Training accuracy:	24.361224%
Validation accuracy:	26.100000%
Test accuracy:	24.780000%