

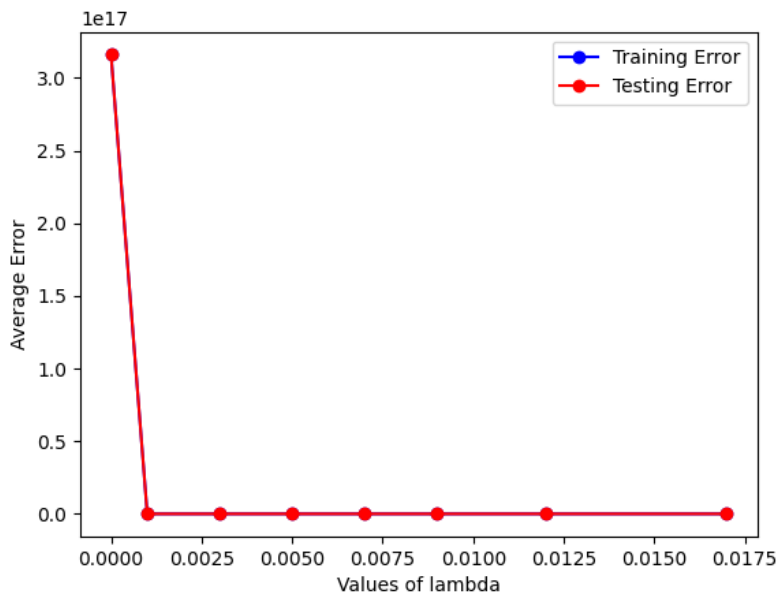
Intro to ML
PS4 Report

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Questions:

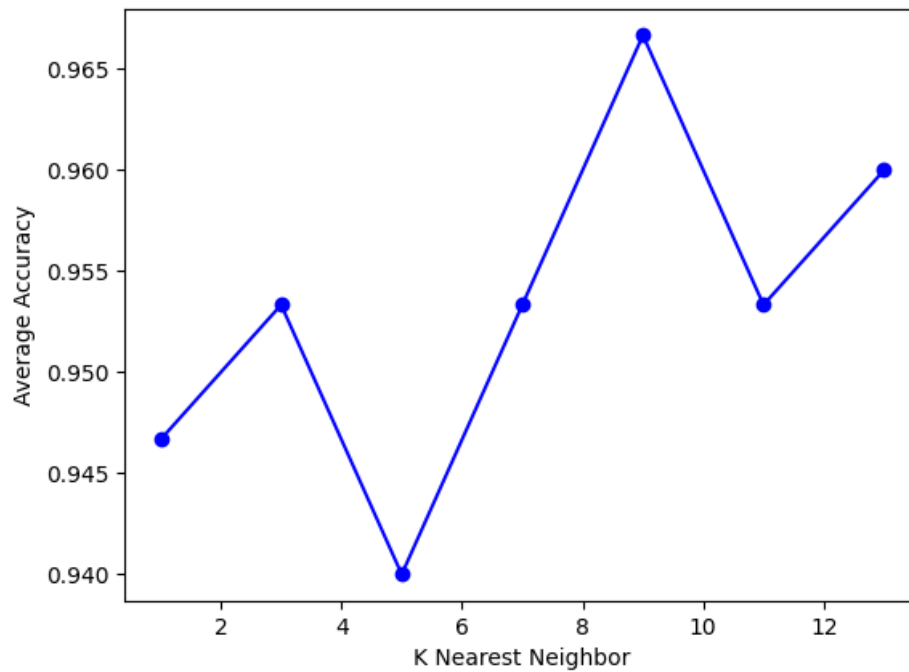
1) .

- a. .
- b. Feature matrix size: (1001, 500)
- c. I suggest a value of 0.001 for lambda, as it appears to have the lowest error. I recognize that the value of lambda = 0 skews the graph heavily, upon printing data to the terminal, lambda = 0.001 provided the lowest error in both the training and test evaluations.



2) .

- a. I suggest a value of 9 for K, as it appears to have the least error and is surrounded by other reasonable points. By this I mean that it isn't an outlier. This value is not robust to other problems, as data sharing a similar region varies depending on the problem. A higher or lower value of K may be needed as a result.



3) .

a. .

b. Test Accuracy: 76%

Training Accuracy: 76.8%

I think these results make sense, as logistic regression with a one vs. all approach will have overlap among multiple other categories, rather than two singular categories. The close error between the testing and training accuracy also indicates that the trained model is able to predict at a similar rate given random testing data.