

Problem Set 2

Due Sunday, April 30th, at 11:59 PM

CS - 171 Spring 2017

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Problem 1. Have your code pick a particular set of features and regularization in some principled way.

Report which features and regularization strength your code selected. Explain why you decided to do it this way.

Running this function took a considerable amount of time to run while testing different ranges of lambdas. When creating the quadratic model the matrix grew in x^2 columns. While testing a smaller set of lambdas from .001, .01, 1, 100, 1000, 10000 the function chose .001 as the lambda and quadratic as the model of choice. After running `logspace(-3,5,5)` chose .001 as the lambda and quadratic as the model of choice. For the last two tests I ran of `logspace(-1,5,10)` and `logspace(-1,5,20)` in which the function chose .01 as the lambda and quadratic as the model of choice.

In the one test I ran with comparing the values if they were bigger than 1 instead of less than zero on lambdas from .001, .01, 1, 100, 1000, 10000 the function chose 10000 as the lambda and linear as the model of choice. In making the testing of the errors I created a matrix of zeros 2 by size of amount of lambdas columns. This would later be used to subtract 1 from the totals of how many times the values were below 0. In choosing to compare with less than 0 seems to always pick quadratic, as where if I compare with greater than 1 it seems to choose linear.