Homework 2: Introduction to Machine Learning, Spring 2018

Due: 2:00 pm, March 21 (Wednesday)

For computer exercise, use `prostate data` available at
https://web.stanford.edu/∼hastie/ElemStatLearn/datasets/prostate.data
https://web.stanford.edu/∼hastie/ElemStatLearn/datasets/prostate.info.txt

1. (20 pts) Provide detailed description of ridge regression, including algorithm derivation. Implement your ridge regression to obtain the regularization path that was discussed in class.

2. (30 pts) Provide detailed description of LASSO regression, including the derivation of the coordinate descent algorithm. Implement your LASSO regression to obtain the regularization path that was discussed in class.