CS335(AIML) - Lab02 - Report

170050053 - Sudhir Kumar

September 26, 2021

Q- 2.2 : part-1

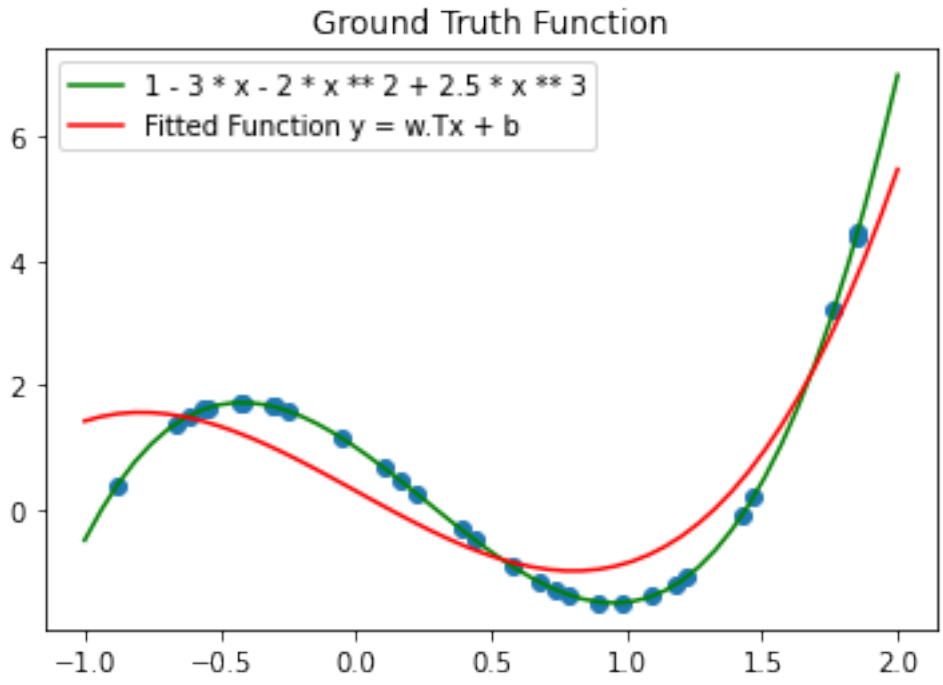

Figure 1: ista plot

Q- 2.2 : part-3

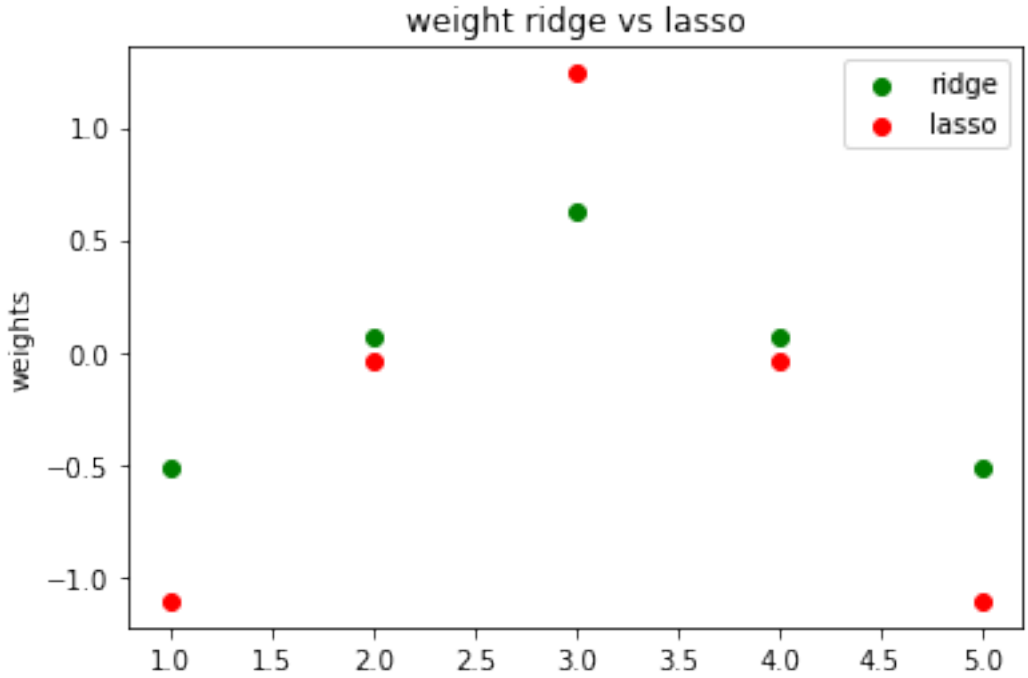

Figure 2: weight of lasso and ridge comparision

ista() does features selection using gradient descendent w.r.t. least square of errors and then for regularization (which is L1) term it uses comparison if less than -lambda*learning rate or greater than than lambda*learning rate and updates according to it.

weights obtained by ista() are mostly lesser as compare to weights obtained by ridge regression. also two weights are almost zero in case of ista().

Q- 3.2 : part-2

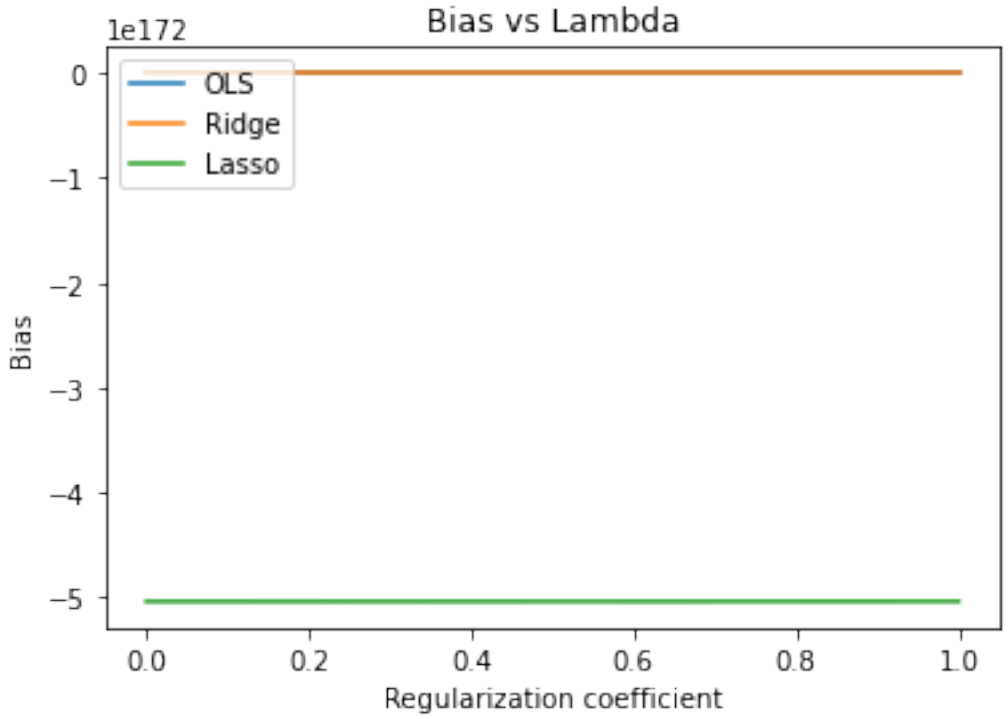

Figure 3: bias vs lambda

- increasing the features increases variance and decrease bias
- increasing number of test samples decreases variance
- increasing lambda decreases Bias and variance

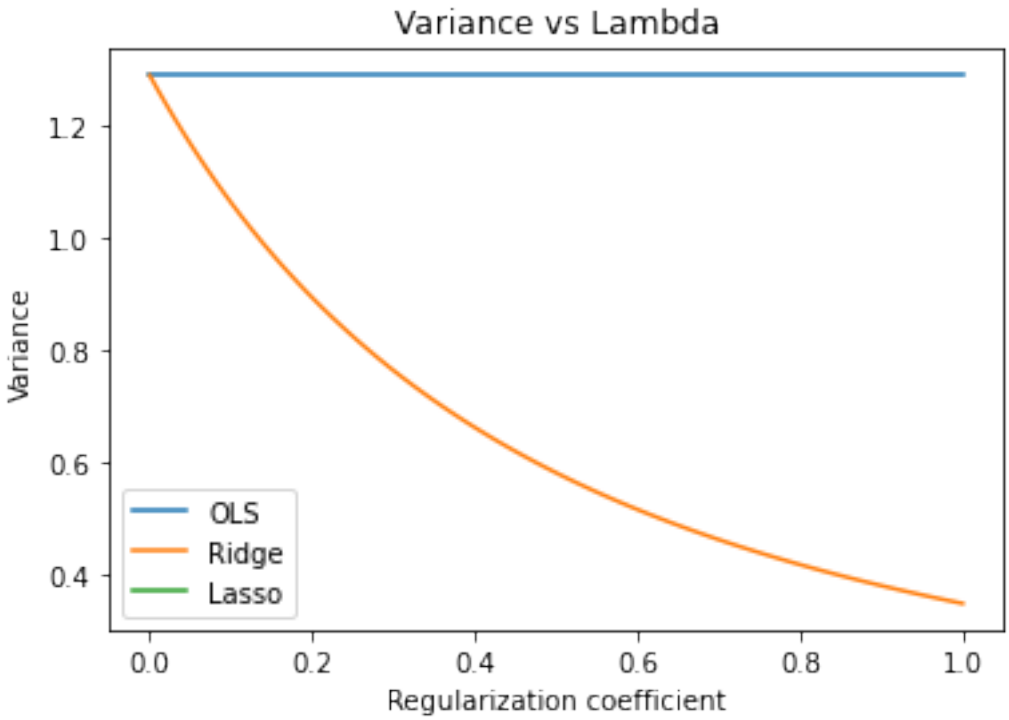

Figure 4: variance vs lambda