

PS9

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1 Answers to Questions 6 - 8

1.1 Dimensions of housing.train

404 x 450

1.2

Table 1: Comparison of Machine Learning Models

| | LASSO | Ridge Reg. | Net Elastic |
|--------------------|-------|------------|-------------|
| Lambda | 0.006 | 0.095 | 0.014 |
| In-Sample RMSE | 0.155 | 0.150 | 0.165 |
| Out-of-Sample RMSE | 0.155 | 0.152 | 0.171 |

1.3

Since Alpha is around 0.5, it suggests that either model has similar certainty of results. If the model were closer to zero, we would use Ridge Regression.

1.4

The Net Elastic model seem balanced, so the bias-variance trade off should not be an issue. The two models yield relatively similar RSME's.

A linear regression would not be an effective way to estimate this model. Since we have more variables than rows, the model would suffer from multi-collinearity.