Problem Set 10

Justin Canova

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1 How does each algorithm's out-of-sample performance compare with each of the other algorithms?

See table 1 below. Best performing model: Decision Tree

Accuracy	Model
0.868	Decision Tree
0.861	Support Vector Machine
0.853	Logistic Regression
0.853	Neural Network
0.843	K-Nearest Neighbors

Table 1: Caption

Model	Parameters
Logistic Regression	$penalty = 0.001$
Decision Tree	$min_n = 10$, $depth = 15$, $complexity = 0.001$
Neural Network	$hidden_units = 4$, $penalty = 0.1$
K-Nearest Neighbors	$neighbors = 30$
Support Vector Machine	$cost = 1$, $sigma = 0.25$

Table 2: Model Fit Tables