

# PS10

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## 1

Algorithm	Accuracy	Best Hyperparameters
Logistic Regression	0.85	Penalty: lasso ( $\lambda = 0.1$ )
Decision Tree	0.82	Min. Node Size: 20, Max. Depth: 10
Neural Network	0.86	Hidden Units: 8, Penalty: 0.001
K-Nearest Neighbors	0.79	Number of Neighbors: 15
Support Vector Machine	0.87	Cost: 4, Sigma: 0.1

Table 1: Model Performance and Best Hyperparameters

The algorithm with the highest out of sample is the support vector machine. Neural network and logistic regression follow close behind respectively. The next is the decision tree and then finally K-nearest neighbor.