

PS 10

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Question 9

Algorithm	Accuracy	Hyperparameters
Logit	0.85	penalty = 0.00
Decision trees	0.87	min_n = 10, tree_depth = 15, cost_complexity = 0.00
Neural Network	0.85	penalty = 0.08, hidden units = 9
KNN	0.84	neighbors = 30
SVM	0.86	cost = 1, rbf_sigma = 0.25

Based on the accuracy results, all machine learning algorithms have shown similar accuracy levels on the testing data, with the tree model exhibiting the best out-of-sample performance. The logistic model is the most efficient in terms of time, achieving comparable accuracy, while the SVM model takes the longest.