

DTSC680: Applied Machine Learning

Module 2

Assignment 3

Directions

Complete the Assignment_3.ipynb file; further directions are located in that file.

Below is a simple rubric indicating how you will be graded:

Import & Split the Data / Exploring all Three Regressors 20%

Were you able to successfully import and split the data as directed? Were you able to explore using the GradientBoostingRegressor, RandomForestRegressor, and DecisionTreeRegressor to fit the data? Do the final model parameters that you selected for these regressors yield models that fit the data well?

Prediction Curve Plotting 25%

Were you able to properly plot the model predictions (i.e. the prediction curves) on the training set?

Perform Grid Searches 30%

Were you able to successfully perform a series of grid searches to elucidate the optimal model hyperparameters for all three models? Did you use successive rounds of grid searching to hone-in on the correct values?

Visualize Optimal Model Predictions 20%

Were you able to successfully visualize each model's predictions for the training data?

Compute Generalization Error 5%

Were you able to successfully compute the generalization error for all three models?