Interactions

Author: Angus Ferrell

I used ChatGPT in this assignment to assist with the code for model building and creating visualizations. All of the code for MLFlow was provided by the recitation examples. All of the text and analysis provided was written by me.

1. I used ChatGPT to calculate the Variance Inflation Factor and remove the features with a value larger than 10. I used the prompt: “Given a dataframe, calculate the variance inflation factor for each feature and remove the features with large values.

2. I used ChatGPT to tune the hyperparameters for the Linear regression model, Random Forest Regression Model, and LightGBM model, and Ridge Regression Model. I used the prompt: “Use grid search to tune the hyperparameters for { model name}, then use the best parameters to train and test the model using RMSE”. Due to the final code not including these steps, the instances of this are not shown, but the analysis was conducted.

3. I used ChatGPT to generate the plots for each model’s performance, specifically plotting the models actual vs predicted values. The original code was provided by the docker recitation, but I used ChatGPT to modify it for my purposes. I used the prompt: “Modify this code to fit {model name}”.

4. I used ChatGPT to plot the performance metrics of all the plots (each model). I used the prompt: “Plot the RMSE, MAE, and R^2 performance of the Linear Regression, Dabl Simple Regressor, Random Forest, LightGBM, Ridge Regression models together for comparison.”