Report

Project 1: House Price Prediction

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Abstract

In this project, I developed a machine learning model to predict the sale price of houses in specific features. My model achieved R2 score of lasso regression model for 0.47 r2 score on the test set, achieved mean square error at 0.1503, and achieved mean average error at 187035.39. I identified the square feet living(sqft_living) of the house, actual price of the house reference to the dataset of house_data_train.csv, and the number of bedrooms as the important factors in determining the prediction price of the house. My model can be use for homebuyers, and sellers in the city to understand and predict the market value of houses.

Lasso Regression model

I decided to use lasso regression model to predict house prices since it had the greatest r2score and the lowest mean square and mean absolute errors when compared to other regression models. The r2 score for my lasso regression model is 0.47, the mean square error is 0.1503, and the mean absolute error is 187035.39.

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Performance testing

Sample testing of my price prediction with using sqft_living and price of the house

Y[index in array]	Predict Price	Actual Price	Difference of actual price and predict price
0	537900.3137	350000	-187900.3137
1	452040.5234	475000	22959.4766
2	361450.7971	422000	60549.2029
3	589038.61532	313000	-276038.6153
4	350058.0972	153503.0	-196555.0972

Average error between prediction price and actual price is: -115397.07