



## Report

### Project 1: House Price Prediction

Komcharn Nitrat

Faculty of Engineering, Department of Computer engineering, Chiang Mai, 50200

Email: [komcharn\\_n@cmu.ac.th](mailto:komcharn_n@cmu.ac.th), Student ID: 630615018

### Abstract

In this project, I developed a machine learning model to predict the sale price of houses in specific features. Our model achieved R2 score of linear regression model for 0.5954 r2 score on the test set, achieved mean square error at 0.4046, and achieved mean average error at 0.4179. 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.

### Linear Regression model

I decided to use a linear 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 linear regression model is 0.5954, the mean square error is 0.4046, and the mean absolute error is 0.4179.



### 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	524593.7587	350000	174593.7587
1	448681.44499	475000	-26318.5550
2	375131.7835	422000	-46868.2165
3	575307.1518	313000	262307.1517
4	364218.0508	153503	210715.0508

Average error between prediction price and actual price is: 114885.838