

Predicting King County Housing Prices

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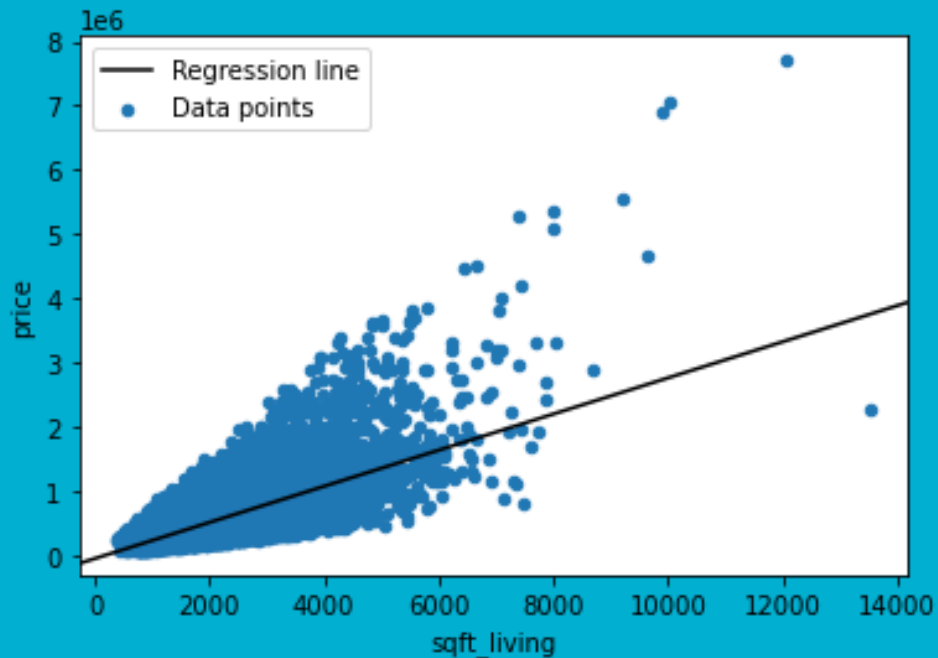


Stakeholder and Business Problem

Business: Jamii Real Estate Agents

Problem: Jamii wants to purchase homes in the Seattle to expand their real estate assets in the area.

Predictive Modeling



- Methods & Metrics

- $R^2 = 0.493$

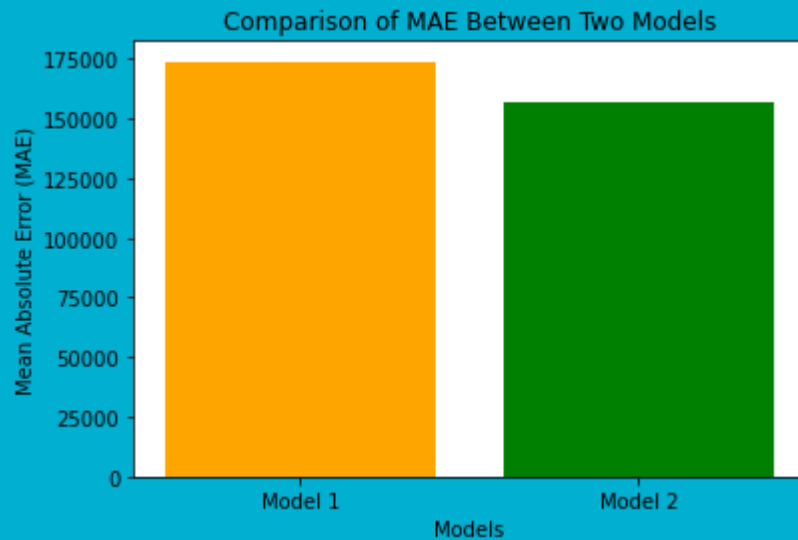
RMSE = \$173824.8874961748

Interpretation: `sqft_living` was the attribute most strongly correlated with price, therefore our model is describing this relationship. Overall, this model is statistically

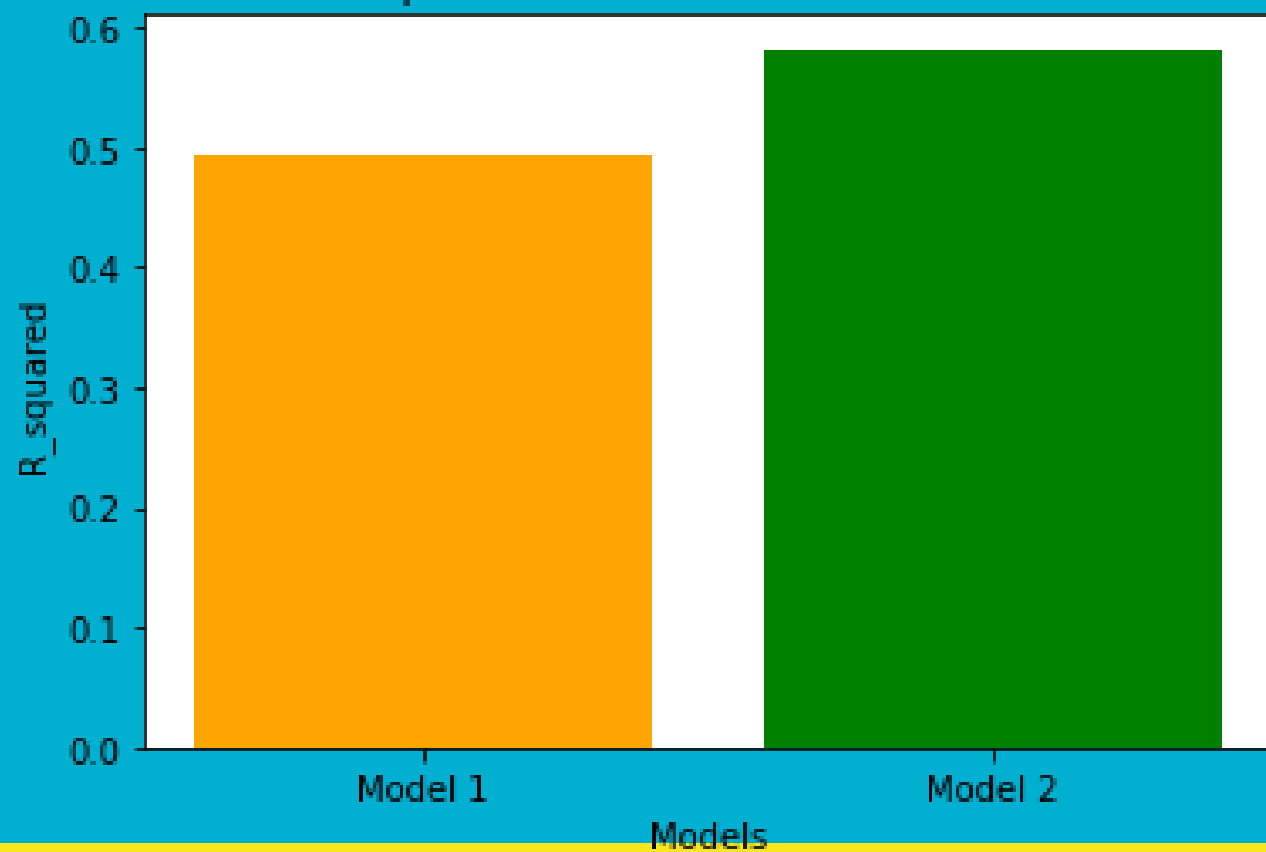
significant with a p-value well below the standard alpha of 0.05 and it explains about 49.3% of the variance in price(*R-Squared*) i.e. coefficient of determination. In a typical prediction, the model is off by about \$173k which is not very good.

The intercept is at about -43k dollars. This means that for zero sqft_living our model would predict a price of - 43k dollars. The coefficient for sqft_living is about 280 dollars. This means for each additional sqft, the sqft_living costs about \$280 more.

Modeling



Comparison of R2 Between Two Models



From the two visualizations, model 2 has a higher R^2 and lower mean squared error than the first model, which might be an indication of an improvement in our model. Selection of variables to use was dependent on likelihood of a variable portraying a possible linear relationship with the target variable and how strong the relationship was. Grade also seemed to be representative of the categorical data in our analysis given the nature of the data as it covers most of the renovations.

It is also important to note the coefficients for `grade_8_good` that seems to have a higher impact on price compared to higher grade houses. More investigation of other features is needed to understand whether this can be explained by other variables, or if "Mansions" and other relatively higher grade houses appear to be undervalued vs. the conventional wisdom.

Conclusions

Given how grade alone can influence the price of a house, homeowners should invest in the maintenance and repair worn out features such as paint, roofing in order to improve the overall condition of the house.

It's also observed that houses with better quality materials and better construction on general attracts high pricing to houses, it is therefore advisable for home owners with larger budgets to invest in design upgrades but then not to extreme ends as it can be seen from the analysis how grade_8_goodseems to have a higher effect than higher grade home

