

PREDICTING HOUSING PRICES IN KING COUNTY, WA

Dominic Garcia
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Outline

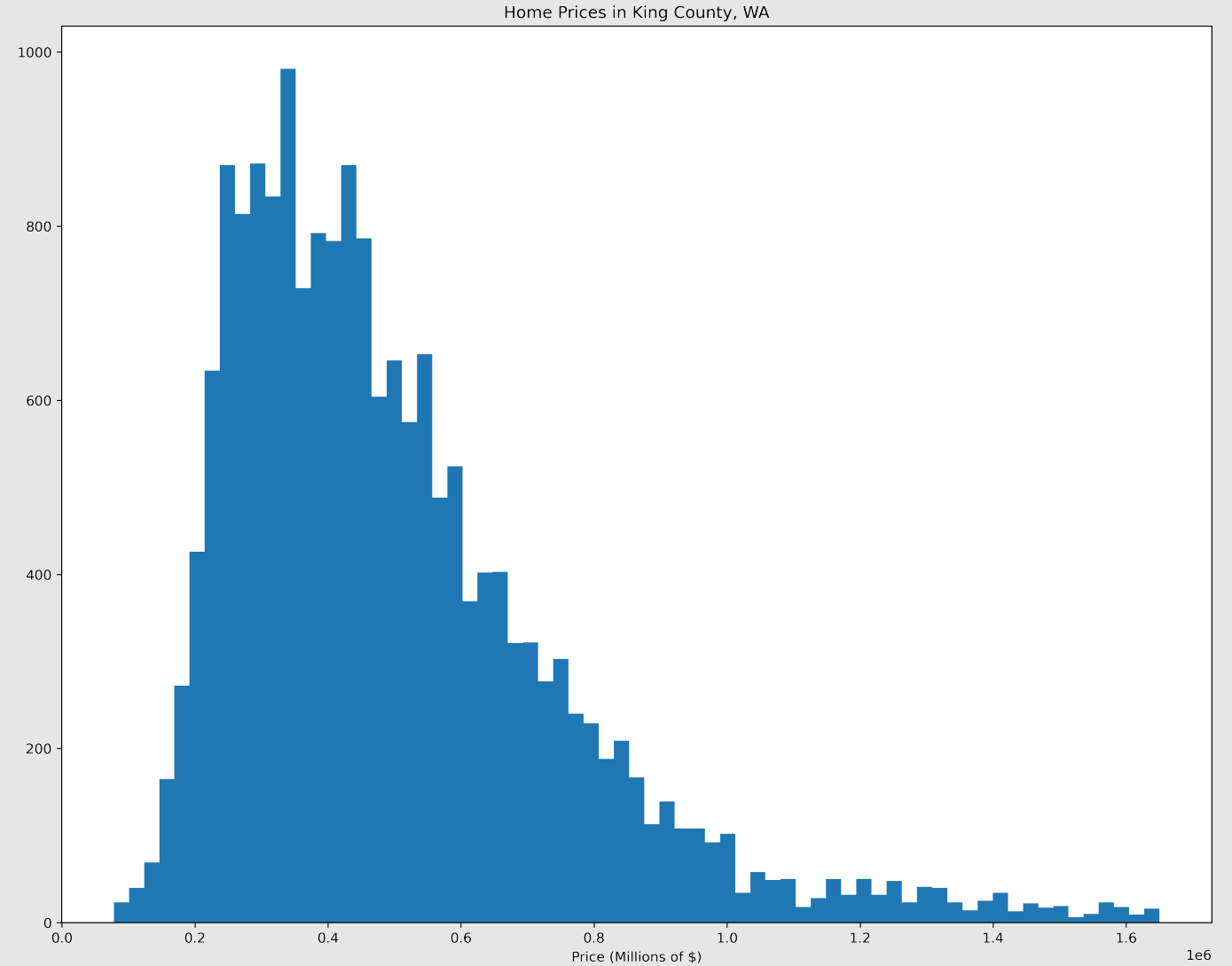
- Business Problem
- Data
- Model Result
- Recommendations
- Future Work

Summary of Business Problem

- There are a significant number of residents in King County, Washington who are considering buying their first home.
- These prospective buyers could benefit immensely from being able to accurately forecast the price of their first home, based on a set of given parameters.
- The findings in this presentation are for the real estate agents at DLG Agency, who specialize in selling to first time home buyers.

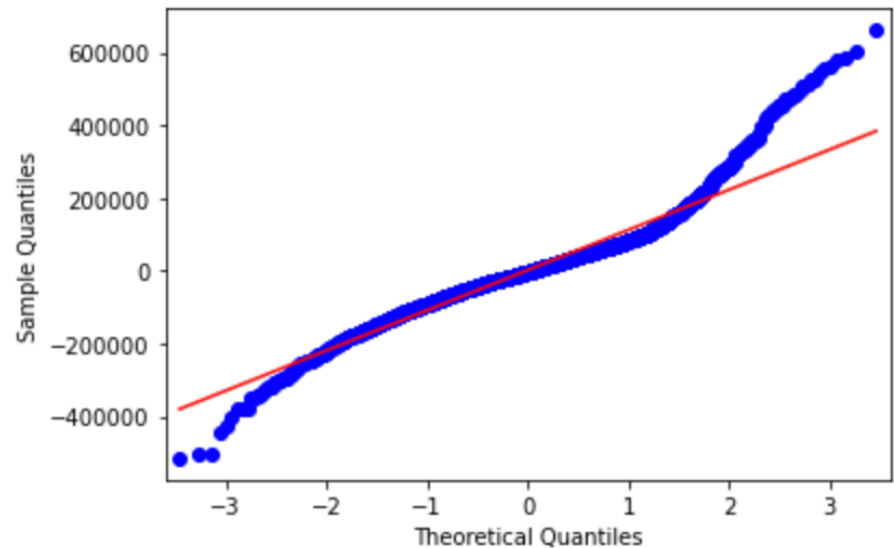
Data

- The dataset used contains house sale prices for King County, which were sold between May 2014 and May 2015.
- The data covers over 18,000 homes sold.
- I built a multiple regression model to predict prices for homes based on features.



Model Result

- After multiple rounds of tests & corresponding changes, I have a price-prediction model with a R-squared value of 0.808. This means that my final model explains about 80% of the variability of the home price data from the mean.
- Additional analysis of residuals shows that my model is best at predicting the value of homes priced up to about \$1,009,014.

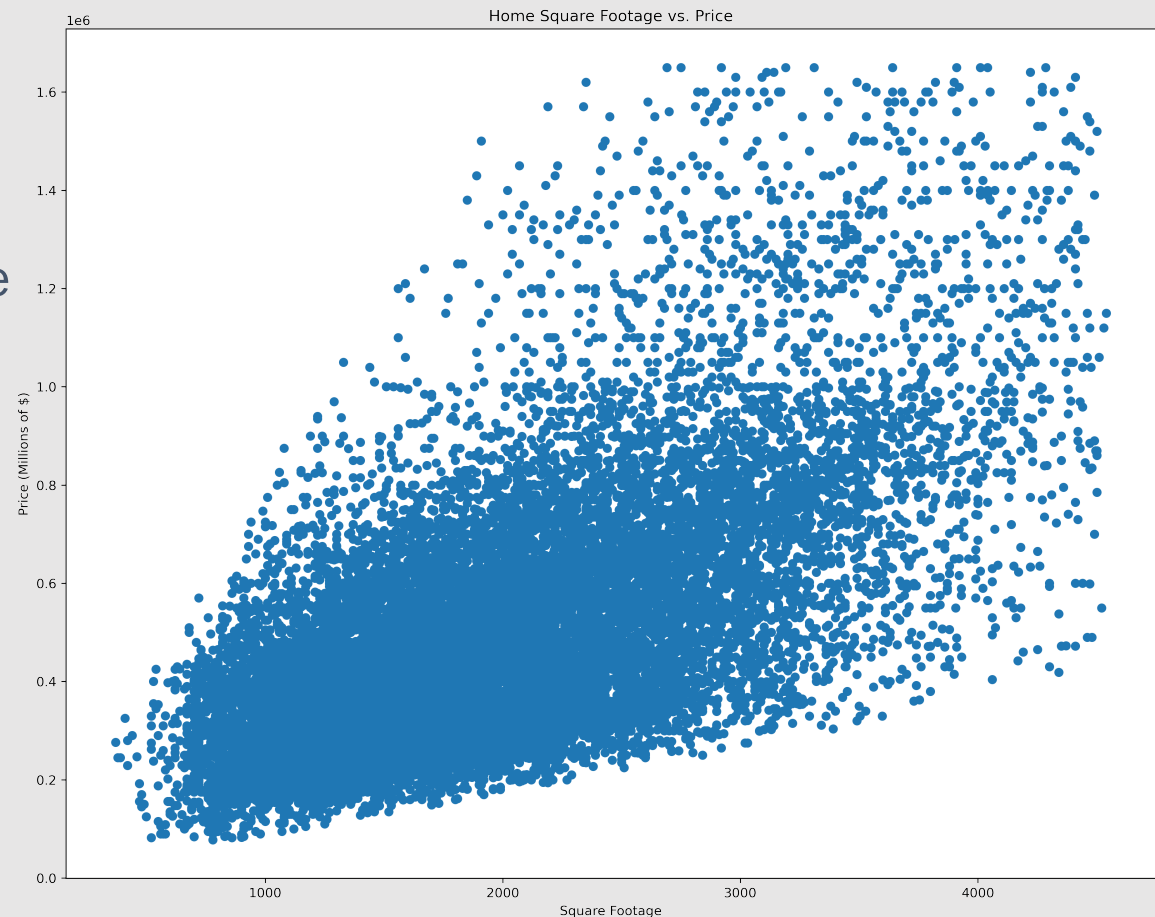


Recommendations

- These zip codes had the lowest relative impact on price in my final model: 98198, 98188, 98031, 98038, 98178, 98168 & 98058.
- Conclusion: Clients looking to save on their first home should start by exploring these areas.
- On the other hand, these zip codes had the highest relative impact on price in my final model: 98039, 98004, 98119, 98112, 98109, 98102 & 98040.
- Conclusion: Clients looking to make a bigger investment in their first home should start by exploring these areas.

Recommendations

- There seems to be significant correlation between a home's square footage & its price.
- As the plot indicates, the bigger the home, the greater the price



Recommendations

- Clients looking to save money should consider the home's condition grade, as it seems to have a sizable effect on price.
- Even going from an average grade to a high grade can increase a home's price significantly -- “Perfect Scoring” homes (condition grade 5/5) had nearly double the impact on price than “Average Scoring” homes (3/5) had in my final model.
- For the clients looking to make a smaller investment in their first home, I suggest focusing more on “fixer-uppers”.

Future Work

- Given more time, I would work with these features, which I had to initially omit.
 - Look at the *lat* & *long* columns to further inspect the impact of specific locations (beyond zip codes) on price
 - Use the *sqft_living15* & *sqft_lot15* columns to get insight on what neighborhoods are most expensive to live in
 - Investigate if the size of neighbors' homes has an overall impact on price by using *sqft_living15* & *sqft_lot15*



QUESTIONS?

Github: <https://github.com/dl-gd>

Email: dlgarcia.017@gmail.com

