

Module 1

Final Project

- Objective -

The main objective of our research analysis was to produce a model that predicts the price of homes for King County.



APPROACH



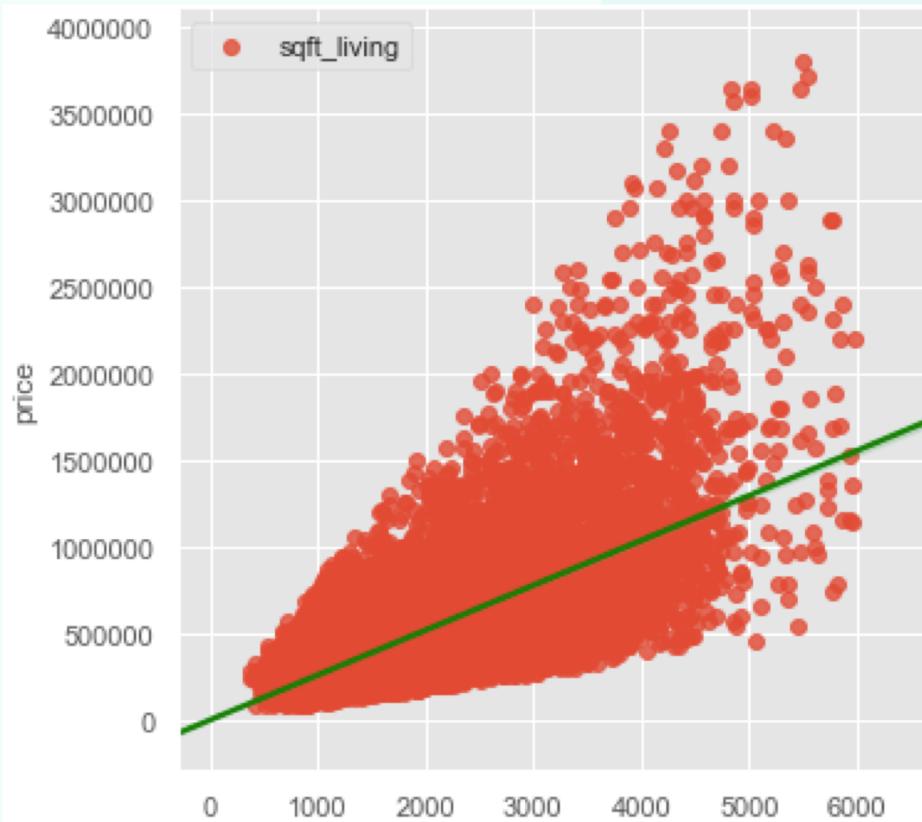
In order to come up with an accurate model to predict housing prices, we looked at the King County Housing Data Set which had a sample of over 20,000 homes.



Our method was to use this data to fit a model with the most important features of a home in relation to its price. Features are basically characteristics of the house, like # bedrooms, square feet, location, etc.



Feature #1: Square Footage



One of the main features is shown here demonstrating the strong relationship between square feet and price.

Our model predicts that for every **10%** increase in the square footage of your home results in about a **5%** increase in its price.

1-3 Falls short of minimum building standards. Normally cabin or inferior structure.

4 Generally older, low quality construction. Does not meet code.

5 Low construction costs and workmanship. Small, simple design.

6 Lowest grade currently meeting building code. Low quality materials and simple designs.

7 Average grade of construction and design. Commonly seen in plats and older sub-divisions.

8 Just above average in construction and design. Usually better materials in both the exterior and interior finish work.

9 Better architectural design with extra interior and exterior design and quality.

10 Homes of this quality generally have high quality features. Finish work is better and more design quality is seen in the floor plans. Generally have a larger square footage.

11 Custom design and higher quality finish work with added amenities of solid woods, bathroom fixtures and more luxurious options.

12 Custom design and excellent builders. All materials are of the highest quality and all conveniences are present.

13 Generally custom designed and built. Mansion level. Large amount of highest quality cabinet work, wood trim, marble, entry ways etc.

Feature #2: Building Grade

Another feature is the building grade that a housing unit receives. Here you can see the different factors that go into the grading system.

In regards to grade, our model predicts that each increase in grade a housing unit receives results in a 11% increase in price.

One question we wanted to know is how location matters with regards to price. The data we had contained the home's zip codes along with their latitude and longitude.

Location Matters

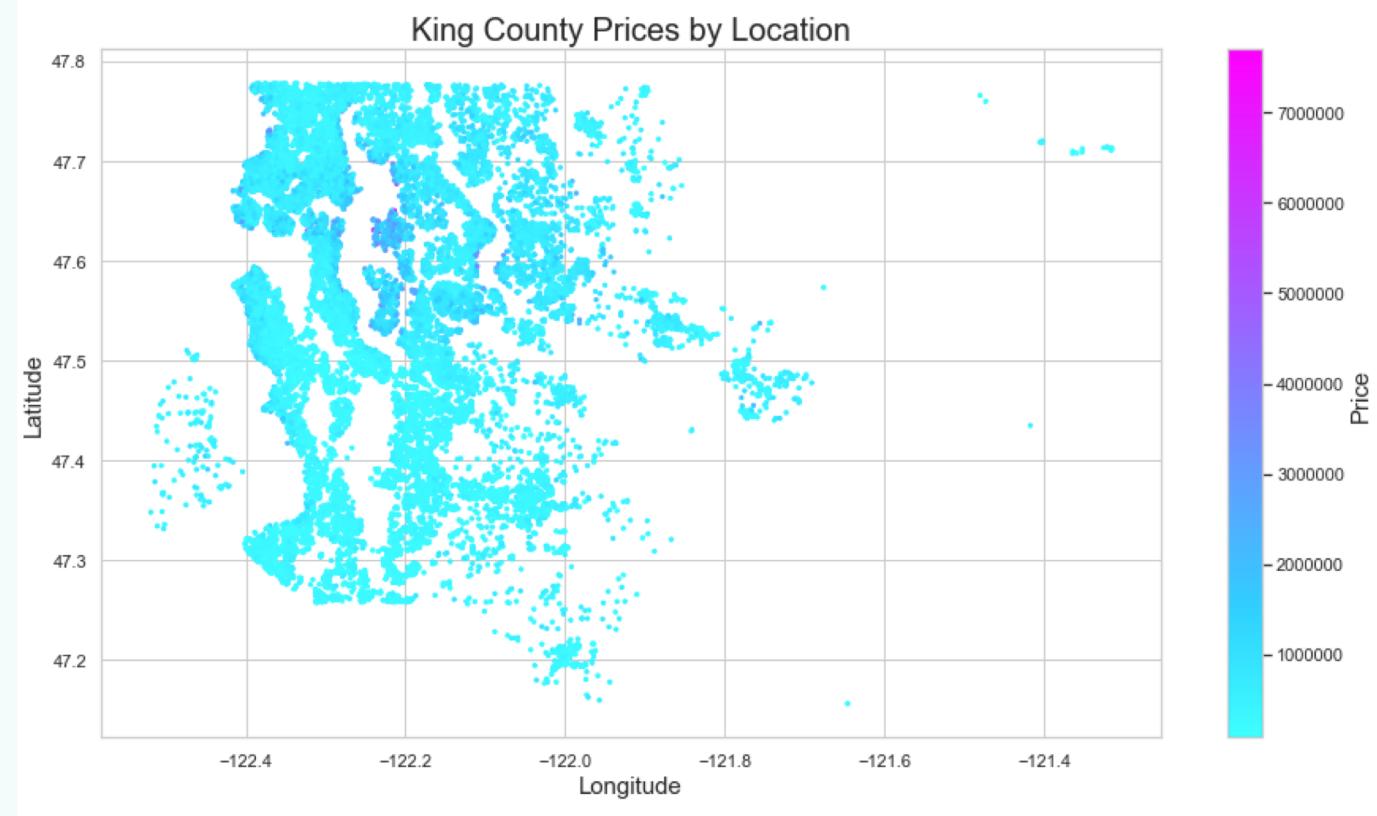
Most Expensive Zip codes:

- 98039 (Medina)
- 98004 (Bellevue)
- 98040 (Mercer Island)
- 98112 (Madison Park)
- 98105 (U District)

This map displays all the housing data we obtained by their price in regards to location.

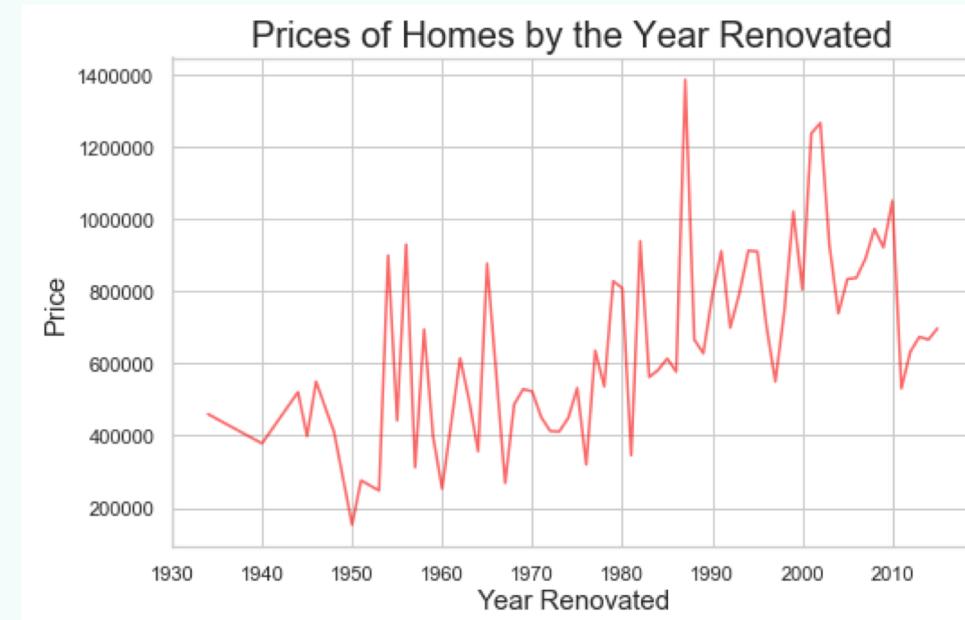
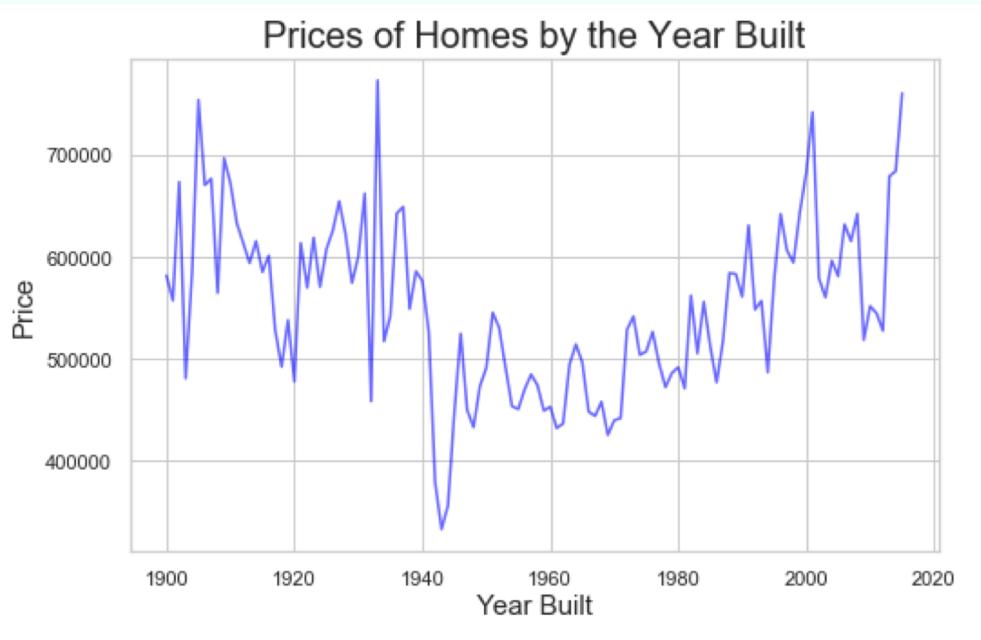
We found that the average home with a waterfront view was almost 3 times more expensive than those without.

However not that less than 1% of the homes sampled had a waterfront view.



We also wanted to explore how the housing market was trending. We looked the year homes were built along with when they had been renovated.

Market Trends



Here we can see the price trend with regards to when the homes were built and when they were renovated.

Final Thoughts

Overall our model can be used in many valuable ways in order to maximize the profit of your home or for looking for real estate to invest in.

This can be shown in our model that uses many insightful features of the home such as square footage, grade, and location in order to make accurate price predictions for the homes in King County.

- T H A N K Y O U -

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