King County Real Estate Analysis

Author: Andre Layton

Summary

Objectives:

- ➔ To identify which features influence the price of a home.
- ➔ To determine how strong the relationships are, and estimate their impact.

According to the models:

- ➔ The square footage of the living space and the heat sources are features that can influence the price of a home.

Outline

- Business Problem
- Data
- Methods
- Results
- Conclusions

Business Problem

- ➔ Explore the relationships between a home's sales price and its features.

- ➔ Determine any opportunities to increase the sales price, and quantify, if possible, the effect those opportunities have on a home's value.

Data

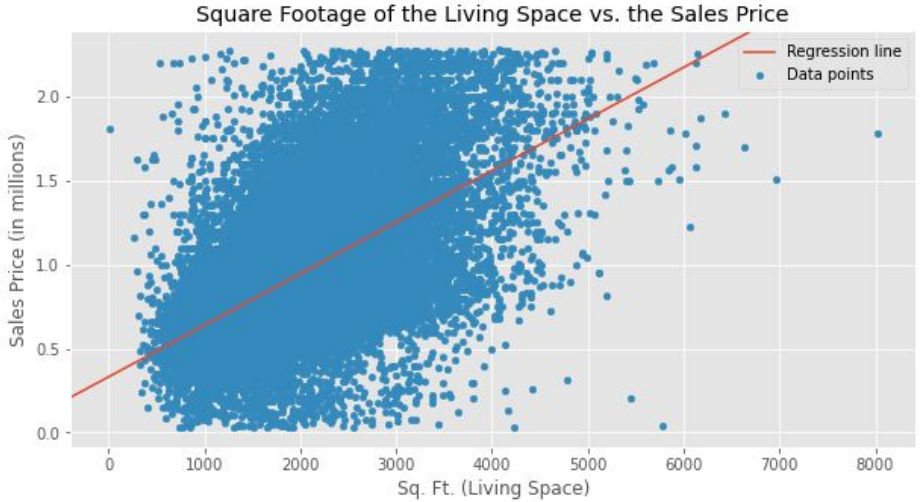
- The initial dataset pulled from the King County government website contains many features, such as year the home was built, the number of bedrooms and bathrooms, etc.

- The final dataset contains the size of the living space (in square feet), the sales price, and three columns each representing a different heat source.

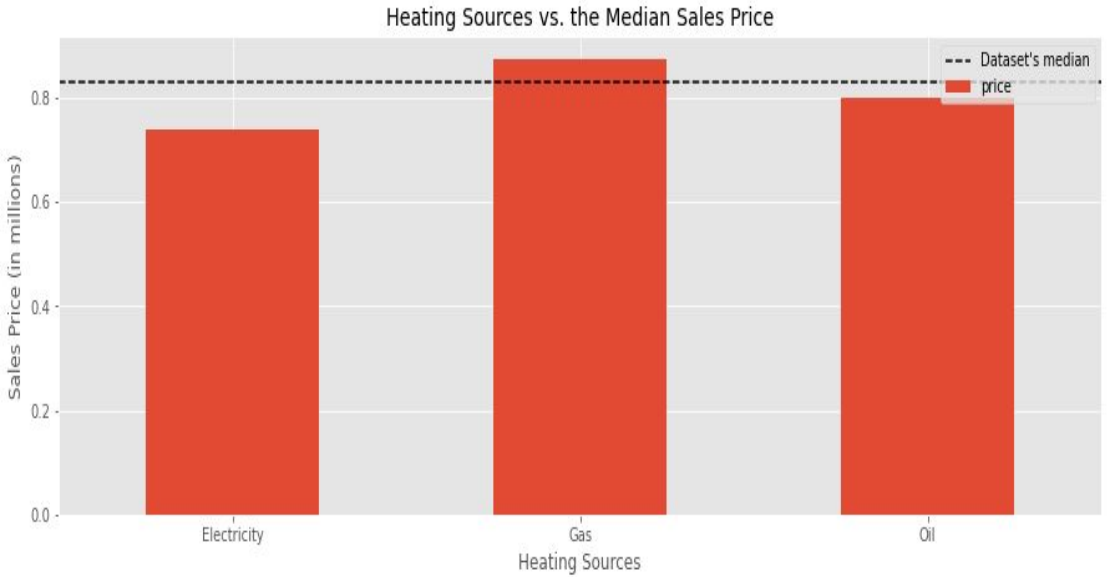
Modeling

- The modeling begins with a simple linear regression model between the sales price and the square footage of a home's living space.

- The size of the living space is the feature with the strongest correlation to the sales price, in this dataset.



Modeling (cont.)



➔ Gas-powered homes have the highest median sales price, and electric-powered homes have the lowest.

➔ We used electricity power as a reference category to help describe the results more clearly.

Regression Results

- ➔ The best predictor of sales price is the size of the living space.
    - As the size of the living space increases by one square foot, the sales price is estimated to increase, accordingly, by $302.

- ➔ Gas-powered homes are valued at a higher median price, and when compared to electric-powered homes, are predicted to increase a property's value by $97,000.

- ➔ The mean absolute error is $279,239.

Conclusions

➔ There is opportunity by increasing the living space of the home & switching to an oil-powered heating system.

➔ Further work could include:

- Research into location and its effect on sales price.
- Explore the other features that clashed with the living space of the home.
- A method to include more of the outliers into the modeling.

Thank You!

Email: alaygt6@gmail.com
GitHub: @therookiescientist-andre
LinkedIn: linkedin.com/in/ak-layton/