Creating Accurate Real Estate Listings: The Power of Data

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Welcome King County Realtors!

Business Problem: Each new listing requires you to search through recent sales for “comparables”

Downsides to using comparables:

- Time consuming
- Inaccurate*
- Based on past data*

† https://www.realtor.com/advice/buy/comps-are-off-base

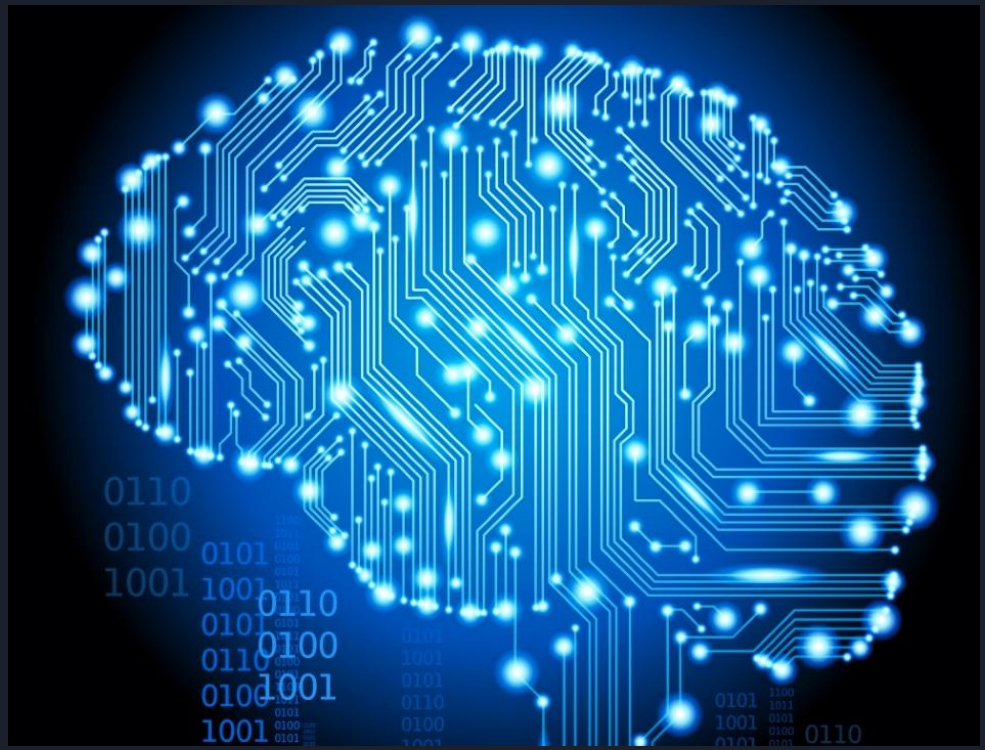
† Why you shouldn't base asking price on comparable sales - Inman

† https://www.mansionglobal.com/articles/pricing-a-property-based-on-comps-is-still-the-rule-unless-it-s-incomparable-68596

Solution: Machine Learning Prediction Tools

The solution?

A data driven machine learning tool that can sift through large amounts of housing data and find trends, identify key features, and accurately and reliably predict the best listing price for a new listing in the King County housing market



Data Review and Key Variables In Our Model

Reviewed 21,597 listings from King County from May 2014-May 2015

Identified 3 key variables in the market data:

- Square Footage of Living Space
- Condition
- Waterfront Amenity

Square Footage of Living Space

Living area increase of 1000 square feet

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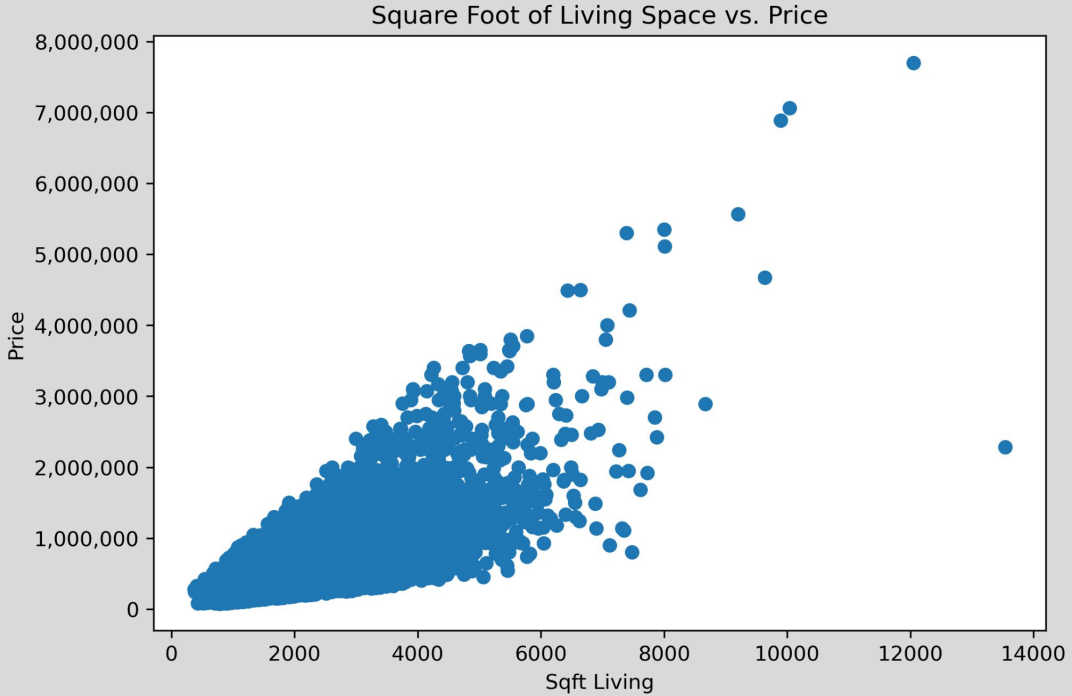
Price increase of $96,750

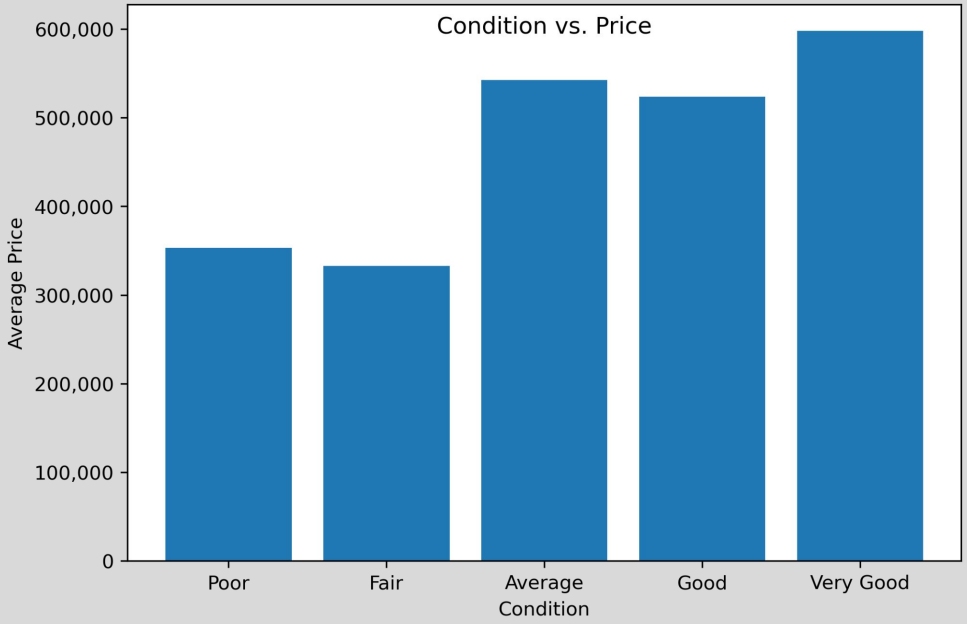


Condition

-There is an average decrease of $93.1K in Fair homes compared to Average homes

-There is an average increase of $34.7K in Good homes compared to Average homes

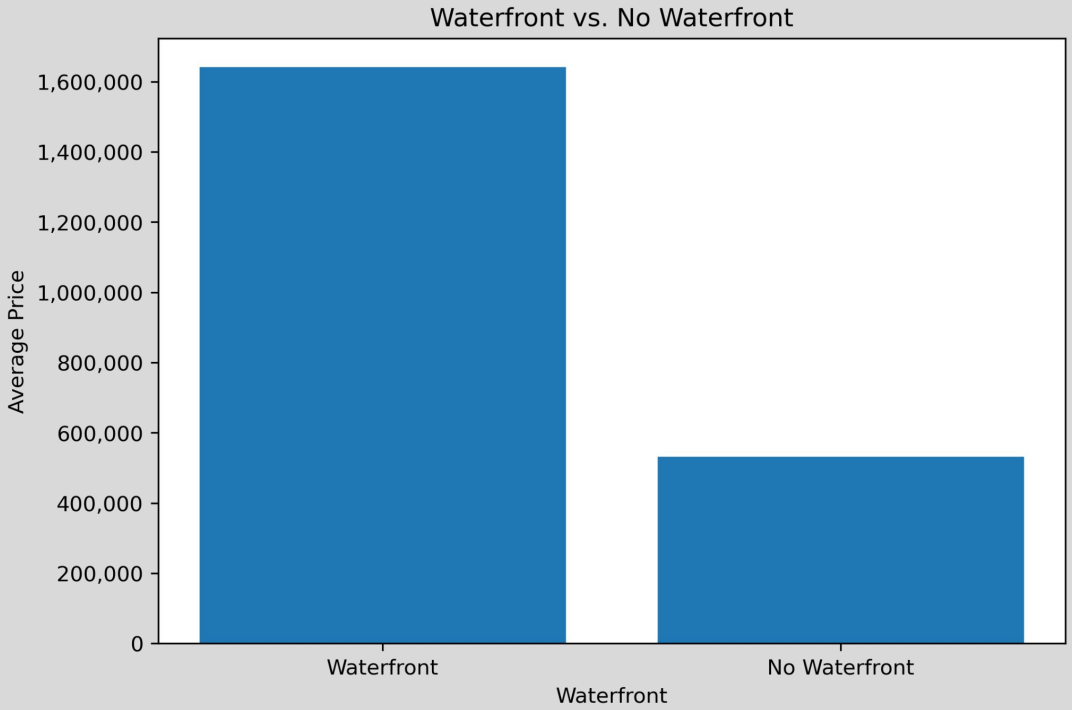
-There is an average increase of $65.6K in Very Good homes compared to Average homes



Waterfront Amenity

-Waterfront properties sell for an average of around 3x more than non-Waterfront

-Waterfront properties sell for $510,400 more than non-Waterfront



Conclusion

Creating listing prices based on our model is a significant improvement

The model is more accurate then using comparables:

- The model has a linear regression r^2 of .74, and a polynomial r^2 of .86
- Significant improvement compared to choosing 2-3 comparables or simple model (.49 r^2)

The predictions can be made quickly, and will save time

Next Steps

- **Identify housing market trends over time, and bake that into listing prices**
- **Identify more key features and create a larger data set to create a more accurate model**
- **Create a similar tool for buyers**

Thank you! Any questions?
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