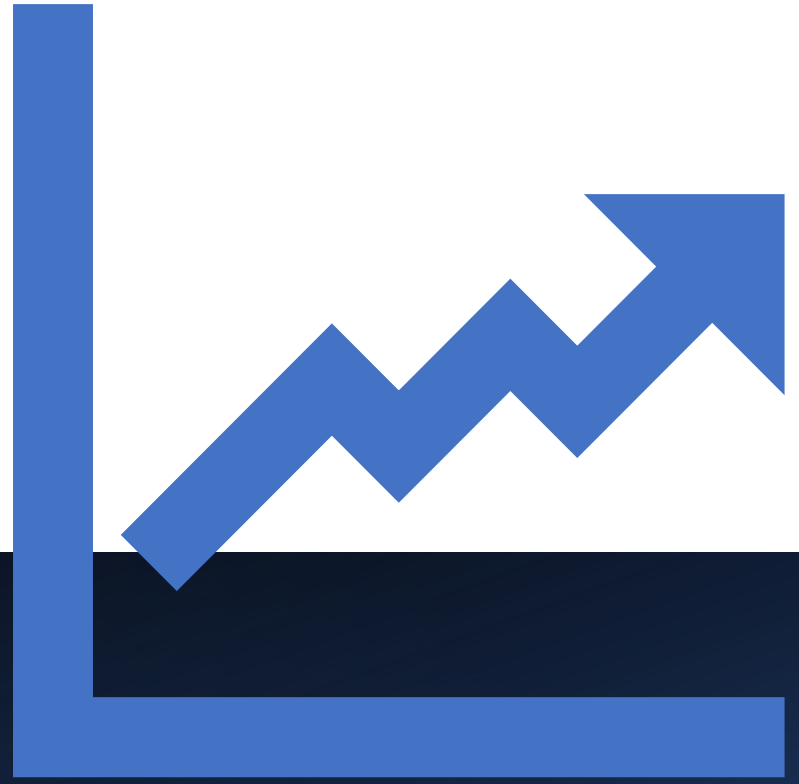
Analysis of House Sales in a Northwestern County



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Summary

Regression analysis of the house features on the existing King County Housing Authority data predicts that the house unit prices could increase if:

- Older houses are renovated to include features such as water fronts, increased number of bathrooms
- The grade and overall condition of houses are improved
- House owners can build houses that have at least one floor up

outline

- Business Problem
- Data &Methods
- Modeling/Model evaluation
- Conclusion/Recommendations

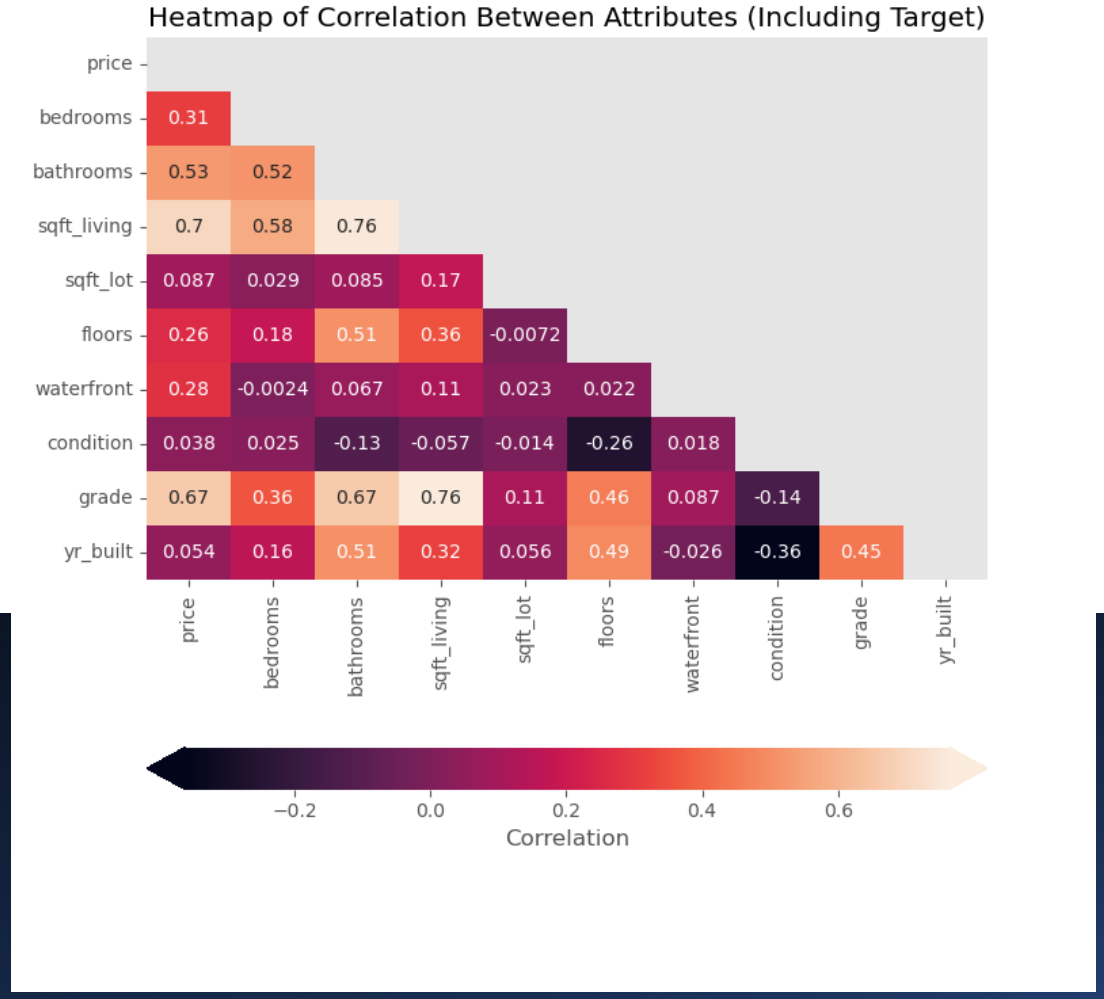
Business Problem

- Identify the Most preferred features of houses in King County in terms of increased sales
- Identify Worst performing features in terms of decreased sales
- Create house sales improvement strategy

Data and Methods

Price correlation with various house features

- House square ft living is the most positively correlated with a value of 0.7 then followed by the square followed by real estate house grading area with about 0.67



From our regression analysis the base price for a house is $ 6672793.67 with a standard deviation of about $216596.78.

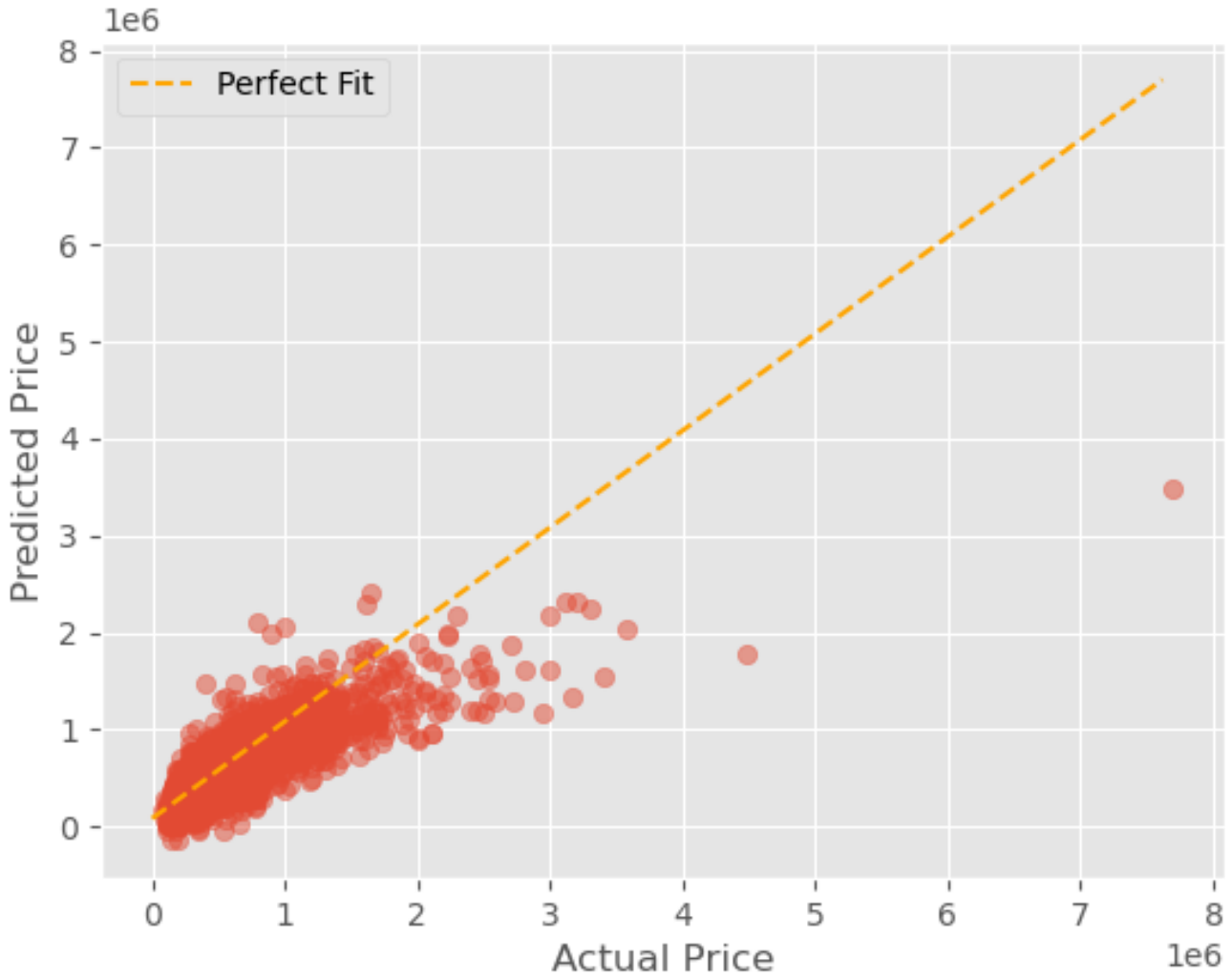
The price of a house unit however fluctuates with change in below factors as explained in the table

Regression Analysis Results- Interpretation

Predictor	Estimated Price Change in ($)	Explanation
bedrooms	-42176.74545	A unit increase in number of bedrooms decreases the house price by $ -42176.75
bathrooms	50786.6214	A unit increase in number of bathrooms increases the house price by $ 50786.62
sqft_living	182.745921	A unit increase in sqft_living area increases the house price by $ 182.75
sqft_lot	-0.234938	A unit increase in sqft_lot area decreases the house price by $-0.23
floors	21108.61933	A unit increase in house floors increases the house price by $ 21108.62
condition	17830.20472	A unit increase in house condition increases the house price by $ 17830.20
grade	127477.4878	A unit increase in house grade increases the house price by $ 127477.49
yr_built	-3829.603494	A unit increase in the year when the house was built decreases the house price by $ -3829.60
waterfront	787274.5801	A unit increase in house with a waterfront view increase the house price by $ 787274.58

The model has a close to perfect linear relationship between our predicted house prices and the actual prices

Model performance credibility



Conclusions

- The variables that will affect the price change of each house unit in Northwestern county are the number of bedrooms, number of bathrooms, square ft living area, number of floors, waterfront, overall house condition, the overall grade of the house, and the year the house was built with a standard deviation RMSE(Root Mean Squared Error) value of $ 216596.78.
- From the final model interpretation, we see that Older houses and number of bedrooms have a negative change in price. While number of number of bathrooms, square ft living area, number of floors, waterfront, overall house condition, and the overall grade of the house have a positive impact on the price.

Recommendations

i. Older houses can be renovated to include features such as waterfront because each house unit that has a waterfront equals to a price increase of $ 787274.58.

ii. Homeowners should build more houses that have more than one floor since the value price increment for each house is quite high -approximately $ 127477.49

iii. The unit area change of the living room also affects the price by 182.74. Homeowners should build houses that have larder living areas in order to increase the house price.

iv. The overall condition change of the house constitutes $ 17830.20 price increase. Homeowners should look for means to improve the overall condition of the house by perhaps repairing bathrooms or even increasing the number of the bathrooms in the house

v. Homeowners should also seek to change the real estate grading of their houses if possible since an upward change in the grade of the house increases the house price by $ 127477.48

Thank You!

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