



# King County Real Estate

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Predicting Prices and Assisting Sellers

# Outline

Business Problem

Data

Model

Results

Recommendations

# Business Problem

Real estate agencies in King County, WA want to be able to

1. Recommend to sellers what improvements they can make to their houses to increase their profit
2. Provide accurate estimates for price



**King County**



# Data

King County makes data available to the public

Contains 29,185 house sales

## Data includes:

Price

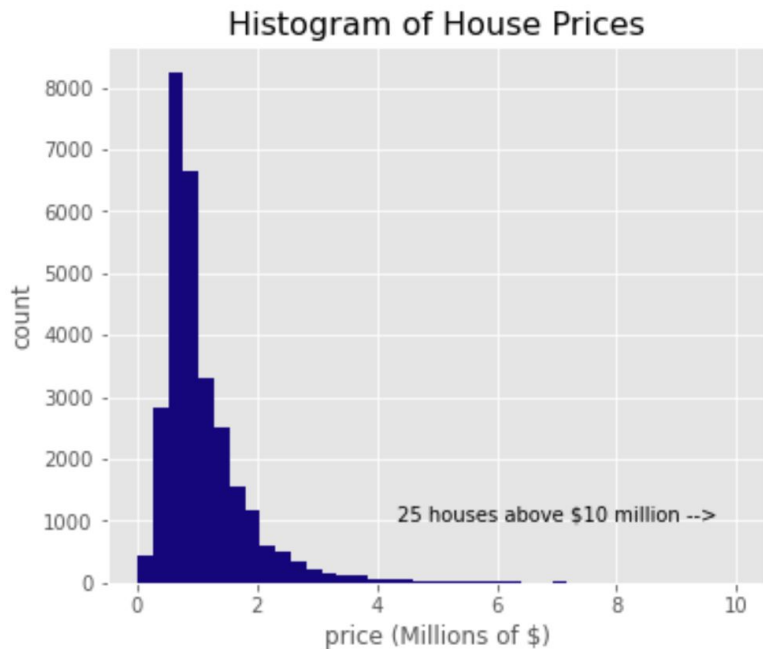
Location

Square footage

Quality of house

Environment around house

Whether house was renovated



# Model: Linear Regression

Model Predicts Price Based On:	Starting Price Assumes:
Square feet of living space	1940 square feet
ZIP code	98042 (has most data)
Grade (Ranges from 1 to 13)	7
Condition (5 levels)	Average (Middle level)
Whether a renovation was done	No renovation
Whether house is on a waterfront	Not on a waterfront

Model starts with price of \$568,539.

Changing any feature multiplies the price by some factor

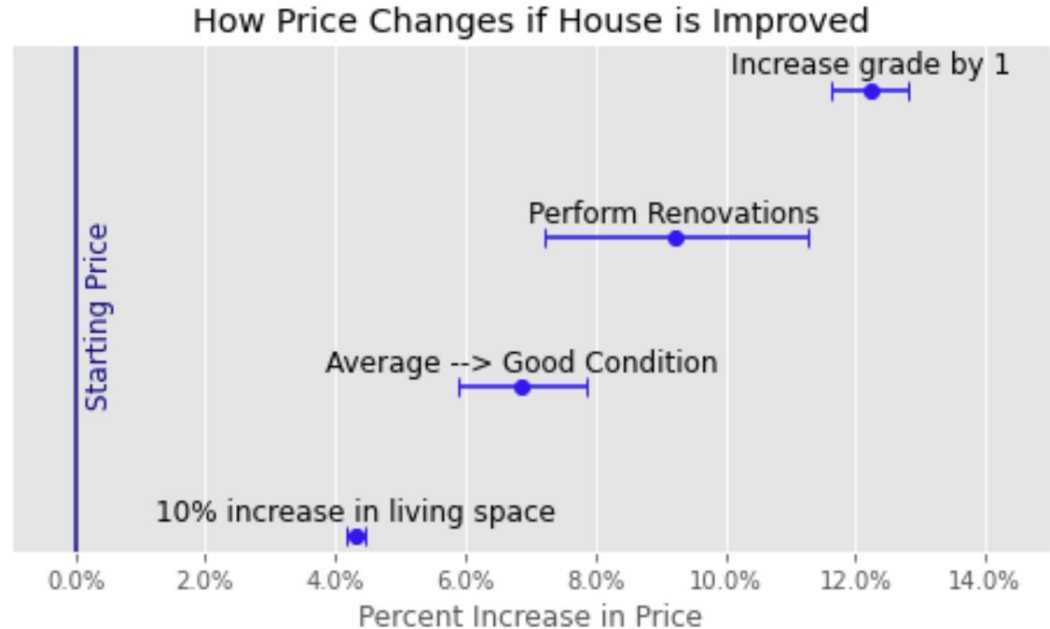
Factors determined by fitting real data

# Results

Increasing grade makes the biggest improvement.

Renovations and improving condition also make a significant difference.

**Price increases more for more expensive homes according to this model**

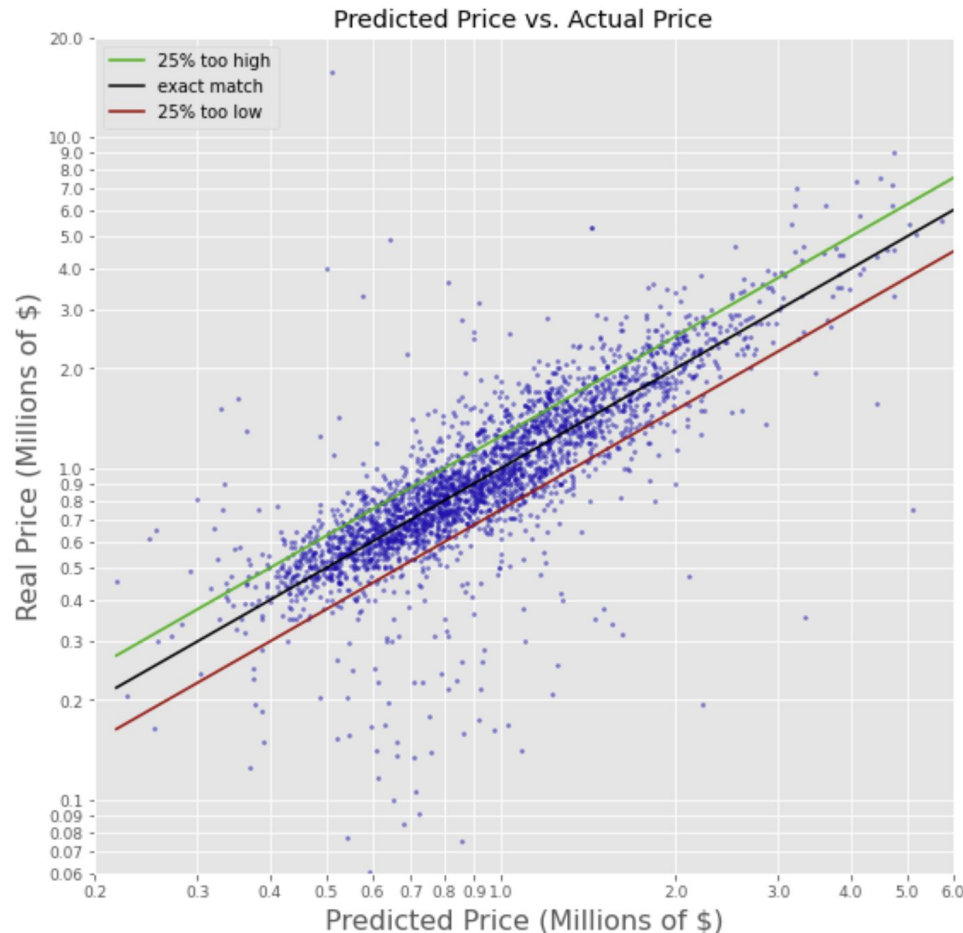


# How Good is the Model?

68.5% of the spread in price is explained by the model.

Used 90% of the data to make model, predict prices for the remaining 10%.

75% of the predictions are within 25% of the actual price.



# Recommendations

Current value:  
\$750,000



How much do renovations raise price?

What changed?	Model predicts new price
Renovations done...	\$819,145
and grade goes up 1	\$919,303
and condition improves	\$875,381
and both grade and condition improve	\$982,415

I would recommend doing the renovations if they cost less than the increase in price.



# Thank You

## Any Questions?

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GitHub For This Project: <https://github.com/daviderics/KC-House-Sales-Phase-2-Project>

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