

# REALTY KINGS

King County Housing Prices

Linear Regression Analysis

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# Our Goal

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- Use exploratory data analysis to gain insight into the king county housing market.
- Determine the features of a home that best predict its price.
- Build a model to predict home prices with the best features(predictors).



## **1. EDA's**

EDA's based on our model.

## **2. Model**

We then demonstrate our model using the selected features.

## **3. Recommendations**

Recommendations based on our model.

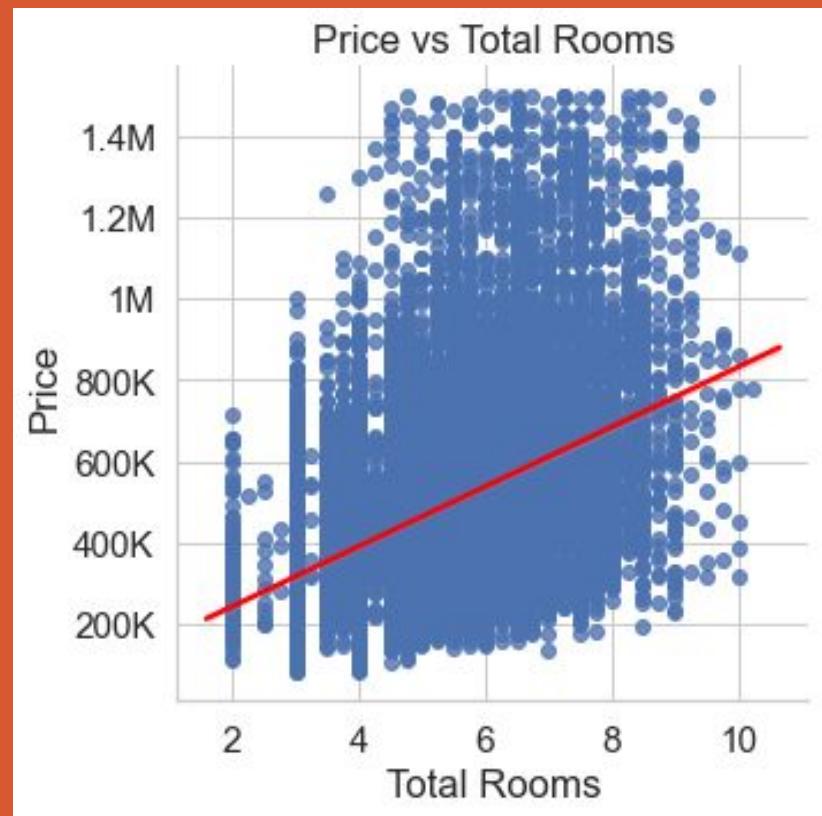
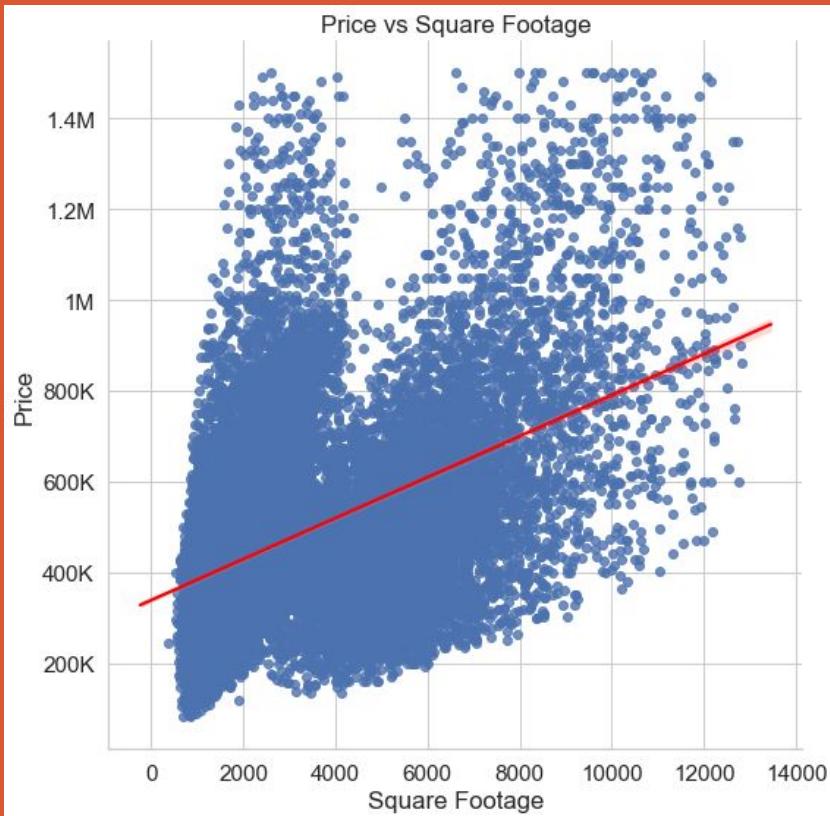
## **4. Future Work**

What we would like to dive deeper into before building another model.

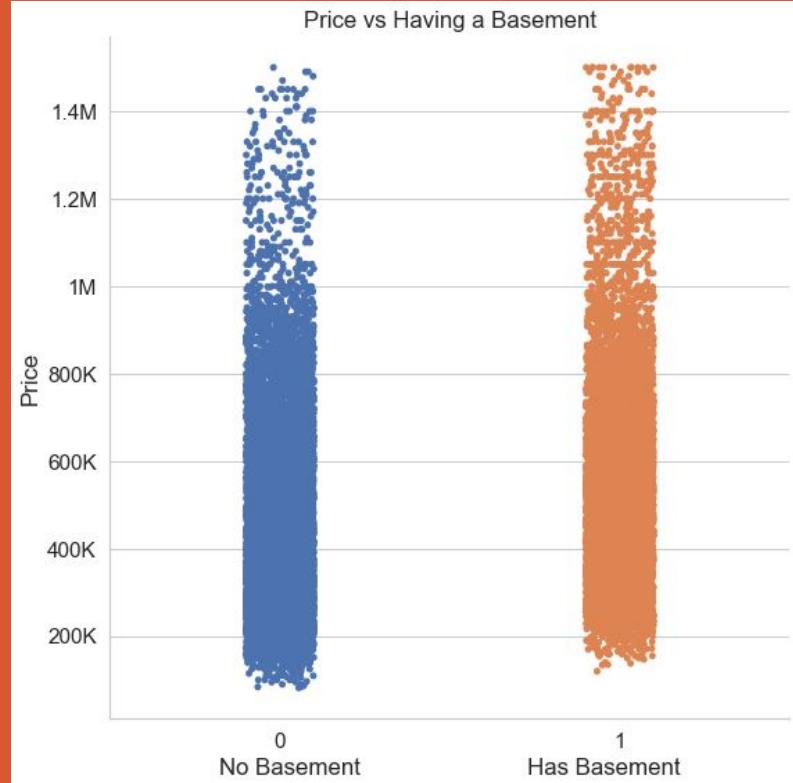
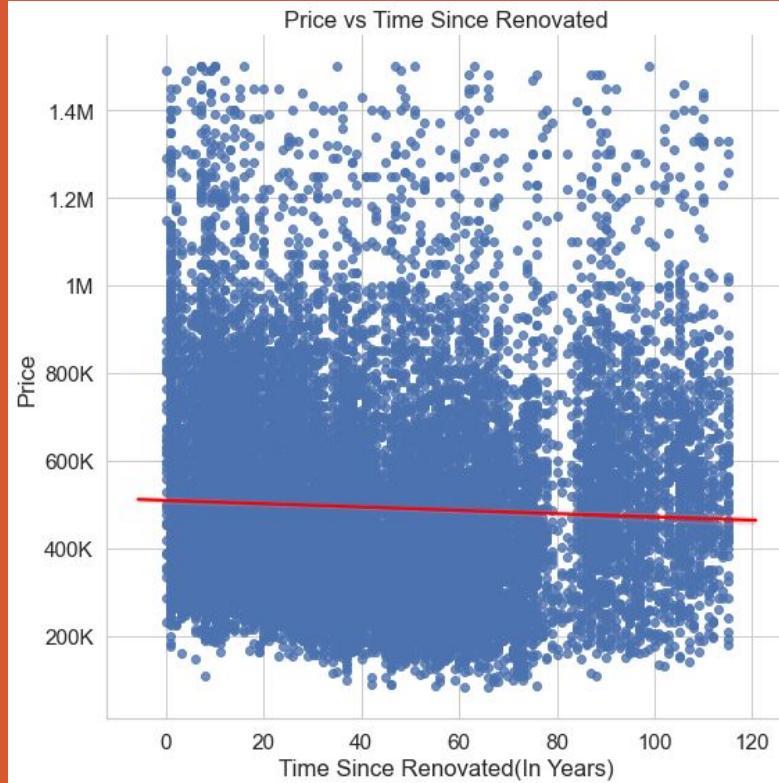
# Exploratory Analysis

21,597

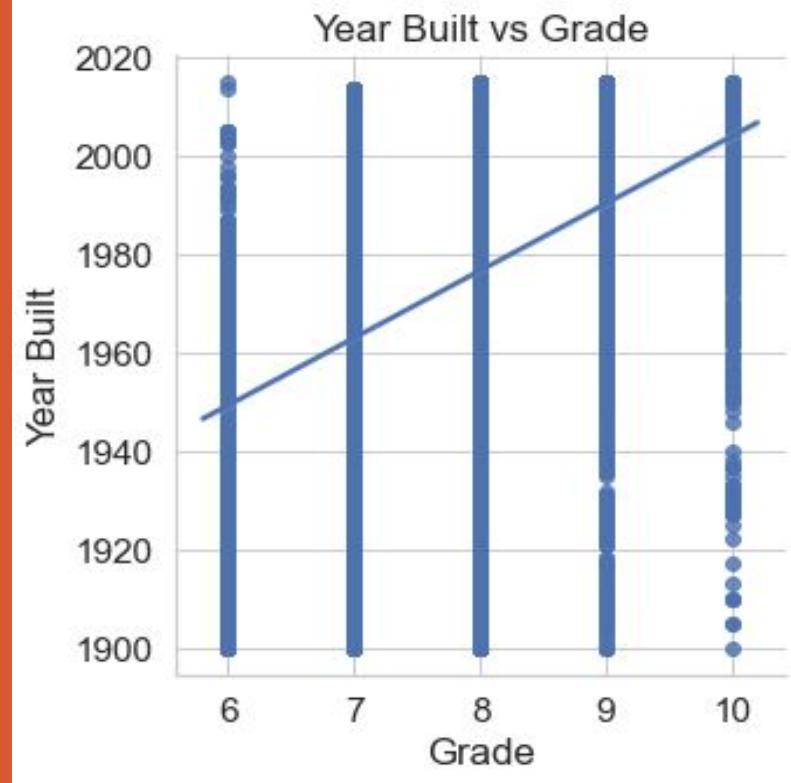
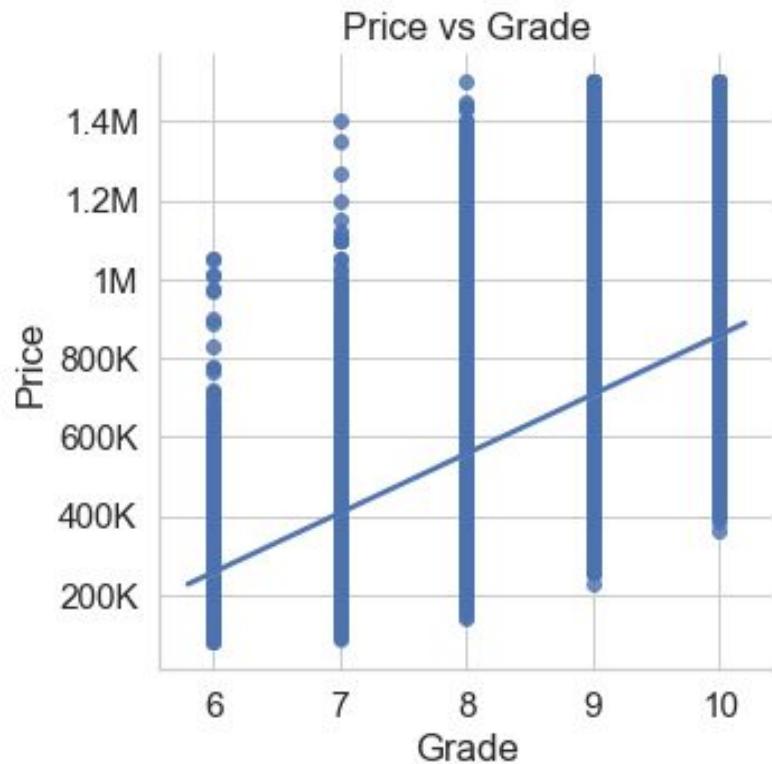
Properties sold in between 2014 - 2015 for an average price of **\$540,296**



# EDA



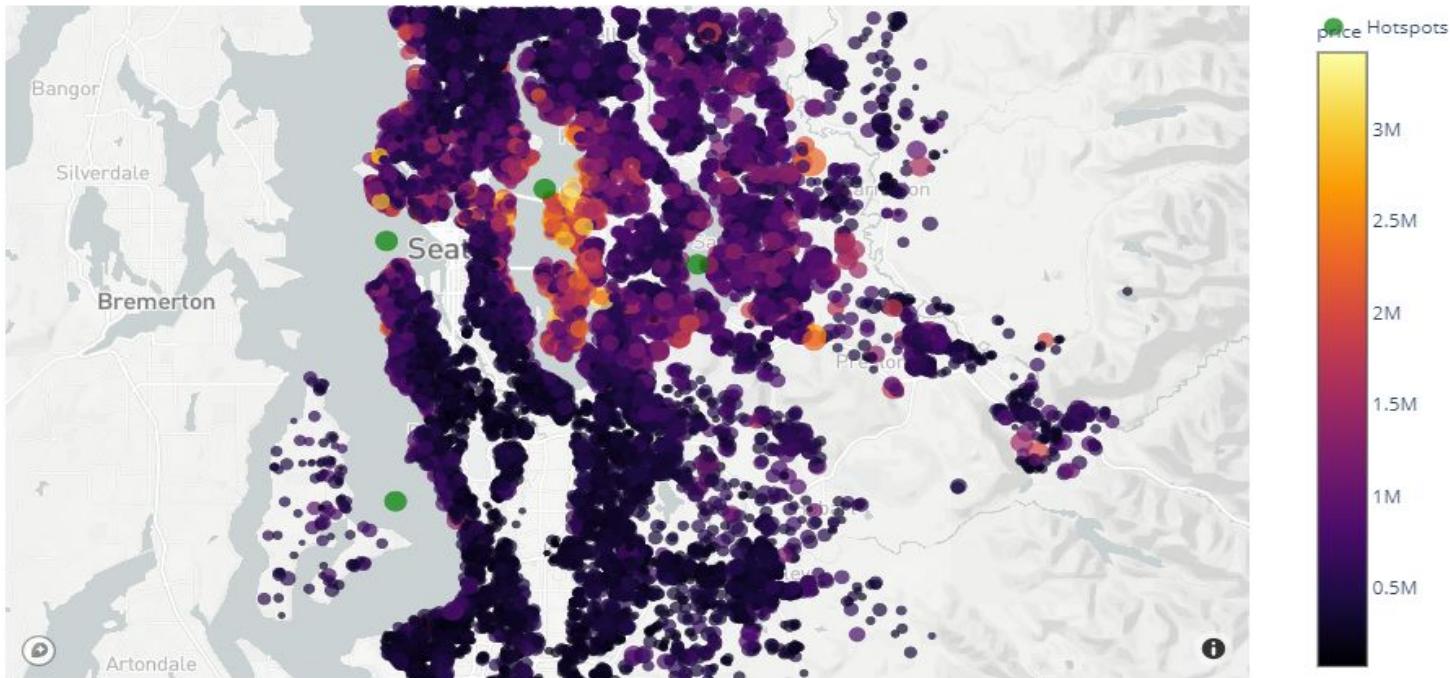
# EDA





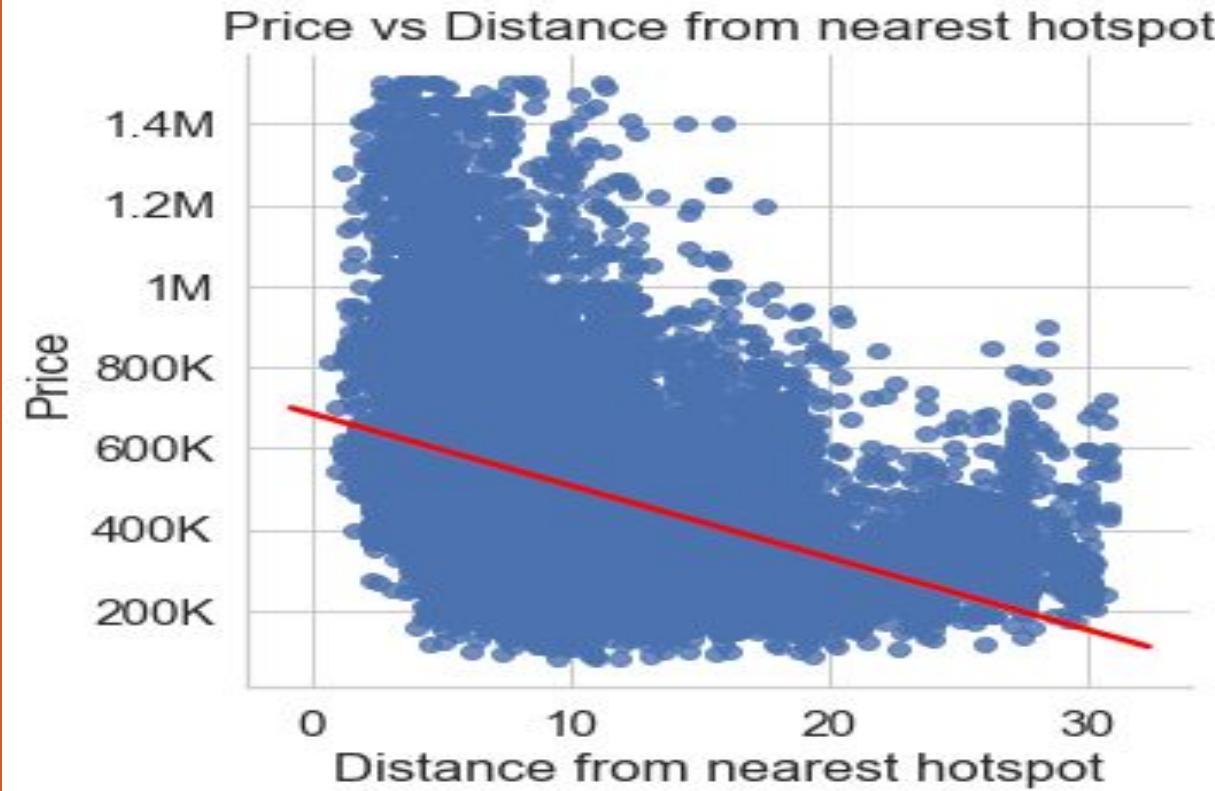
EDA

King County Real Estate and Hotspot Locations



So as you can see, the closer a house is to a waterfront, the higher its price will be.

# EDA





# What Predicts the Price?



BUT ZILLOW SAYS MY HOME IS WORTH



ONE MILLION DOLLARS

# BEST MODEL PREDICTORS



<b>Renovation</b>	yes/no * $1.26 \times 10^5$
<b>Views</b>	#views * $6.903 \times 10^4$
<b>Basement</b>	yes/no * $4.428 \times 10^4$
<b>Condition/Grade^2</b>	Meta score^2 * 3942.97
<b>Time Since Renovation</b>	Time * -291.362

# Recommendations



# Recommendations

**1) Renovation** - Make renovations. Renovations will affect grade which in turn affects Price to be higher.

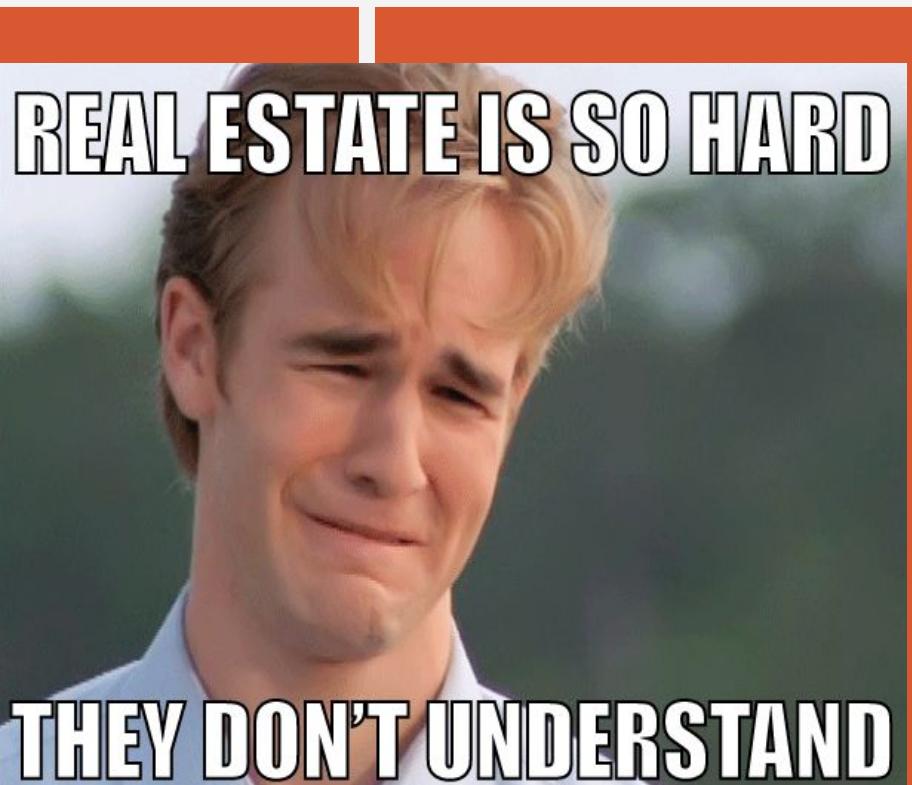
Renovations ~ Grade ~ Price

Renovations ~ No. of rooms ~ Price

**2) Views** - Increase view count. Higher view count will result in more offers which will potentially increase house value. In Zillow, more view counts results in the property being classified as "hot".



## Future Work



**REAL ESTATE IS SO HARD**

**THEY DON'T UNDERSTAND**

Obtain more diverse data:

- Distance from important areas of note such as:
  - Schools/Colleges
  - Hospitals
  - Major Employers
- Greater range of when houses were sold outside of timeframe provided
- Zip Code and School District investigation
- Frequency of Sale and Prior Sales Prices

Model Refinement with improved accuracy and predictors

## OUR TEAM



### Payson Chadrow

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The probability of this result happening by chance is 0.027. Since  $p < 0.5$  i conclude that the sun has exploded

### Saif Kasmani

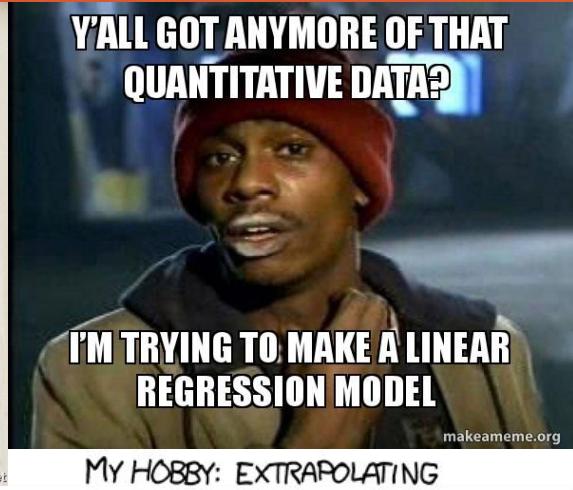
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I bet you \$ 50 it hasn't

A photograph of the Seattle skyline at sunset. The Space Needle is prominent on the left. In the background, Mount Rainier is visible against a pink and orange sky. The city buildings are illuminated by the setting sun.

thank  
you

# Memes



THIS IS YOUR MACHINE LEARNING SYSTEM?

YUP! YOU POUR THE DATA INTO THIS BIG PILE OF LINEAR ALGEBRA, THEN COLLECT THE ANSWERS ON THE OTHER SIDE.

WHAT IF THE ANSWERS ARE WRONG?

JUST STIR THE PILE UNTIL THEY START LOOKING RIGHT.

