

# Revamping Your Home: Unleashing The Power of Linear Regression for Effective Renovation

For SmartRenovate  
Realty



# Introduction



SmartRenovate Realty is determined to thrive and achieve exceptional returns on investment (ROI) in the competitive real estate market of the northwestern county.

Employing a data-driven approach and leveraging statistical modeling techniques, they are committed to making well-informed decisions that optimize profitability and guarantee a prosperous house flipping venture.

# Objectives



- ❑ Discover prime locations with promising investment opportunities in the real estate market.
- ❑ Uncover the ideal timing for acquiring properties for maximum profitability.
- ❑ To Investigate the relationship between property size and price to gain insights into the impact of size on the value of the property.

# DataSet



- ❖ Uses Data from King County House Sales Dataset
- ❖ Contains 21k Records

# Methods



- ❑ Conduct Data Collection and Preparation to gather relevant information
- ❑ Utilize Linear Regression to examine the data and extract meaningful insights
- ❑ Perform Comparative analysis to uncover patterns and generate recommendable insights

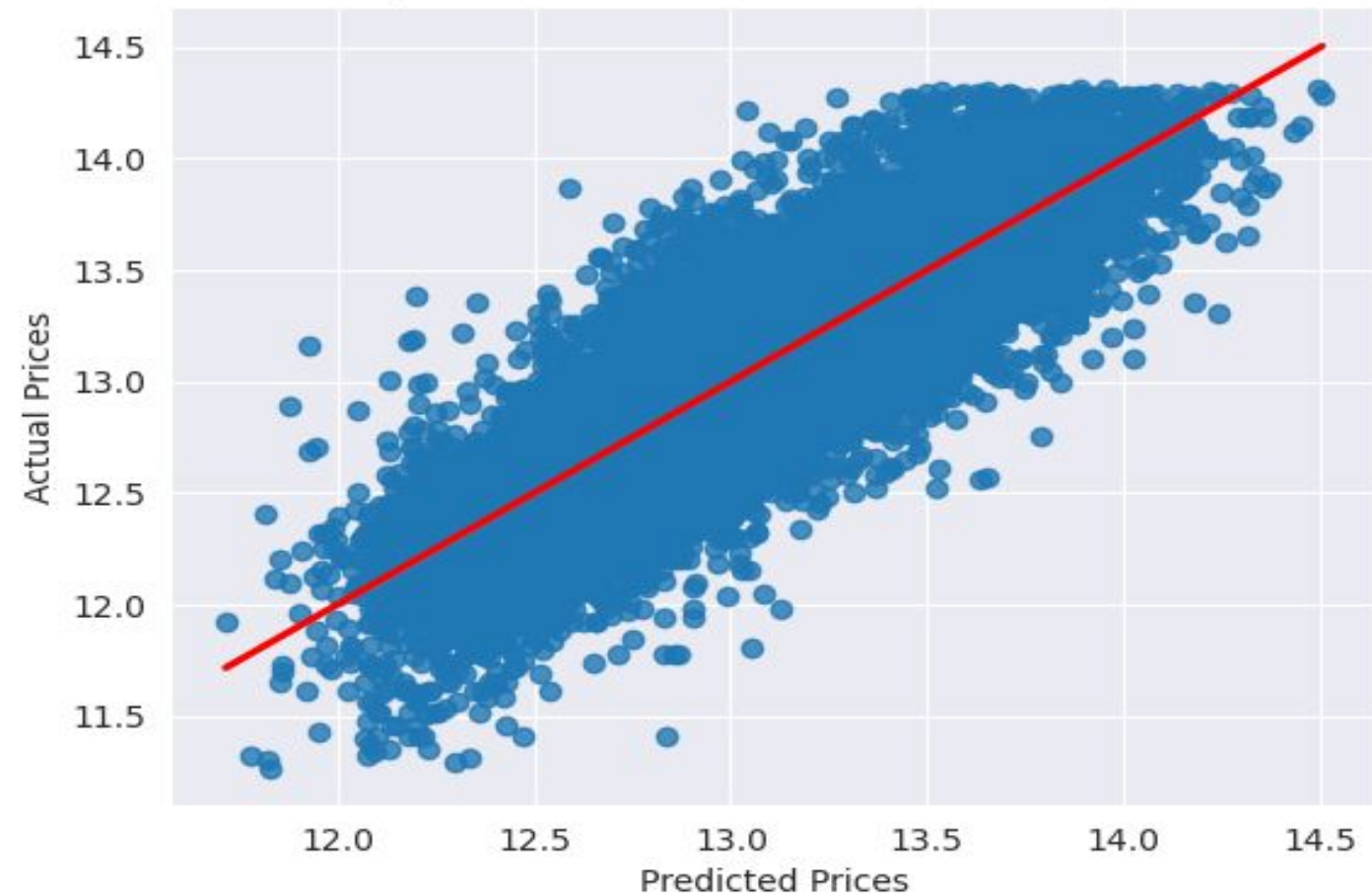
# Modeling



- ❑ The analysis utilizes multiple linear regression to understand the relationship between predictors and property prices.
- ❑ Factors such as location and size are examined to identify key drivers of property value.

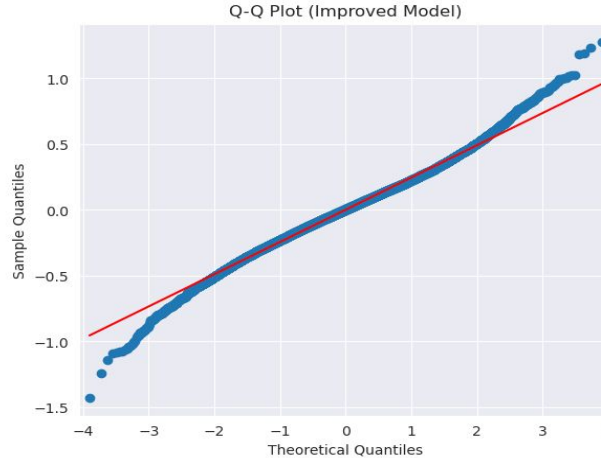
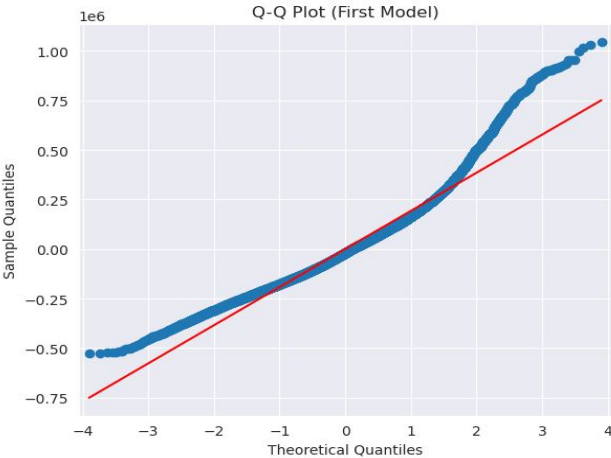
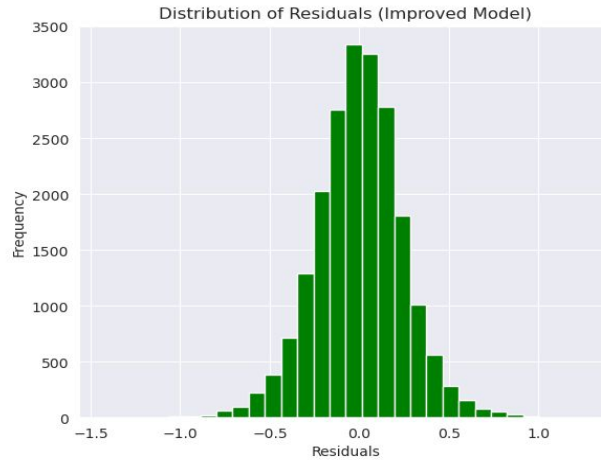
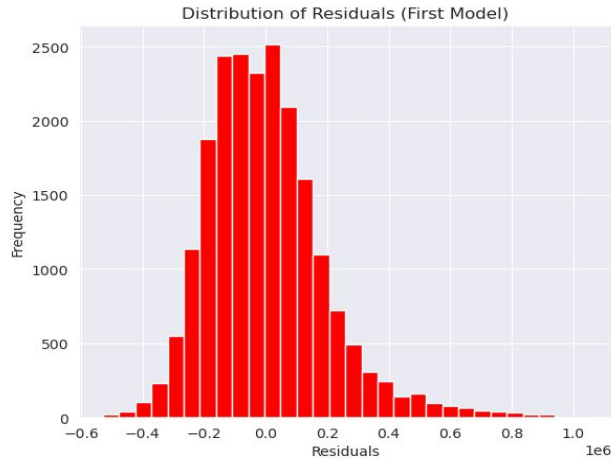
# Model

Regression Plot - Predicted vs Actual Prices



- ❑ The prices are positively correlated justifying our model's Performance

# Models Performance



- ❑ The first model performed poorly
- ❑ The Final model performed better than the first.



# Regression Result

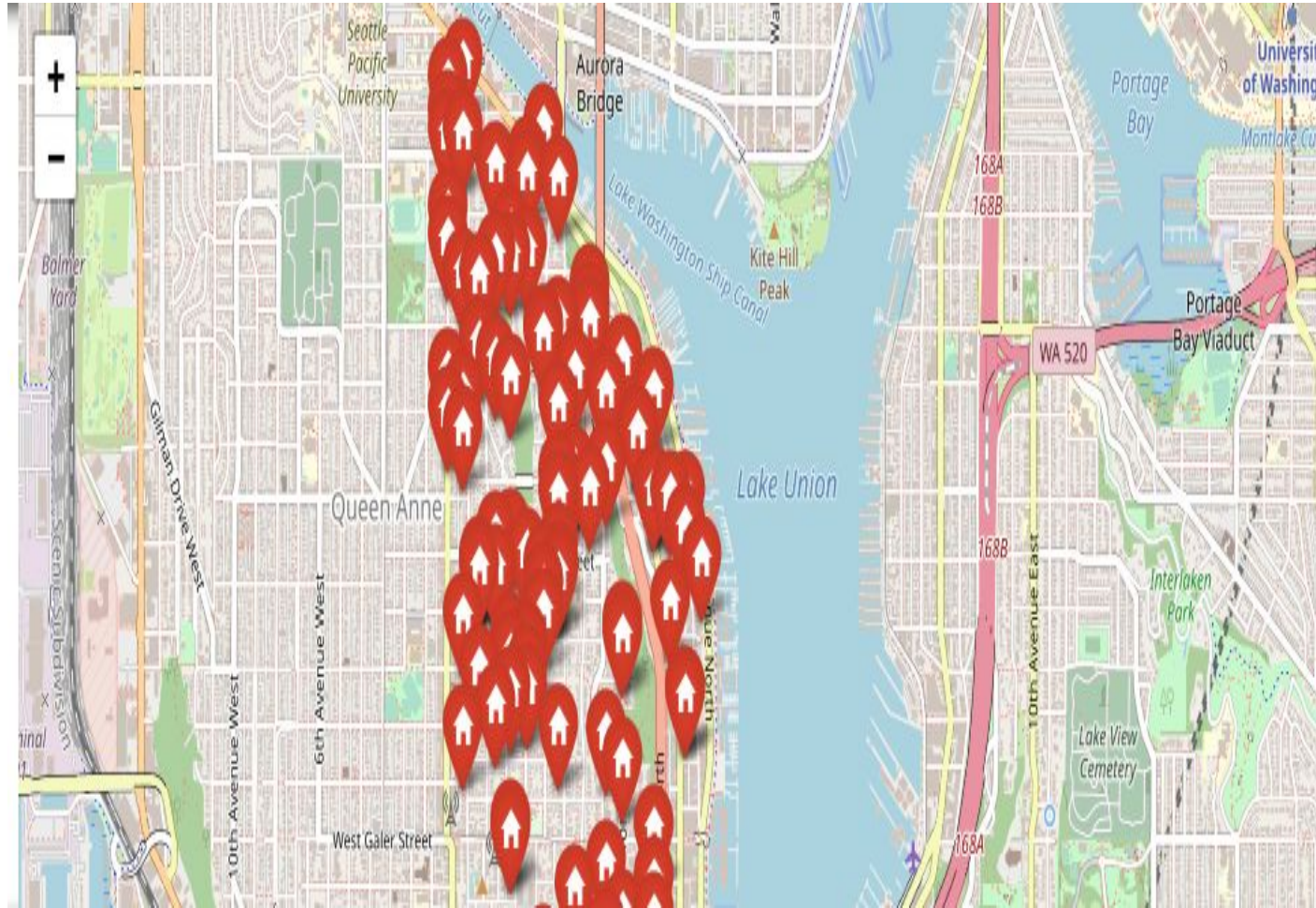


- ❑ Houses In the Area of Lake Union Have The Highest Prices
- ❑ Size positively Influences Price. The Bigger the Better.
- ❑ The Spring is the best time to sell houses while the winter is the best time to buy them.

# Results

## Location

- ❑ Near-water Areas have high prices.
- ❑ The Lake Union Area is the best area in terms of Price.

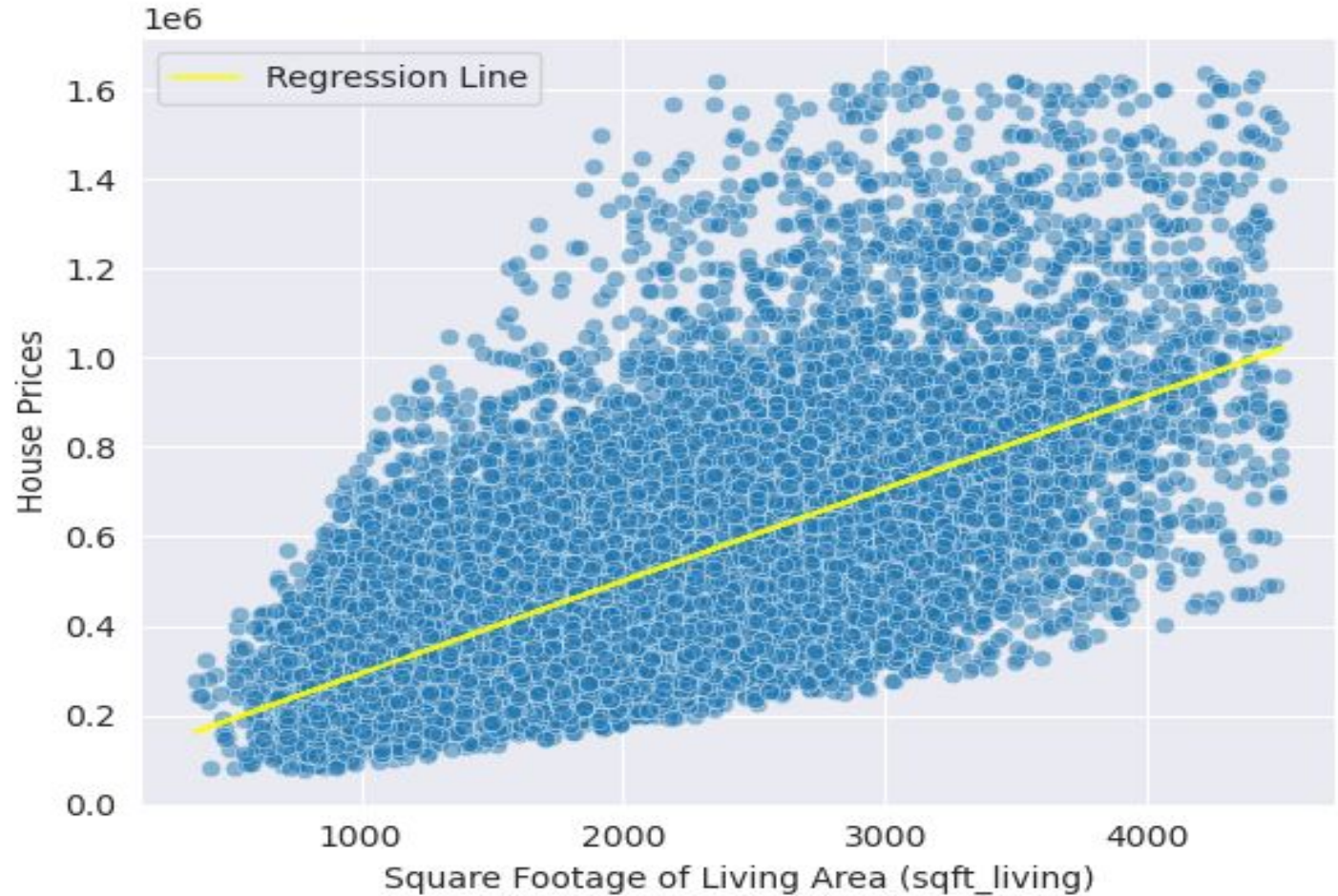


# Size



☐ Positive  
Influence Of Size  
On Price

☐ Directly  
Proportional

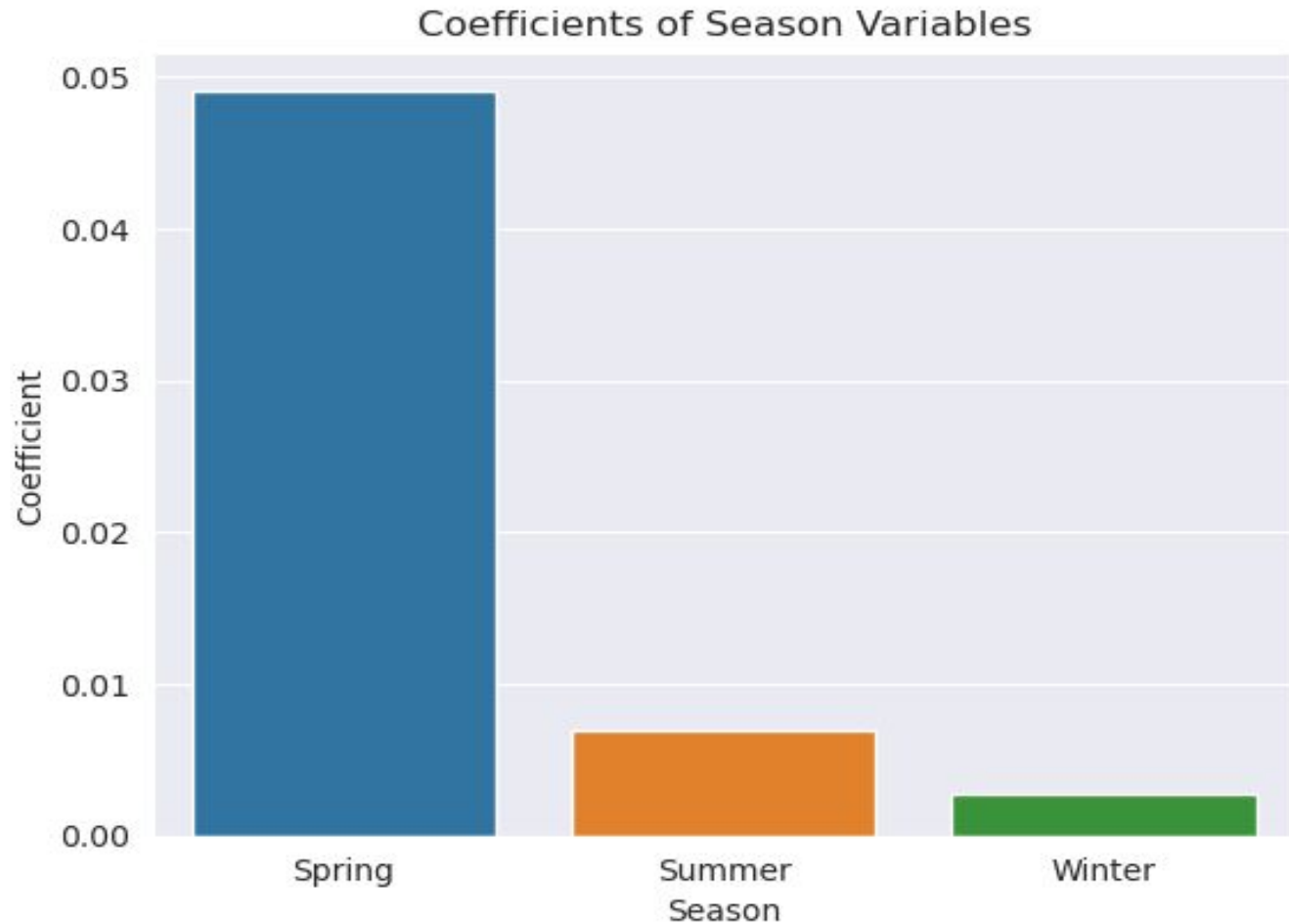


# Time



❑ Spring has the highest rise in price which is 5%

❑ Summer and Winter do not even come close to Spring.




# Recommendations




## Location

-  Buy Houses around the Area of Lake Union


## Size

-  Buy Houses with small sizes and renovate them to bigger sizes to generate a high ROI

## Time

-  Sell in the Spring where prices increase by 4 % and buy them in winter for relatively cheap.

# Conclusions

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- ❑ The Bigger, the Better.
  - ❑ Spring Over All.
  - ❑ Lake Union Region Is the Best



**THANK YOU**