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# Home Renovations

— Laura Brown —

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# Summary

Analysis on what variables correlate to the price of a home and recommendations for homeowners on what renovations they should consider when trying to maximize profits from trying to sell their home.

Increasing the square footage of the home, whether that's living or patio space, will increase the value of their home.

Adding an additional bathroom could increase sale price by about \$130,000

Improving the condition of the house can add value by \$75,000

# Outline

Business Problem

Data

Methods

Results

Conclusions



# Business Problem

Given information about homes in King County, Washington, we want to know what recommendations we can give to homeowners looking to sell their home and maximize profit.

Objective:

Create a model that can accurately predict how much value each variable adds to the total price of a home.

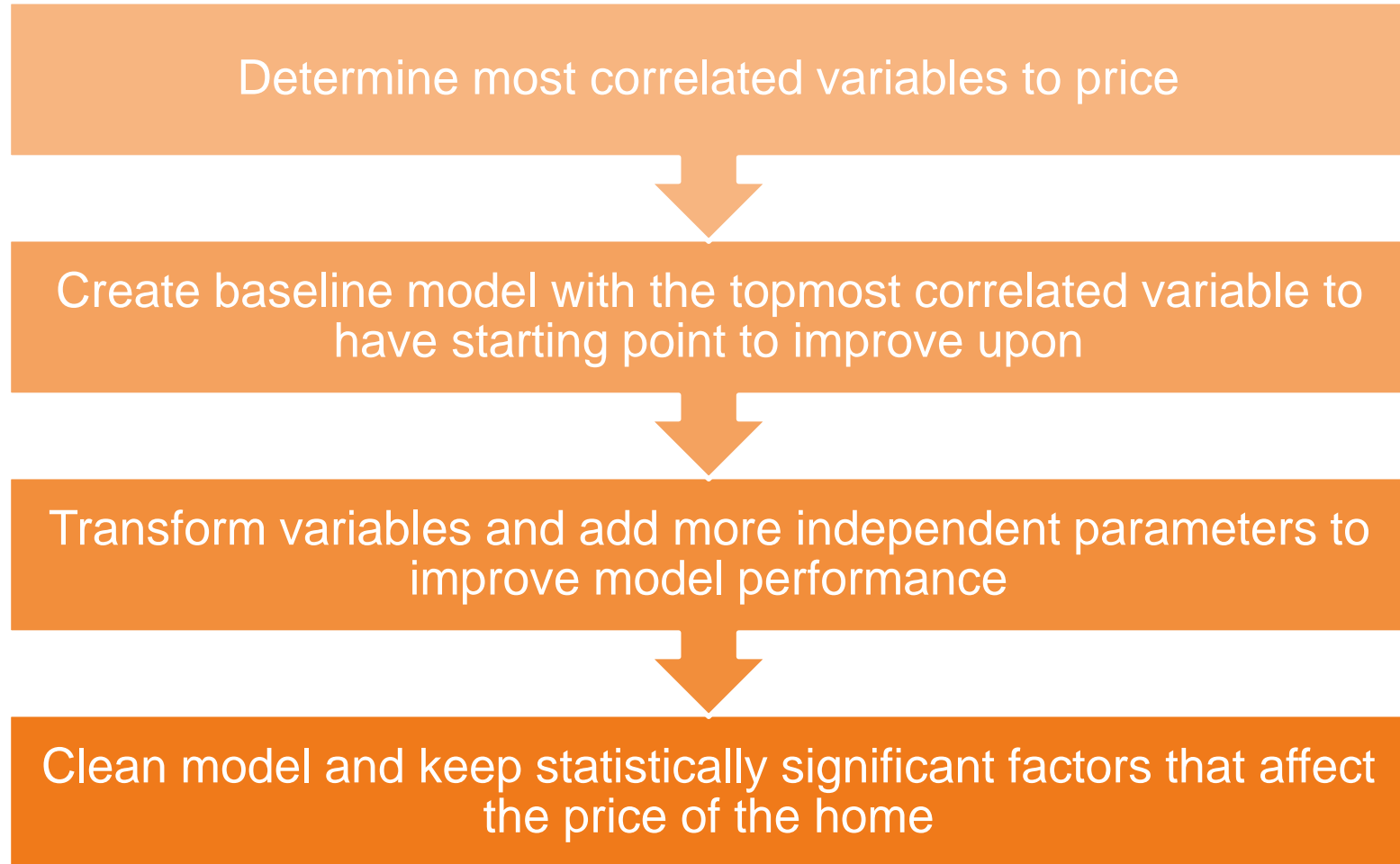


# Data

- Source: King County House Sales
- 30,155 samples
- 25 columns (variables)
- Numerical and Categorical data types
- Parameters Used:
  - Dependent: Price
  - Independent: Square footage of living space, square footage of patio space, bedrooms, bathrooms, year built, and condition of the house



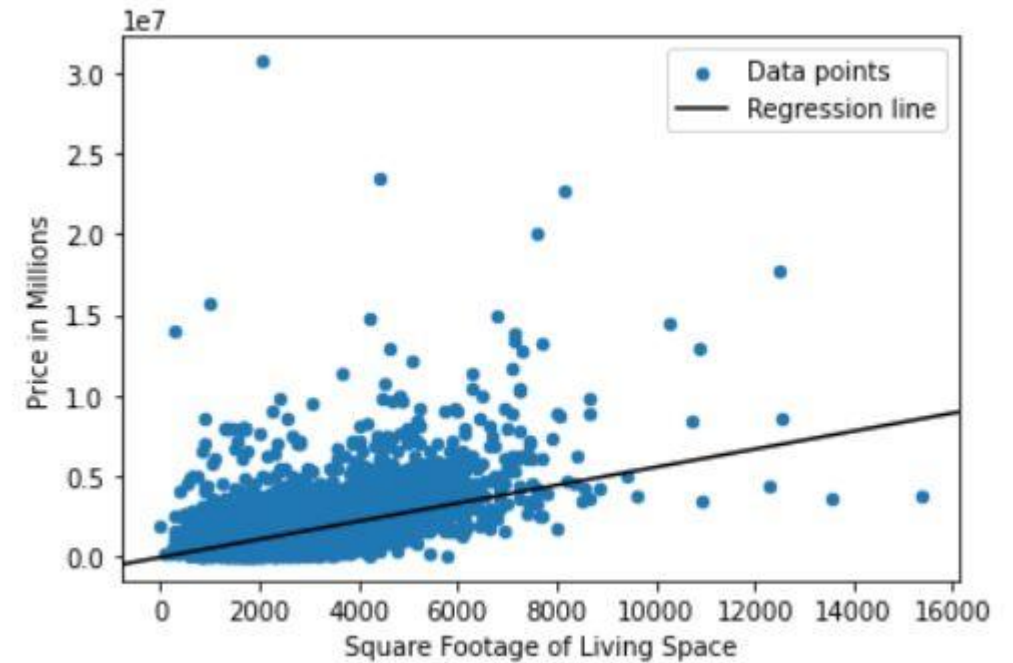
# Methods



# Results – Baseline Model

- Constant: **-\$74,430**
- Price per Square Foot of Living : **\$560**

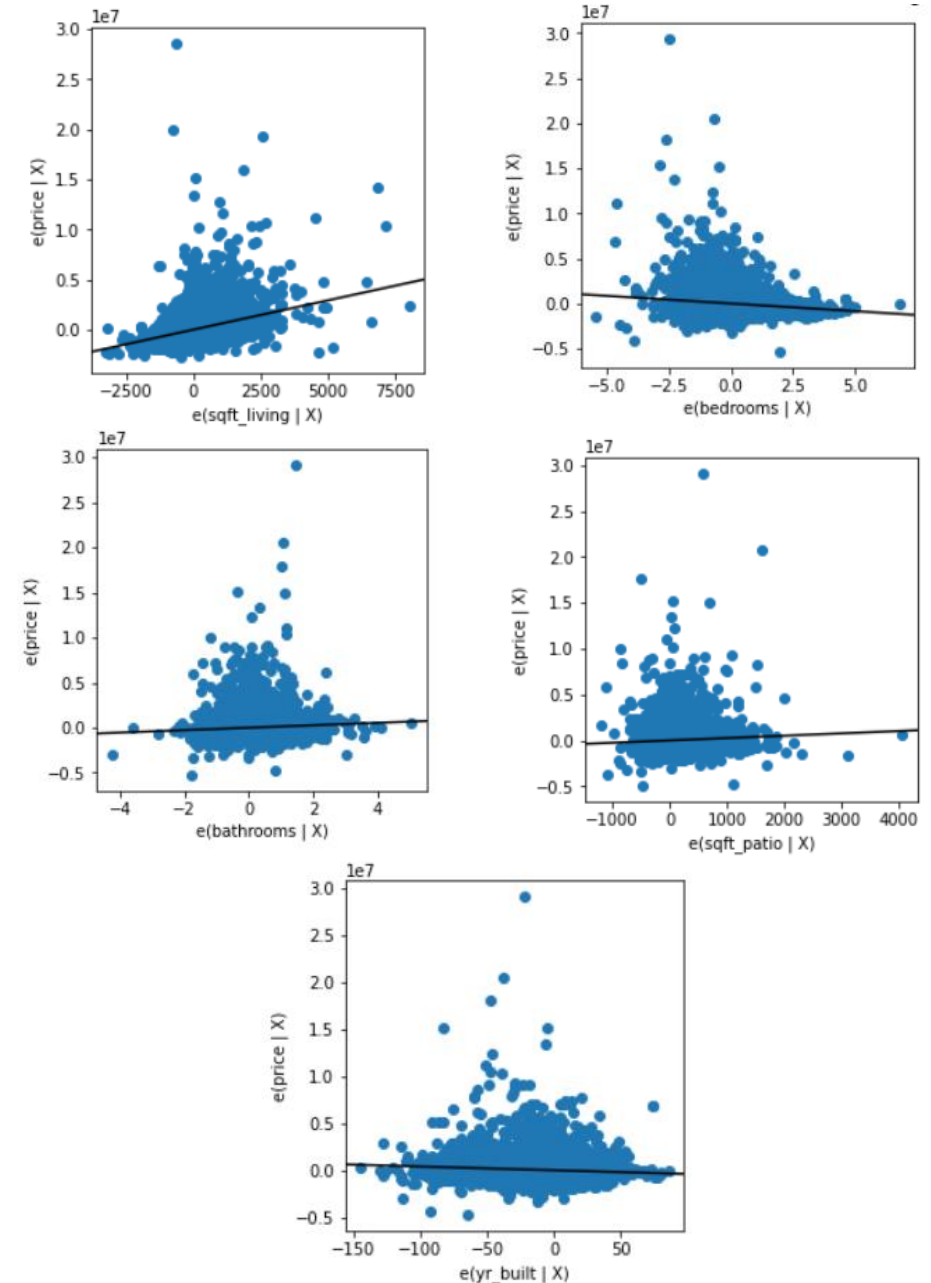
**This model only explains 37% of the variance in the data**



# Results – Final Model

- Constant: **\$7,772,000**
- Price per Square Foot of Living: **\$586**
- Price per Bedroom: **-\$170,200**
- Price per Bathroom: **\$135,400**
- Price per Square Foot of Patio: **\$255**
- Year Built: **-\$3,955**
- Average Condition: **\$71,840**
- Good Condition: **\$41,980**
- Very Good Condition: **\$75,140**

This model explains approximately 41% of the variance in the data





# Conclusions

- Both parameters involving square footage of an area are positive and increase the value of the home
- Adding an additional bathroom adds the most value and is the second strongest correlated variable to price
- Houses that are in “Very Good” condition see the highest return

## Next Steps:

- Adding more interaction variables could improve the performance of the model
- Including economic information for this region could be very informative

# Thank You!

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