Predicting Housing Prices

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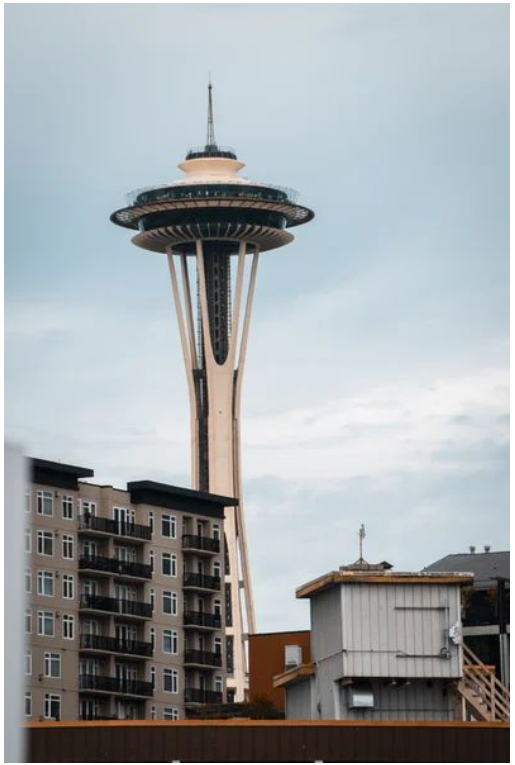
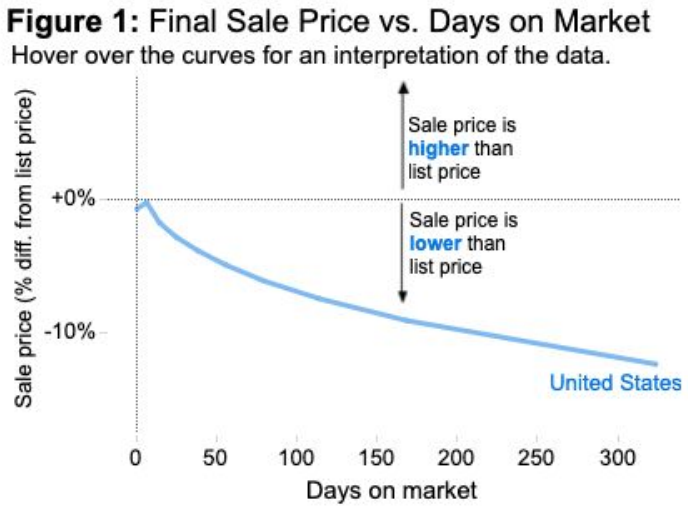
Overview

1. Business Problem
2. Data
3. Visualizations and Modeling
4. Validation of Model
5. Conclusions & Next Steps



Business Problem



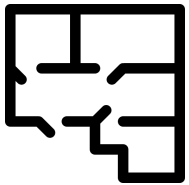
Source: Zillow

- Houses priced too high will stay on the market for too long lose their value
- Houses priced too low minimize the return for sellers and size of commission for realtors
- Pricing accurately will ensure that houses sell faster and maximize the return for sellers and realtors

Data

21,000 homes sold between 2014-2015 in King County, WA

Example House Features:

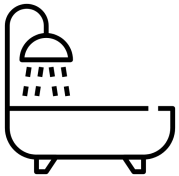
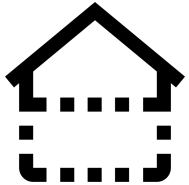
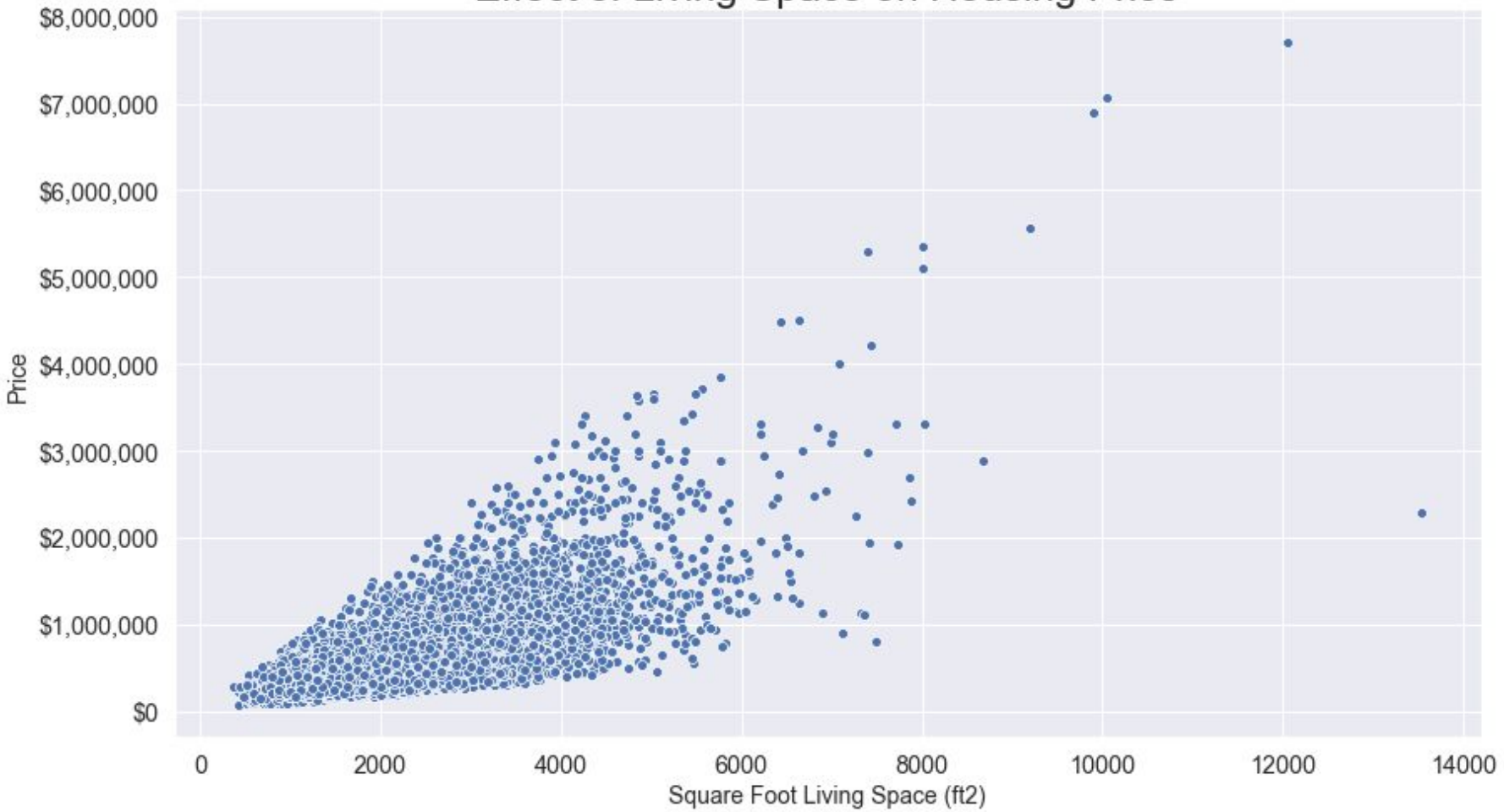




image: Flaticon.com


Effect of Living Space on Housing Price
$8,000,000
$7,000,000
$6,000,000
$5,000,000
$4,000,000
$3,000,000
$2,000,000
$1,000,000
$0
Price
0
2000
4000
6000
8000
10000
12000
14000
Square Foot Living Space (ft2)

Results

- 42% of changes in house price are accounted for by changes in these features

Features Used:

Waterfront : Adds $860,000

Housing Grade : Adds $200,000

Number of Bathrooms : Adds $130,000

Years Old : Adds $4,615

Prediction with Model

- 2.5 Bathrooms
- Housing Grade : 8
- Waterfront? No
- 32 Years Old

Predicted Price: $576,070

Actual Price: $562,500

Conclusion & Next Steps

- Important predictors: bathrooms, housing grade, waterfront, and how old the house is
- Got within $100,000 generally
- Generalizable across new data

Next steps:

- Model evaluation shows more factors should be included
- Look into zip code and location data in comparison to city features
- Investigate different interactions between features

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