



Work in Progress

James Benedito

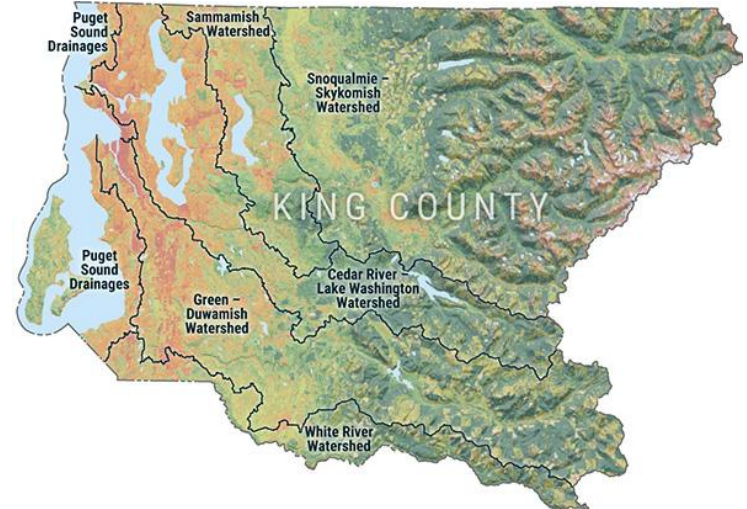
Introduction

- King County
 - Washington State
 - Population: ~2.2 million
 - Median Income: \$106,000

<https://www.census.gov/quickfacts/kingcountywashington>



<https://www.racialequityalliance.org/jurisdictions/king-county-washington/>



<https://kingcounty.gov/services/en>



Business Context

Problem:

- Clients in King County want to sell their homes for **at least \$1M**
 - Need to know **renovations** they can do to **increase** their houses' **market value**

Goal:

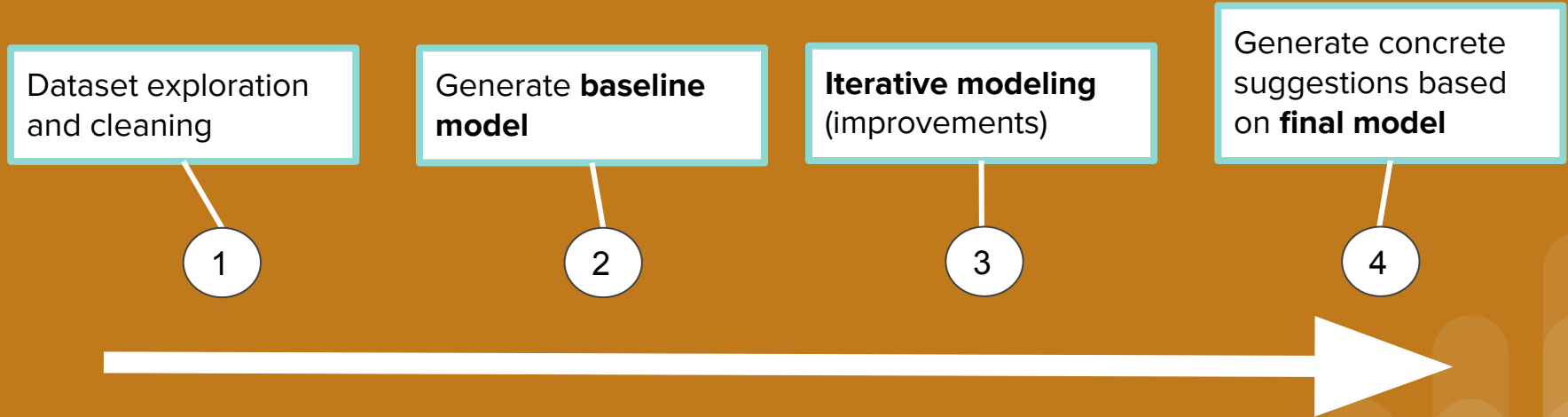
- Generate suggestions for house characteristics to target



Variables to Consider

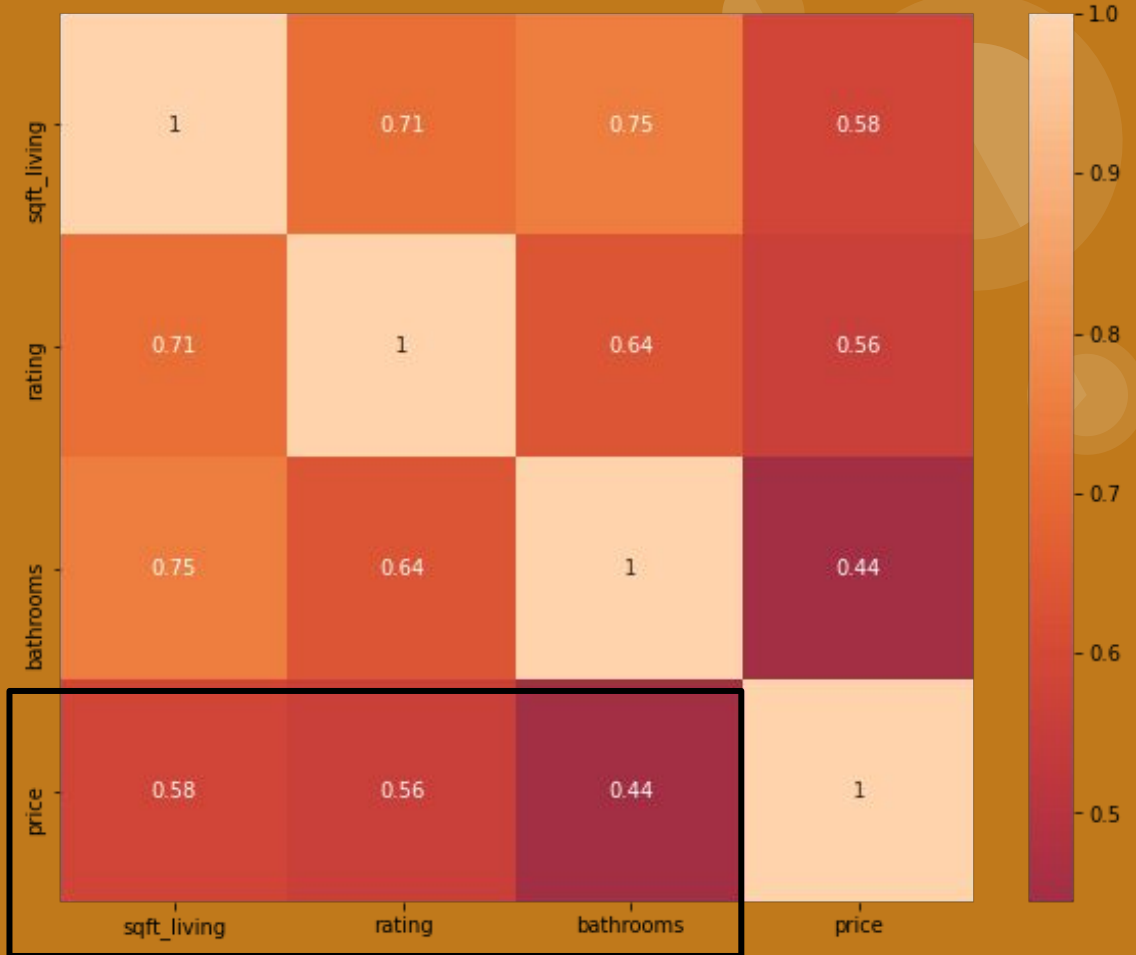
- Dependent variable: **sale price**
 - Sale price = house's value
- Decide on independent variables to focus on
 - Best combination of predictors of sale price
 - Determined by linear regression model

Methods (Process Steps)



Dataset

- **kc_house**
- Data on houses in King County
- Columns of interest
 - **sqft_living**: area of living space (square feet)
 - **grade/rating**: scale of 1-13 (based on construction)
 - **bathrooms**: number of bathrooms





Final Linear Regression Model

Adjusted **R-squared** value: 0.429

→ About **43% of the variation in price** is predicted by the model

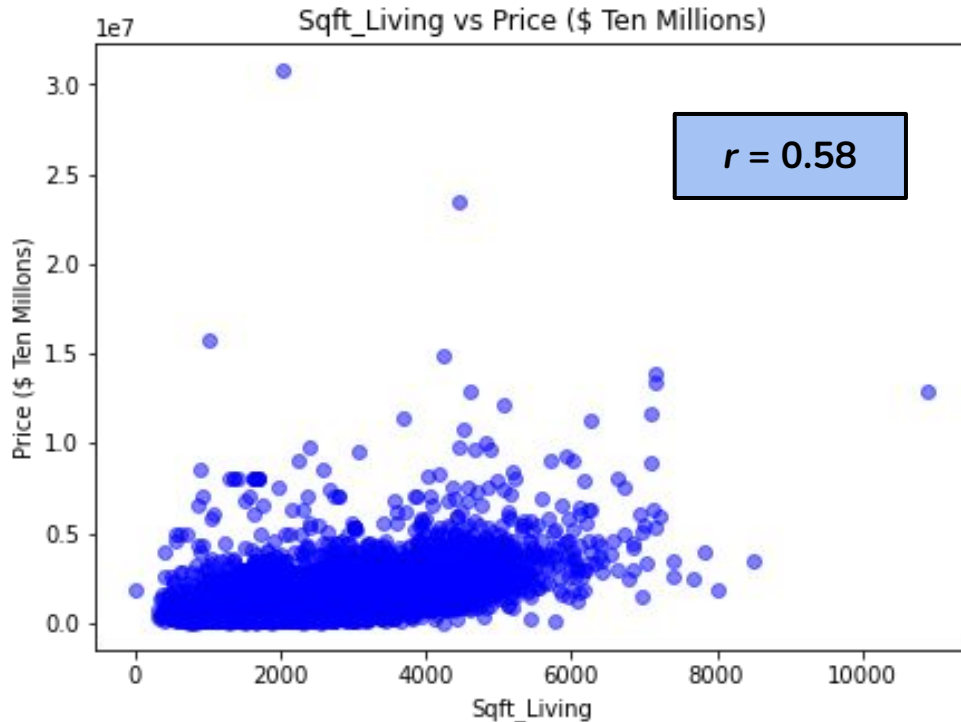
Mean absolute error (**MAE**): 0.31

→ The **average error** of the model is **31%**.

Results & Business Recommendations



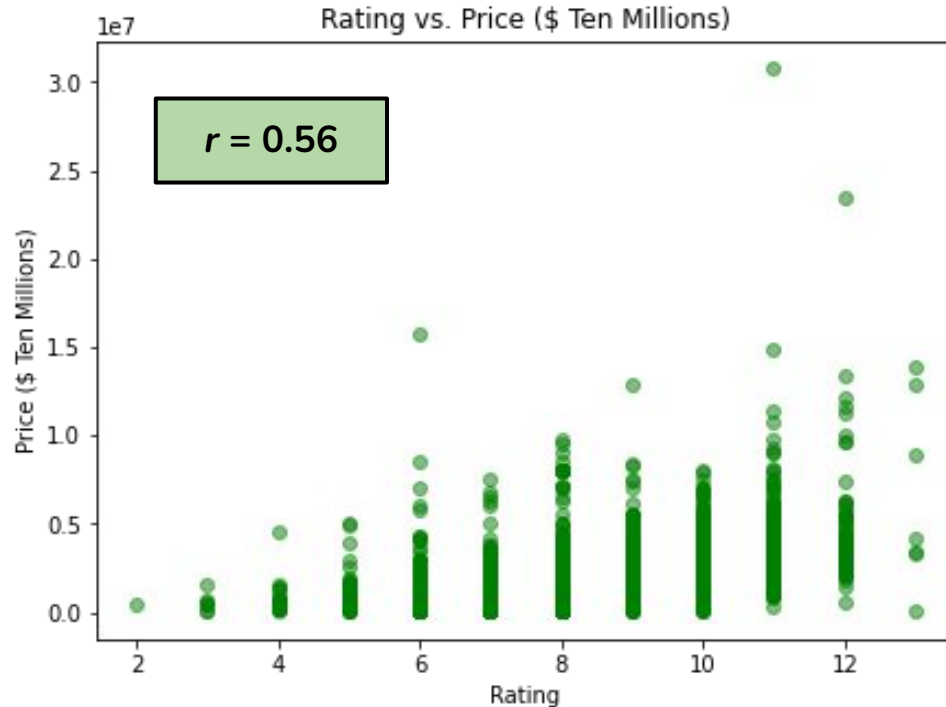
Recommendation #1: Living Square Footage



Linear regression model showed
each unit increase in `sqft_living`
leads to an increase in price of
about 0.02%

Increase `sqft_living` to at least
2000 sqft

Recommendation #2: Grade/Rating

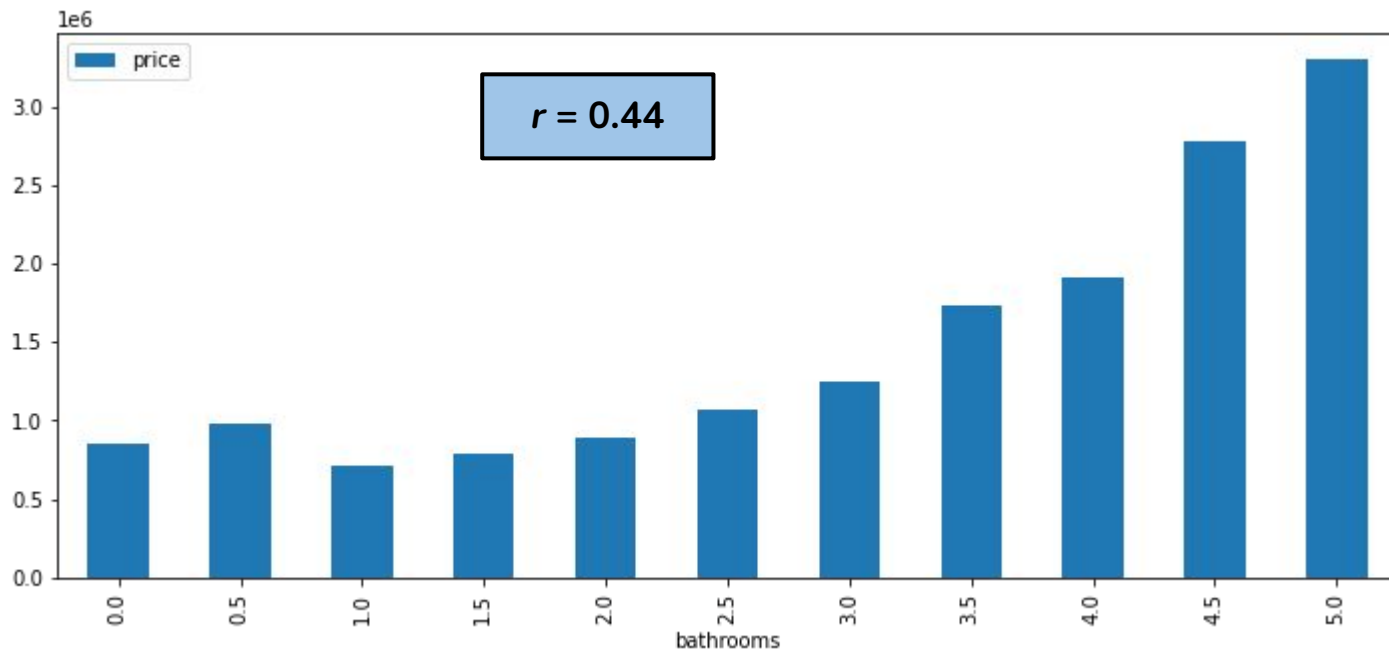


Linear regression model shows that an increase from 7 to 8 increases price ~16%.

Grade/rating should be an 8 or higher

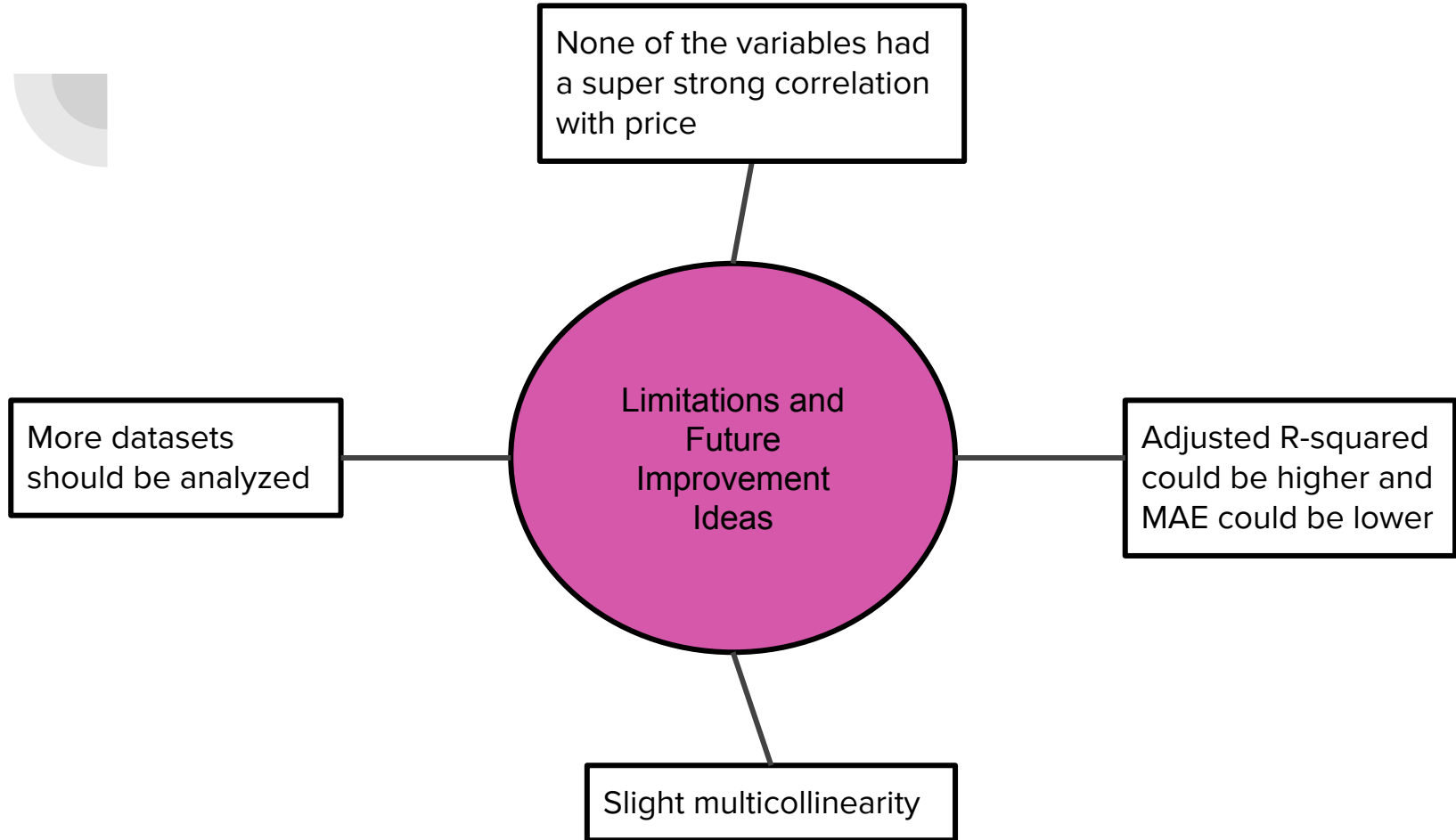


Recommendation #3: Bathrooms






Each additional half bathroom = +1.43% in price

Should have 2.5 or more bathrooms





Summary

Recommendation #1	Recommendation #2	Recommendation #3
<p>Increase sqft_living to at least 2000 sqft</p> 	<p>Have a grade/rating of 8 or higher</p> 	<p>Have at least 2.5 bathrooms</p> 

Contact

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