Renovations and House Value

How to renovate to increase house value

Overview

Objective: Find out how home renovations influence market price of the house

Steps:

- Analyse data
- Discover correlations
- Three most influential characteristics
- Provide recommendations

Business Problem

Question: What can homeowners do to increase the value of their houses for selling?

- **What are some reliable predictors of house price?**
- **To what extent do these factors influence the price?**
- **What are things homeowners can feasibly do to improve their house value?**

Data

Housing data from King County

- 20000+ data points
- 9 variables

Characteristics subject to analysis include:

- **Building grade**
- **Building condition**
- **Living area**
- waterfront
- Number of rooms (bedrooms & bathrooms)

Methods

Multi-variable Linear Regression

- Defines **linear relationship**
- Identifies the **individual contributions** to the price
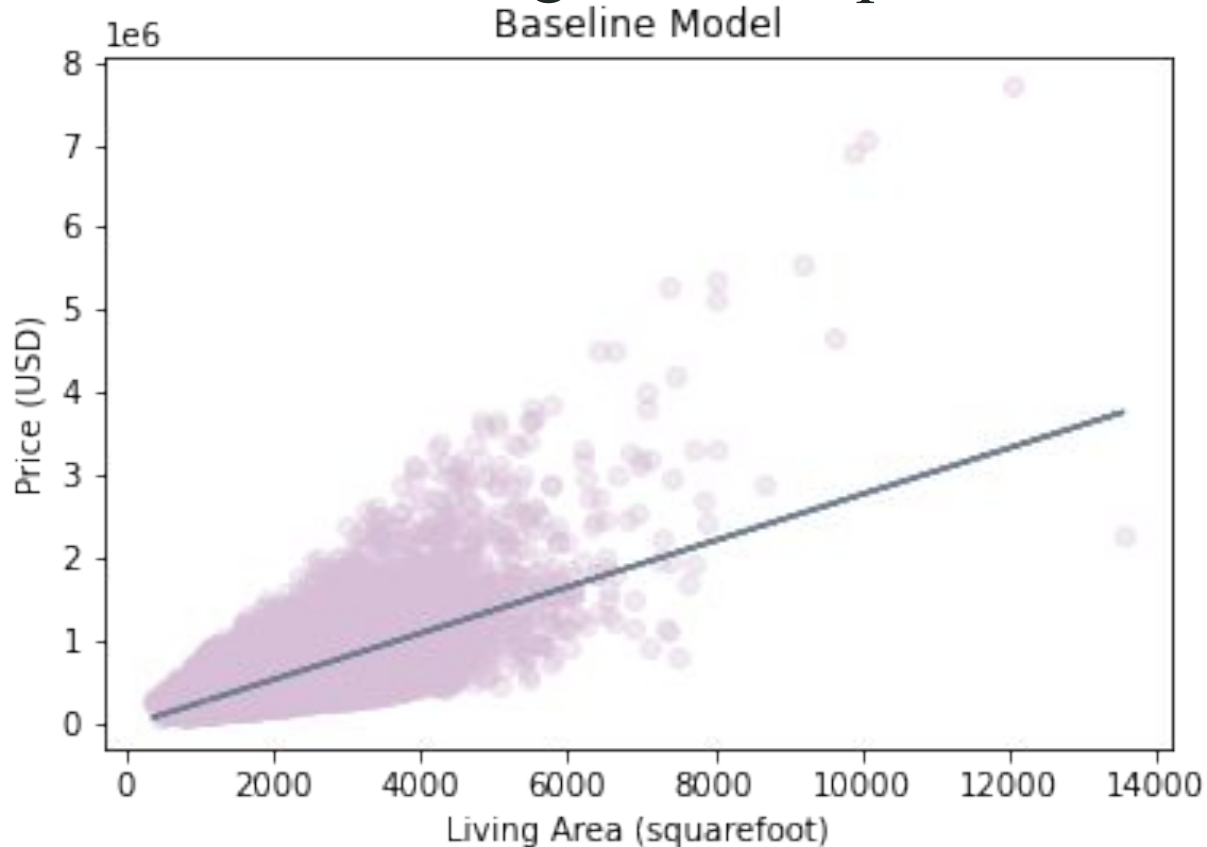- Tells us how the price **increases on average** as the variables increases

Strategy:

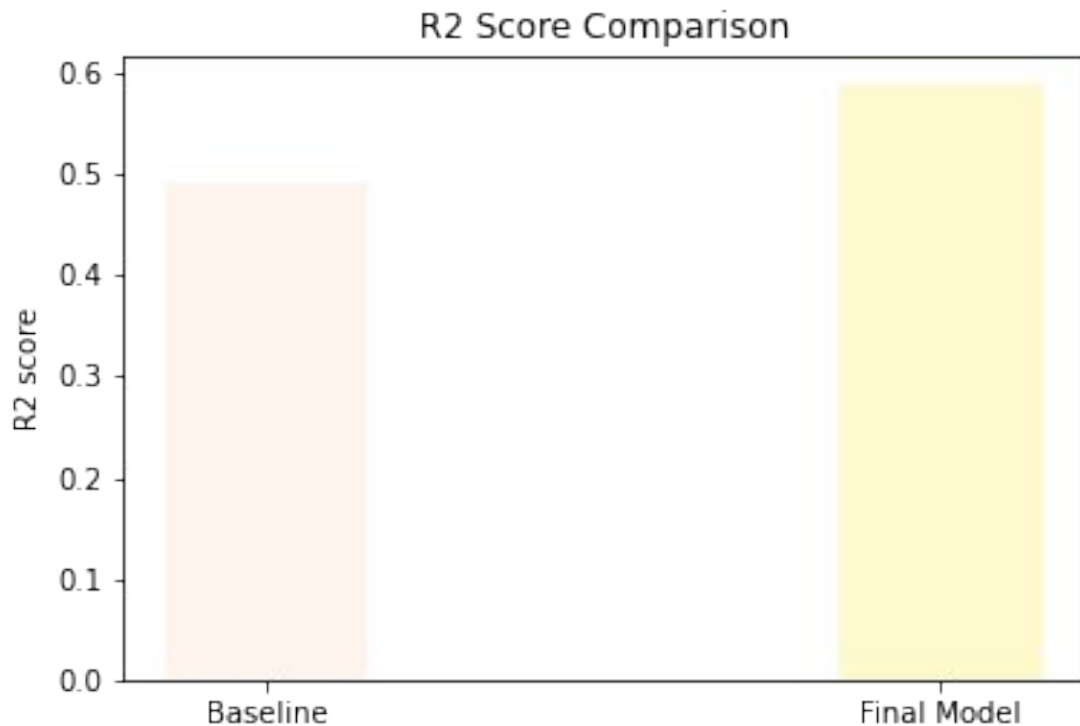- Compare different ways to model and use the best-performing one

Metric:

- R-squared value (measures how accurately the model predicts the real data values)
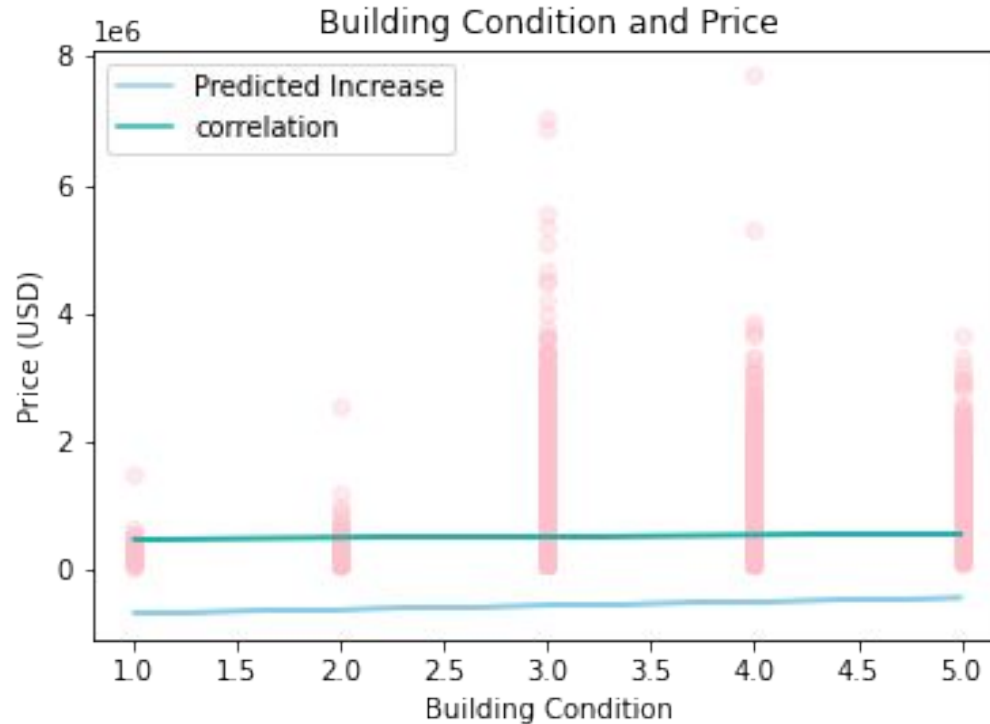
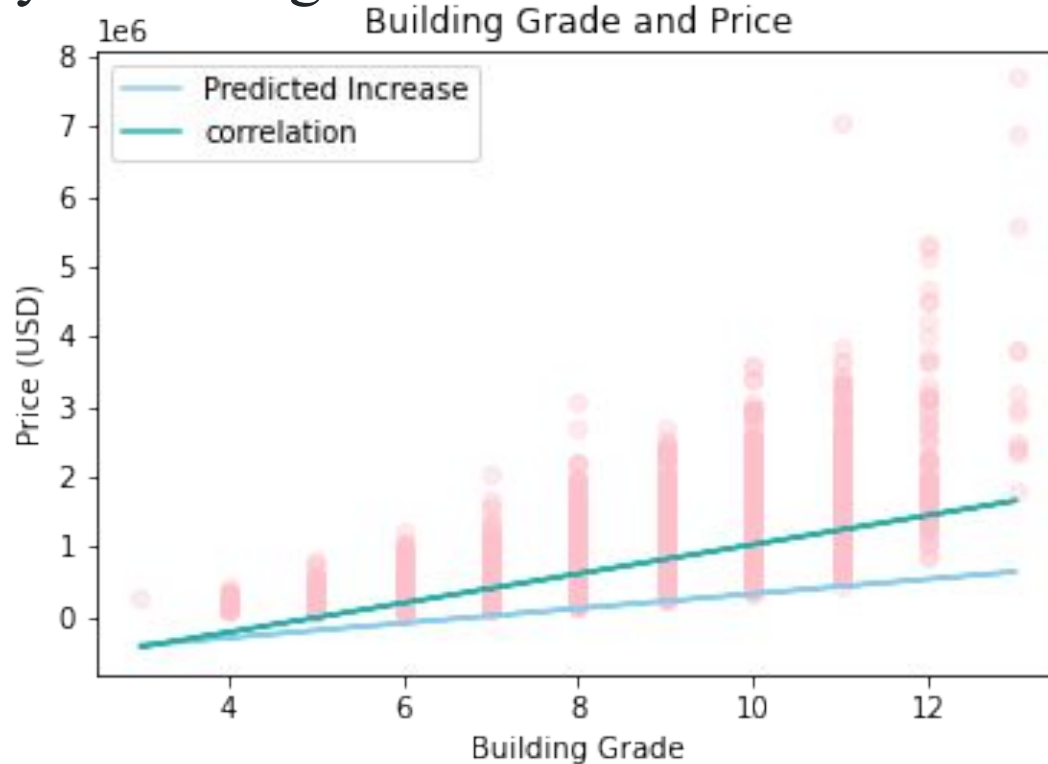# Correlation between living area and price
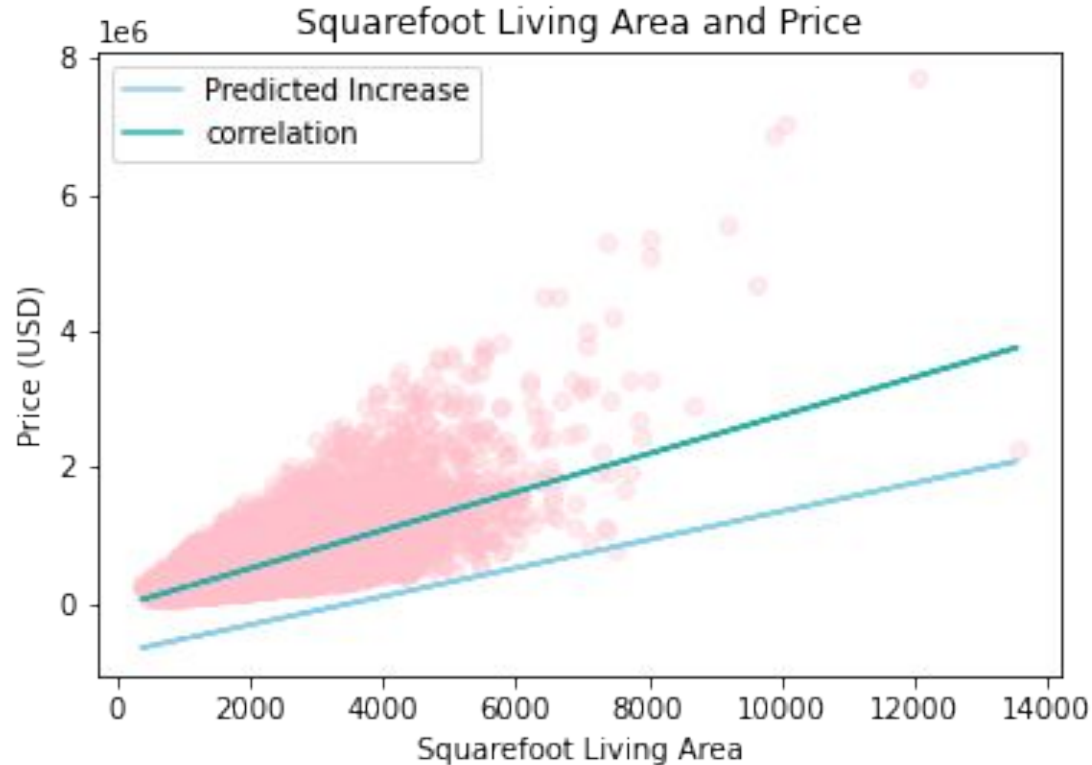
Results: Final model better by ~10%

For every unit increase in building condition (scaled 1-5), the price increases by an average of 59472.8 dollars

For every unit increase in building grade (scaled 1-12), the price increases by an average of 106323.2 dollars

For every squarefoot increase in living area, the price increases by an average of 208.3 dollars.

Recommendations

1. improve building condition

- **maintenance** of the house
- increase the **life expectancy**

2. improve building grade

- **architecture/ design** of the house, both interior and exterior.
- **aesthetic** of the architecture
- **quality of the material**

3. increase living area

- the area of the house excluding the walls.
- removing walls
- adding extra rooms.

Caveats and Next Steps

- There are **outliers** that cannot be fully explained
- Look into **other variables** for yielding more accurate predictions

Thank You!

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