Predicting Housing Prices in King County, WA

By Jonathan Lee

Data Overview

- Data includes attributes of housing properties sold in King County, WA including Seattle.

- According to the US Census, there were a total of 970,301 housing units as of July 1, 2019.

Data Overview

- Sale dates in our dataset range from May 2014 and May 2015.

- Our model takes into consideration 16,358 data points and is capable of explaining up to 80.6% of the variability in housing price.

- Median sale price was $450,000.

What Factors Contribute to the Value of a House?
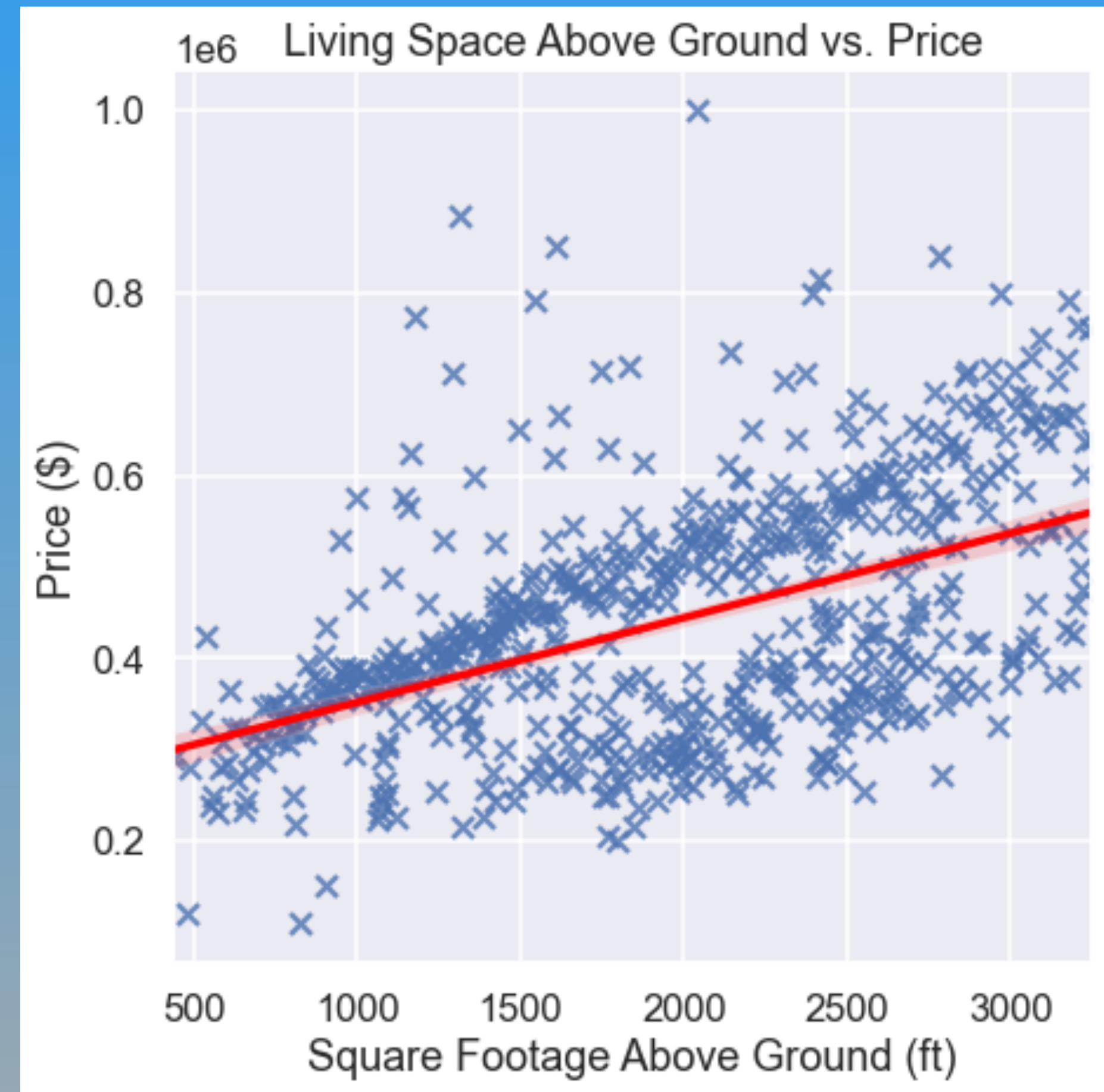
Overall Important Attributes

1. Property Location

2. Square Footage of Property Above Ground

3. Square Footage of Basement Space

4. Housing Grade

5. Living Space of Neighbors

6. Number of Floors

7. Lot Space

8. # of Bedrooms and Bathrooms

Controllable Attributes

2. Square Footage of Property Above Ground

3. Square Footage of Basement Space

4. Housing Grade

6. Number of Floors

8. # of Bedrooms and Bathrooms

Living Space Above Ground

- An estimated $130.33 increase in property value per square foot added to the living space above ground.
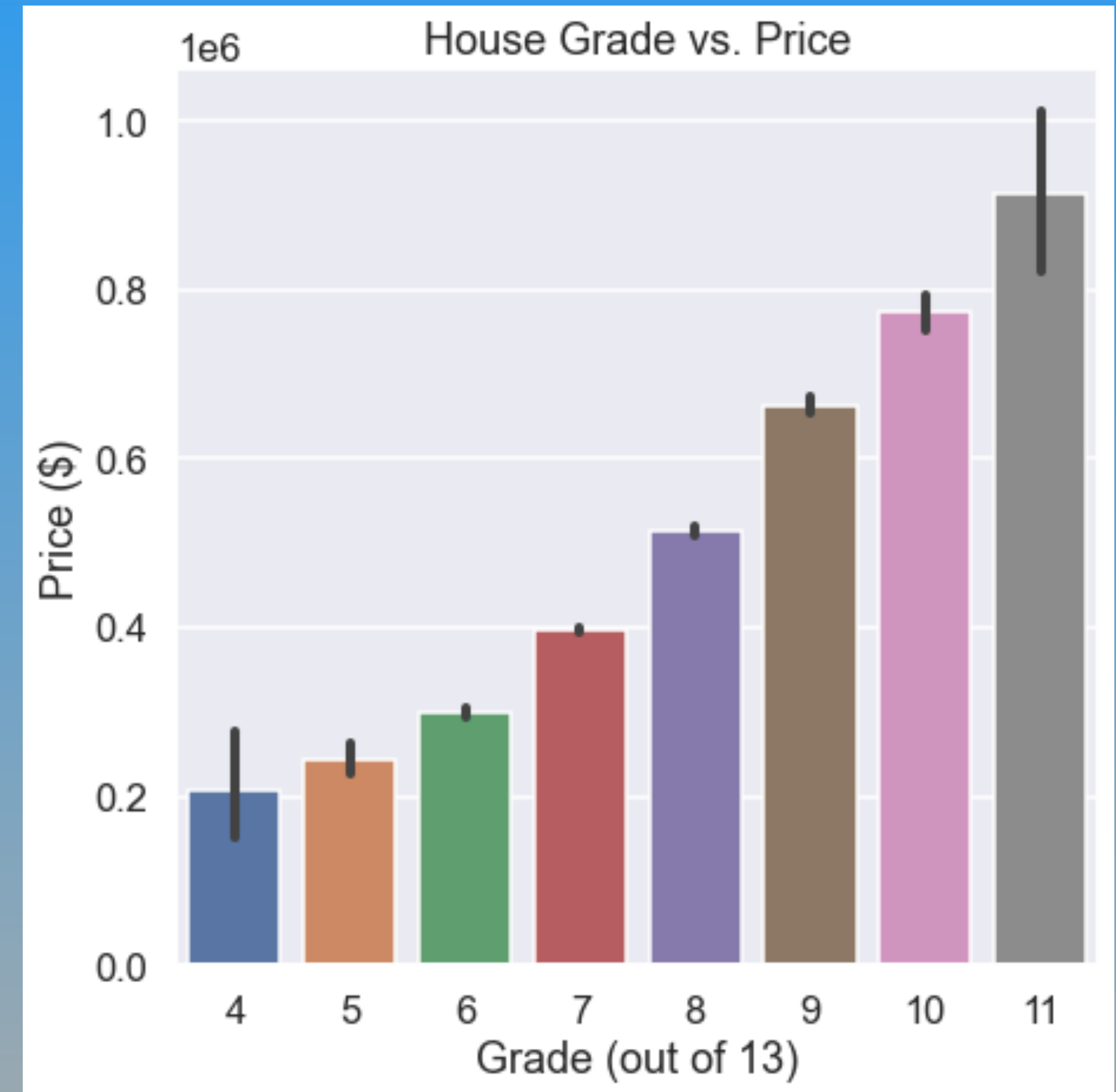

Living Space Above Ground vs. Price

Basement Space

- An estimated $90.98 increase in property value per square foot added to the basement.

Living Space Below Ground vs. Price

Property Grade

- An estimated $34,760 increase in property value per point increase in property grade.

House Grade vs. Price

Final Recommendations

- Undergo construction to increase living space above ground and in basement.

- Renovate the property to upgrade construction materials and quality of finishes on cabinets, wood trim, marble, entry ways, etc.

Further Analysis

- Although increasing living space above ground and in the basement as well as increasing the property have been shown to significantly increase the property value, we want to make sure that the involved costs would be reasonable.

- An idea for future analysis would be to explore what costs would be involved in making these renovations, and to determine whether these recommendations would be cost-effective.

Thank You

- You can find an in-depth analysis and all resources on my GitHub:

    https://github.com/ds-papes/