

King County House Pricing

Real Estate Development Recommendations

By: John Bruemmer
Nazar Mohl
Woojin Jun

Agenda

01

Stakeholder and
Business Problem

02

Data Overview

03

Regression
Analysis

04

Recommendations

05

Next Steps

Stakeholder And Business Problem

Stakeholder: A midsize real estate developer in King County

Problem: Which factors of a home most influence price and by how much



Available Data

King County House Sales dataset

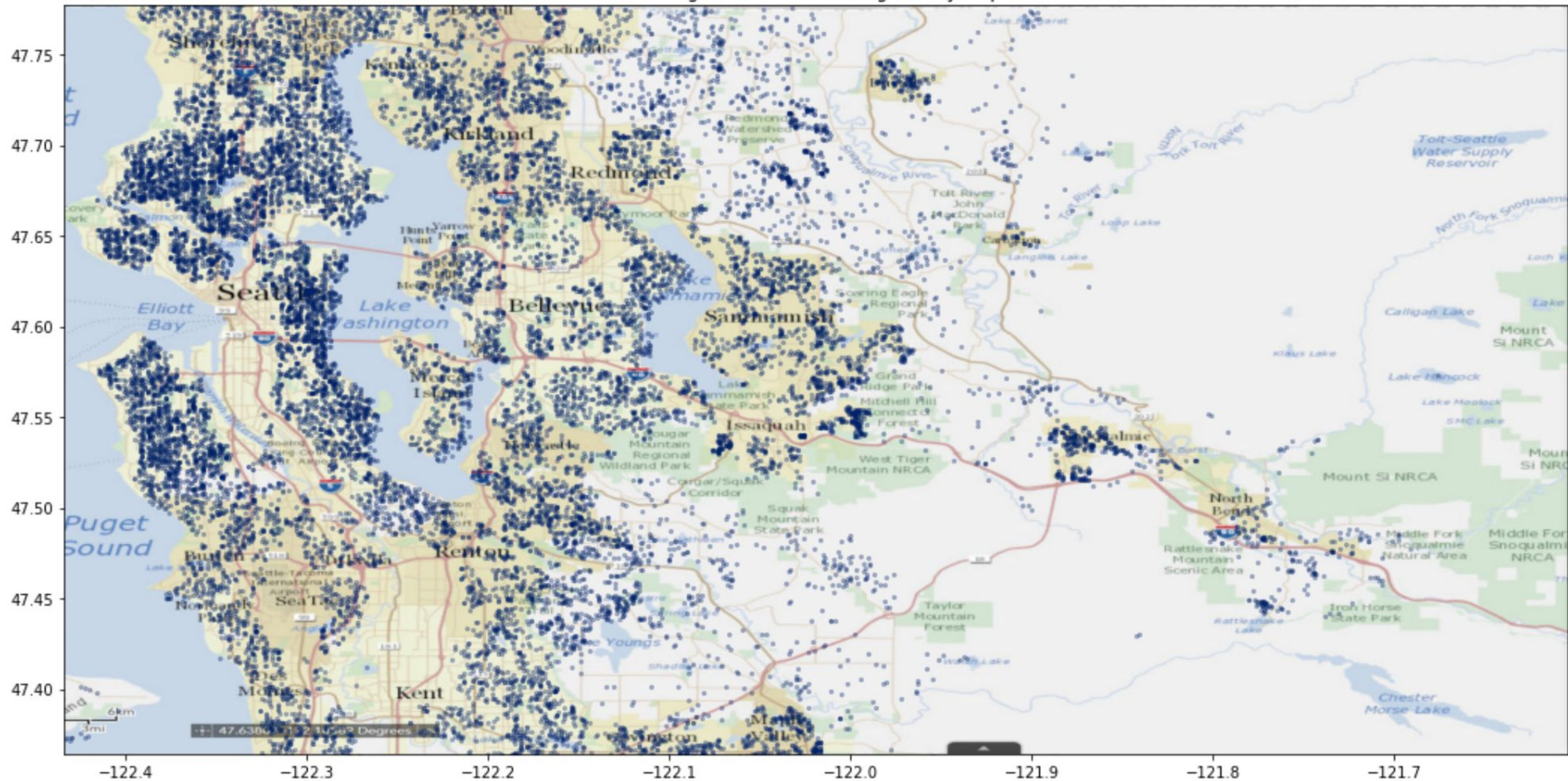
- 21597 samples
- 2014 - 2015

Income and Population for Each Zip Code

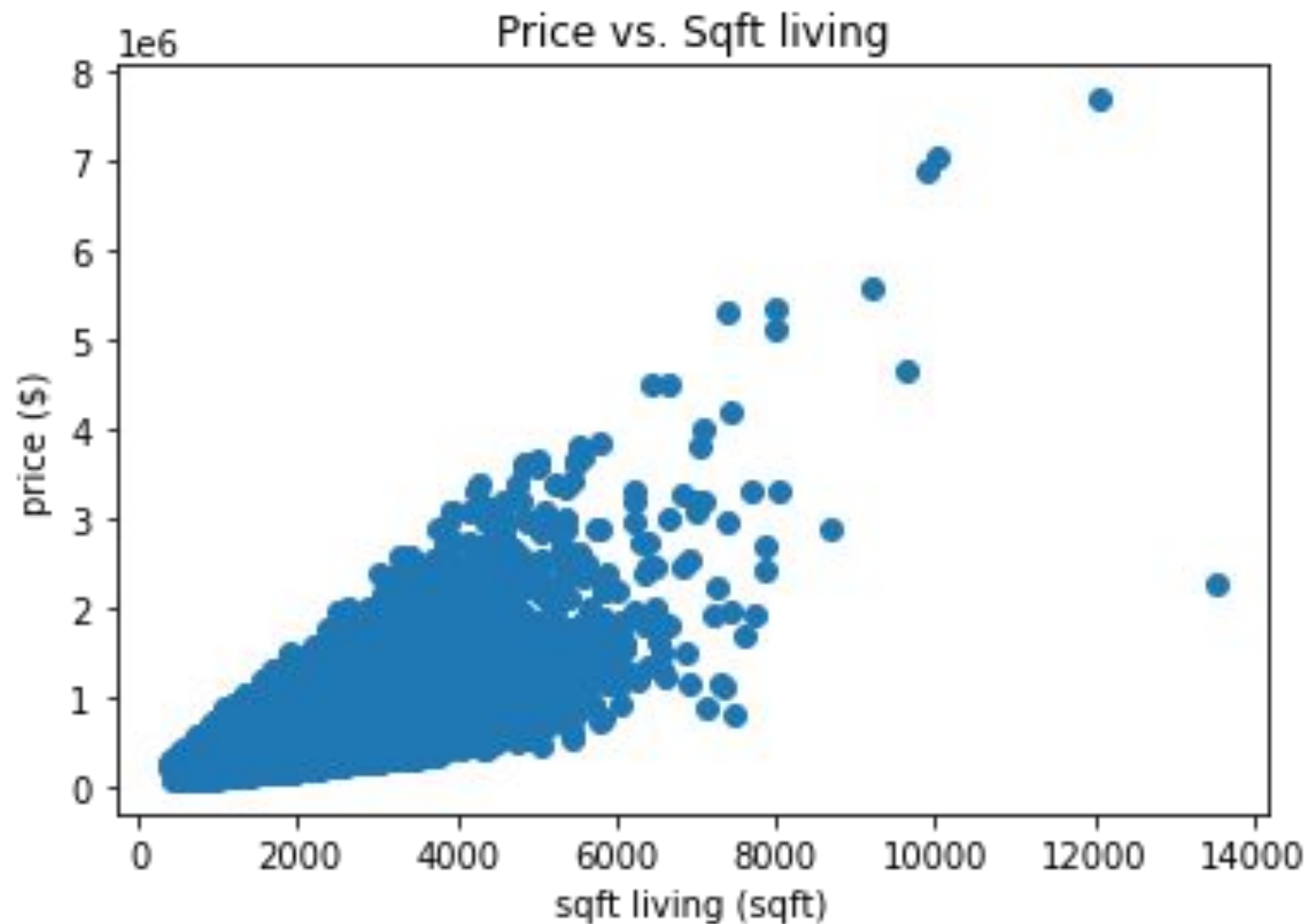
- <https://www.point2homes.com/US/Neighborhood/WA/King-County-Demographics.html#MedianIncomeByZipcode>



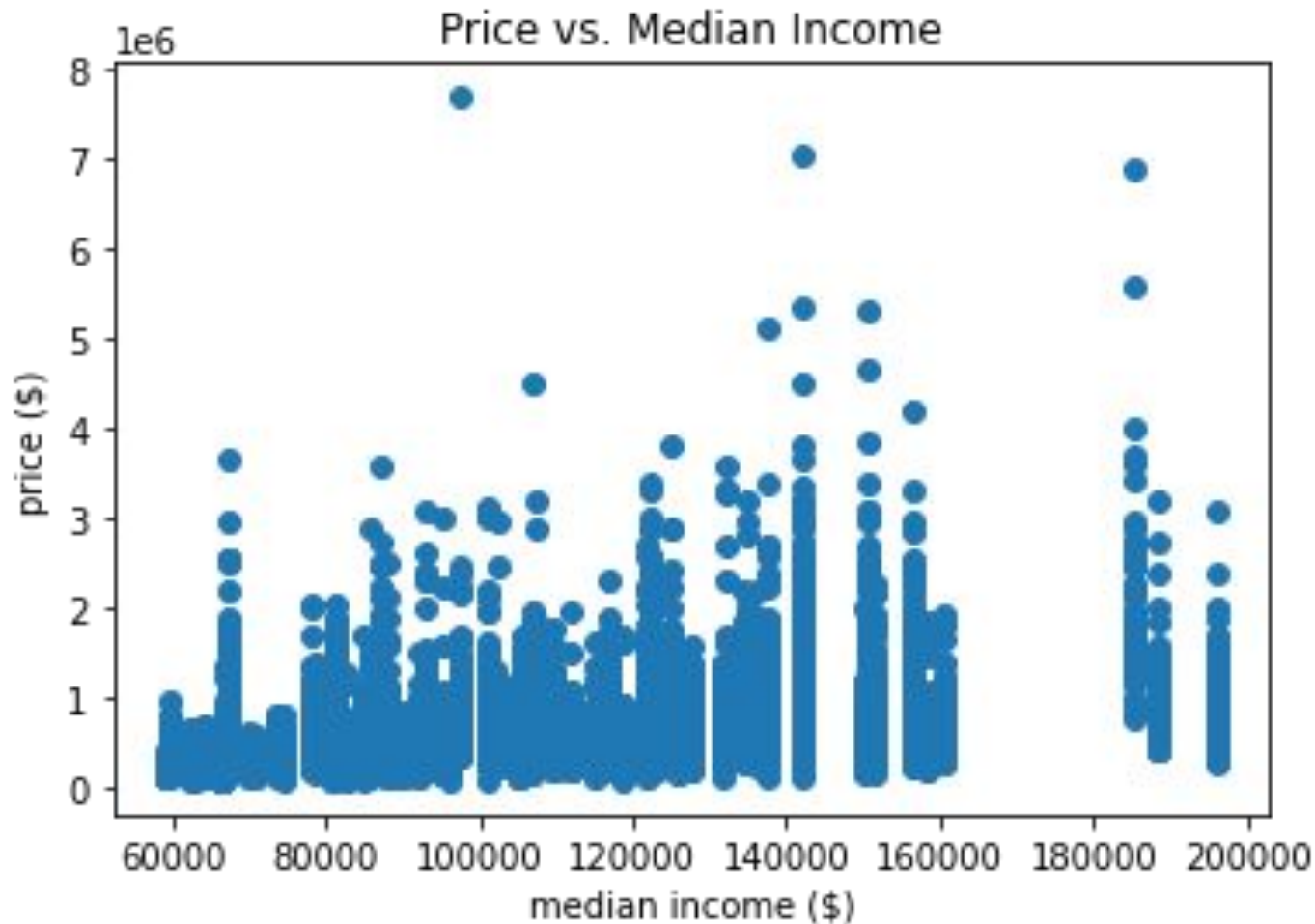
Plotting House Location King County Map



Price vs. Sq Ft Living Space

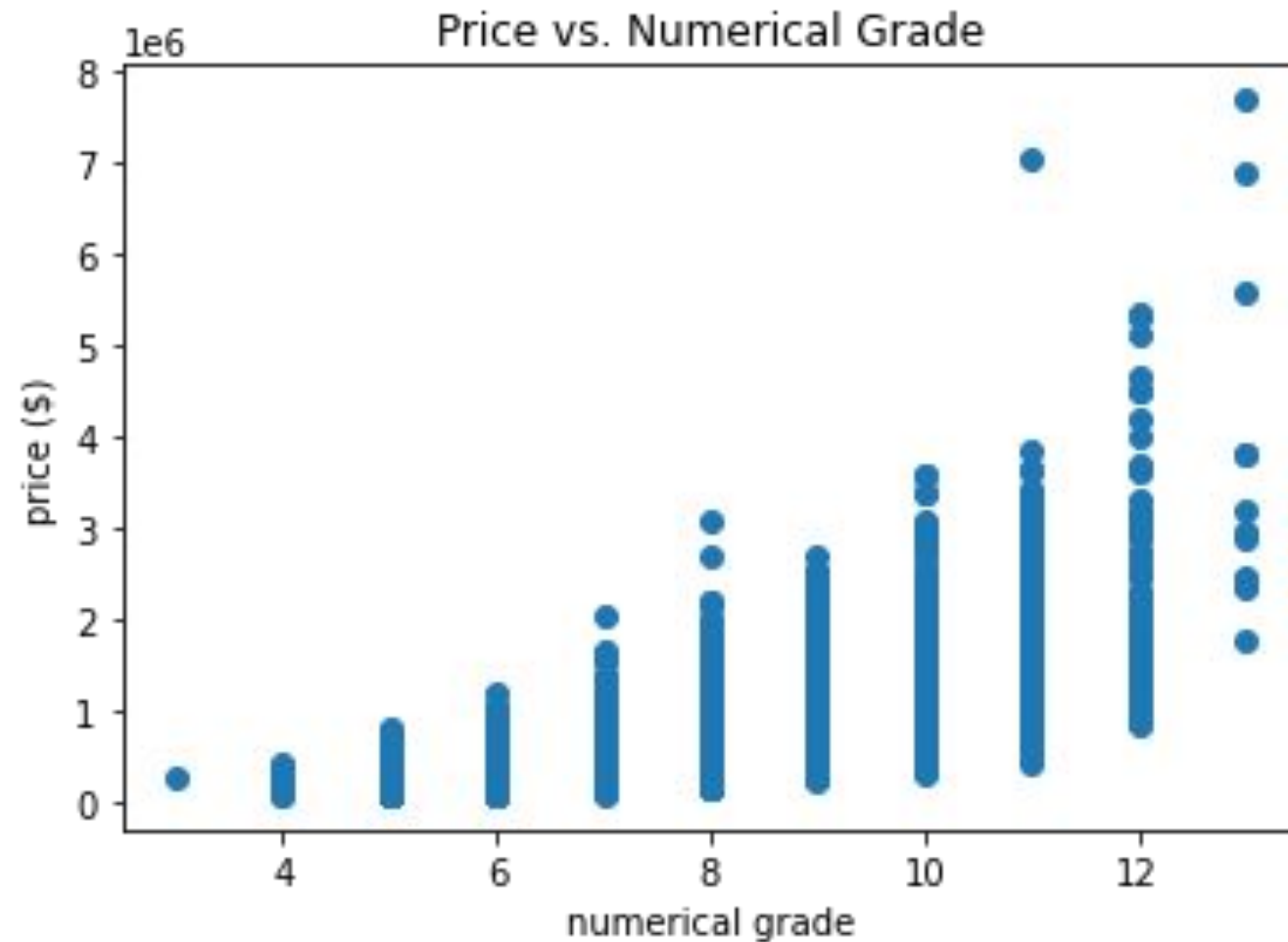


Price vs. Median Income of Zip Code

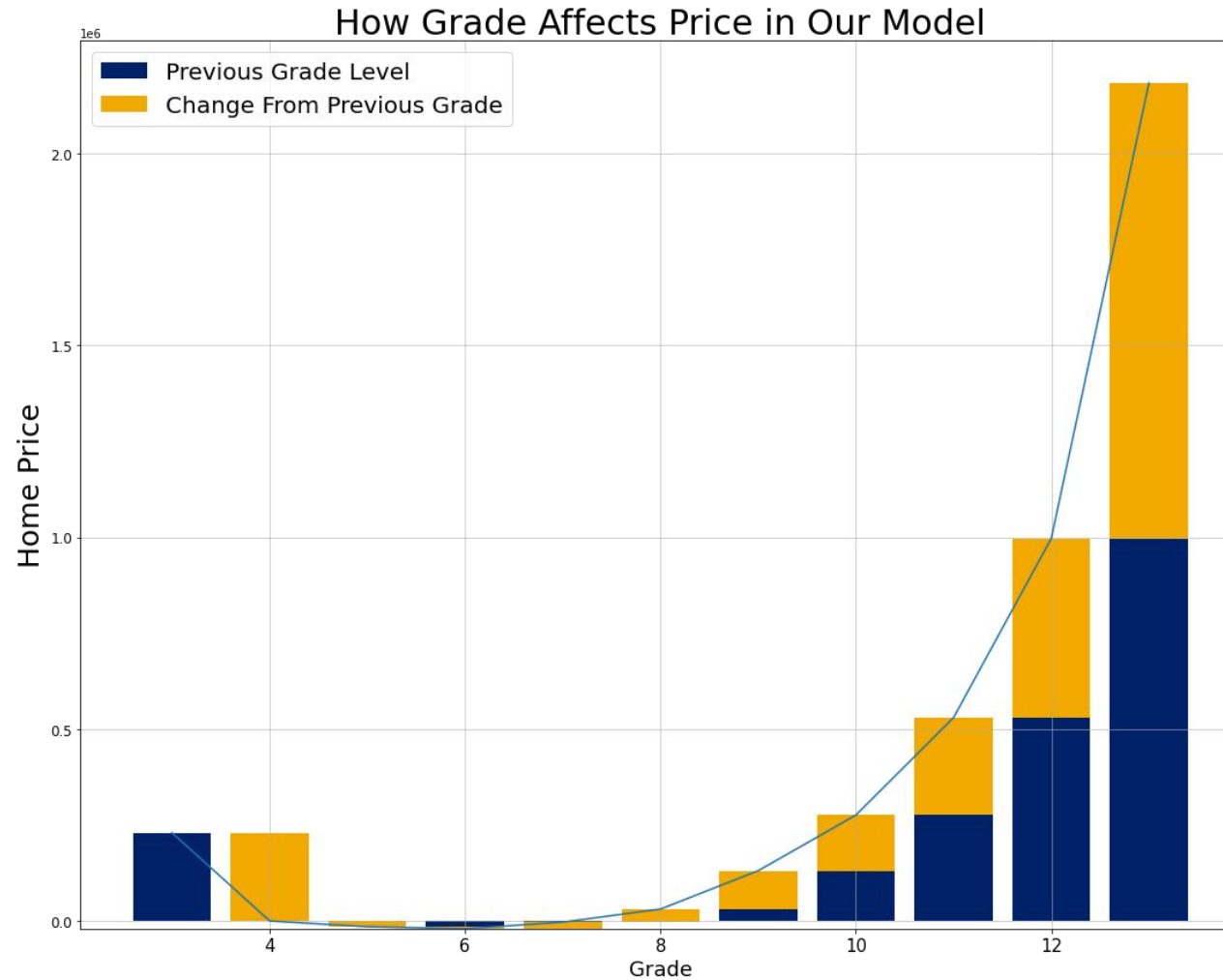


- Using Median income as proxy for neighborhood desirability.
- \$1 increase in median income = price increase \$3.34.

Price vs. Overall Grade of House



Effect of Grade on House Price



Effect of Grade on House Price

- Increase in price across grades is exponential
- Moving up lower grades does not incur much benefit.
- If increase in costs across grades is linear, then focus on upper grades.

Regression Results

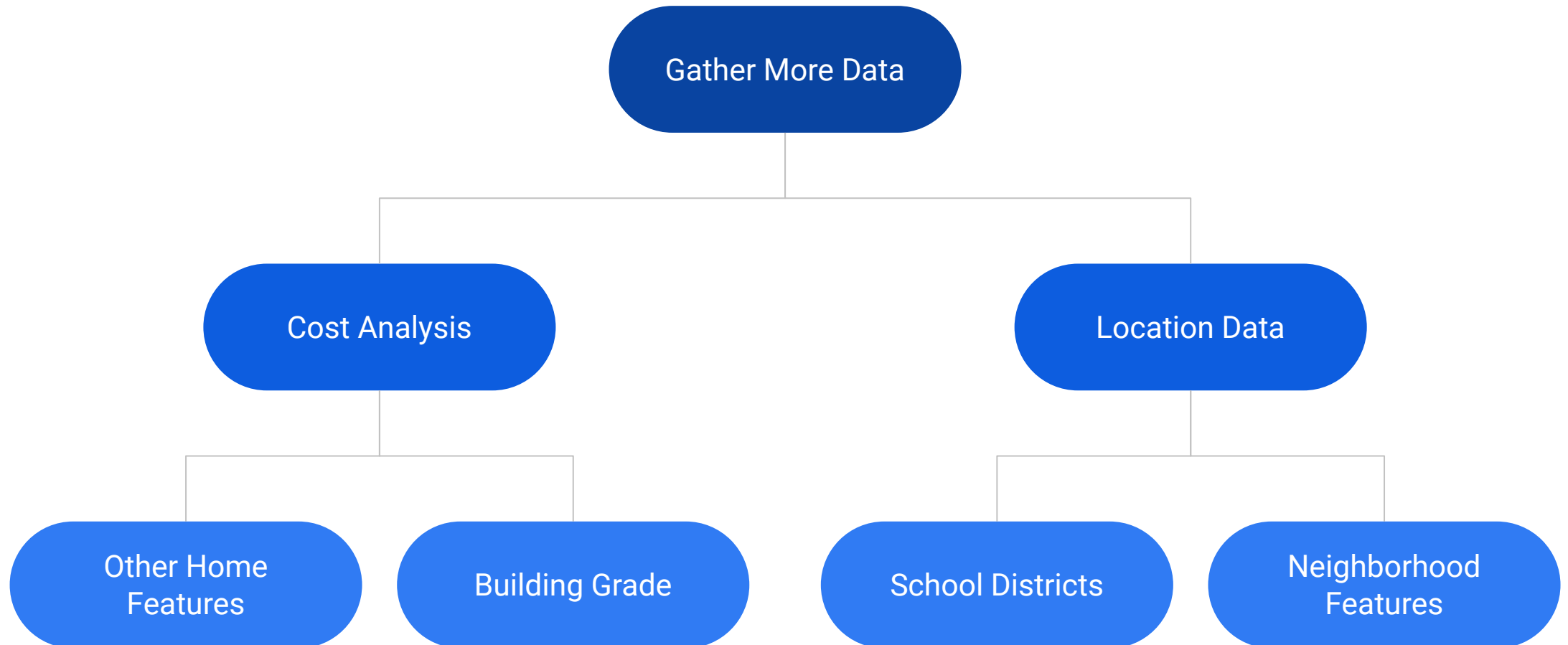
Base Model	Model 1	Model 2	Final Model
Features: Living Square Feet	New Features : Median Income, Numeric Grade	New Features : View, Waterfront	New Features: Categorical Grade
Explained Variance : 0.45	Explained Variance : 0.6	Explained Variance : 0.63	Explained Variance : 0.70

Model Most Effective Between: \$450,000 - \$1.2 Million

Recommendations

- Build homes with average or exceptional grades
- Use locational data to prioritize underpriced homes in good locations

Next Steps



Q&A

Thank You

John Bruemmer:

<https://github.com/Jbruemmer>

<http://www.linkedin.com/in/john-bruemmer>

Johnnybruemmer@gmail.com

Woojin Jun:

<https://github.com/WoojinJun>

<https://www.linkedin.com/in/woojin-jun-6029bb114/>

woojinjun93@gmail.com

Nazar Mohl:

<https://github.com/NazarMohl>

<https://www.linkedin.com/in/nazar-mohl/>

nazar.mohl@gmail.com