

King County

Marketing Campaign

Data-driven insights and predictive modelling



Problem Statement

Advertising Campaign to encourage sales in King County

- Data-driven recommendations
- Model to predict house prices

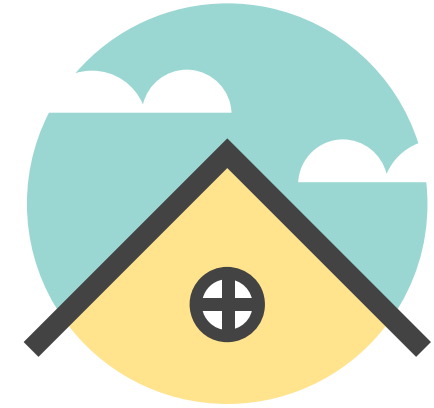


PropertiesInc

REAL ESTATE

Business Value

- Generate revenue via successful marketing campaign
- Better understanding of house buyer preferences
- Assist Valuations Team by providing price predictions



PropertiesInc

REAL ESTATE

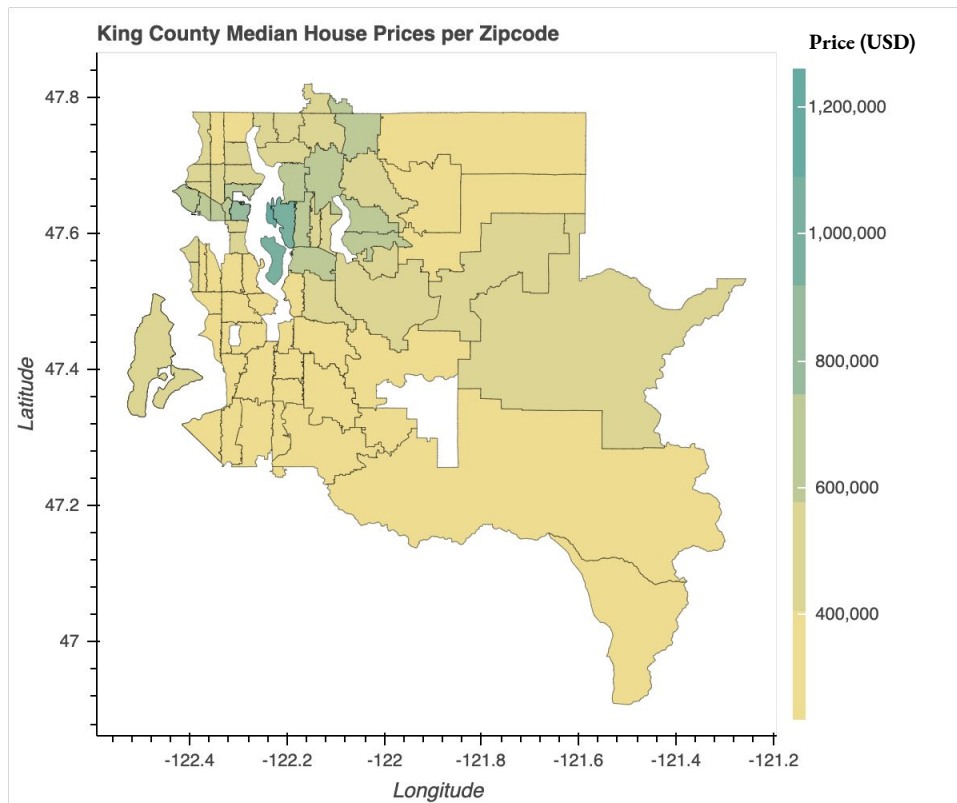
Methodology

- Obtain and analyse Data
- Investigate features and gain insights
- Build prediction model

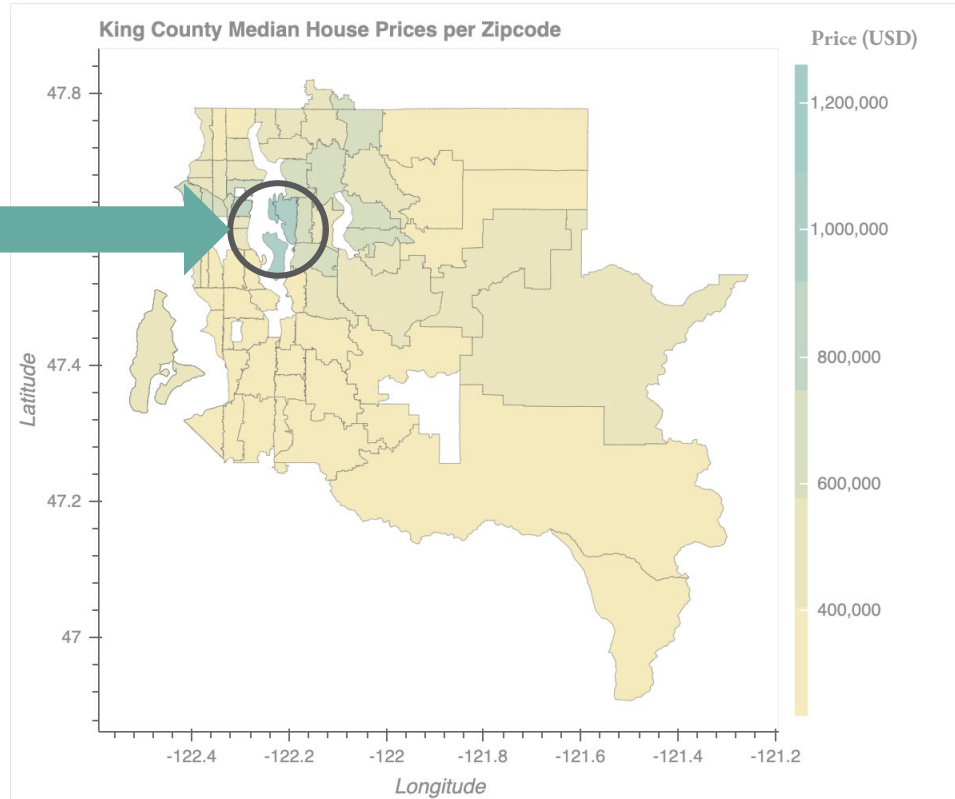


Location





Top 3 Zip Codes



King County House Sales 2014-2015



Recommendations



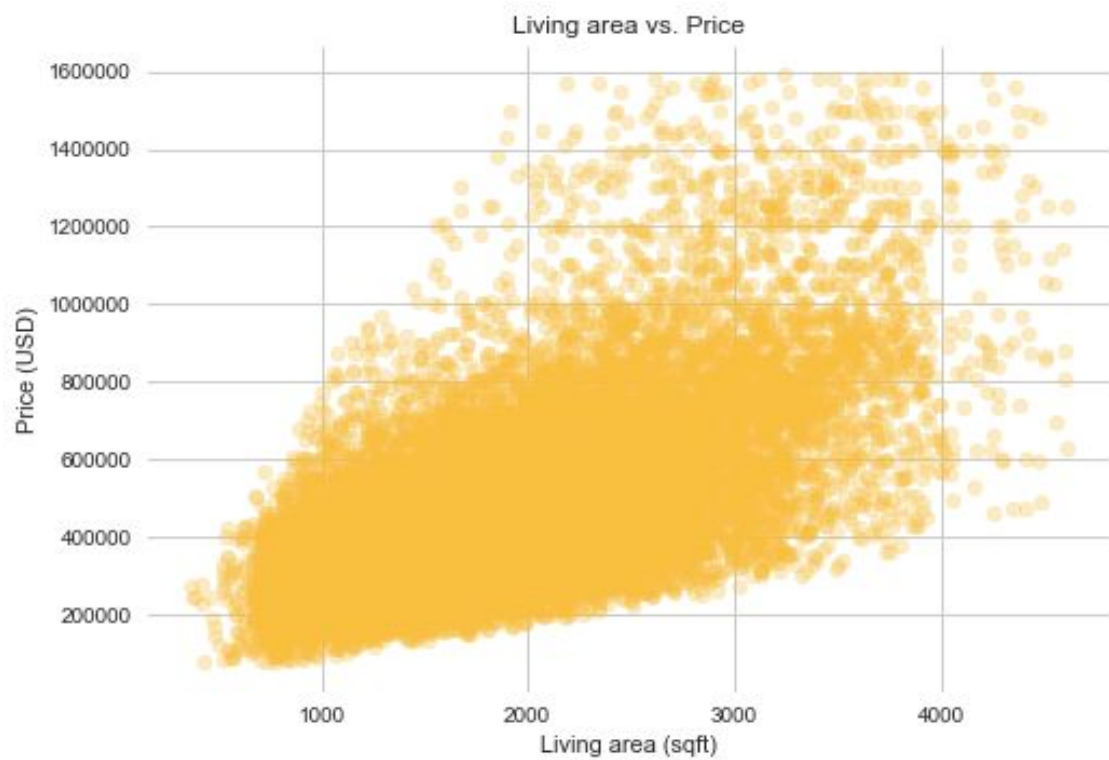
Location

- Importance of waterfront
- Bellevue and Mercer Island areas

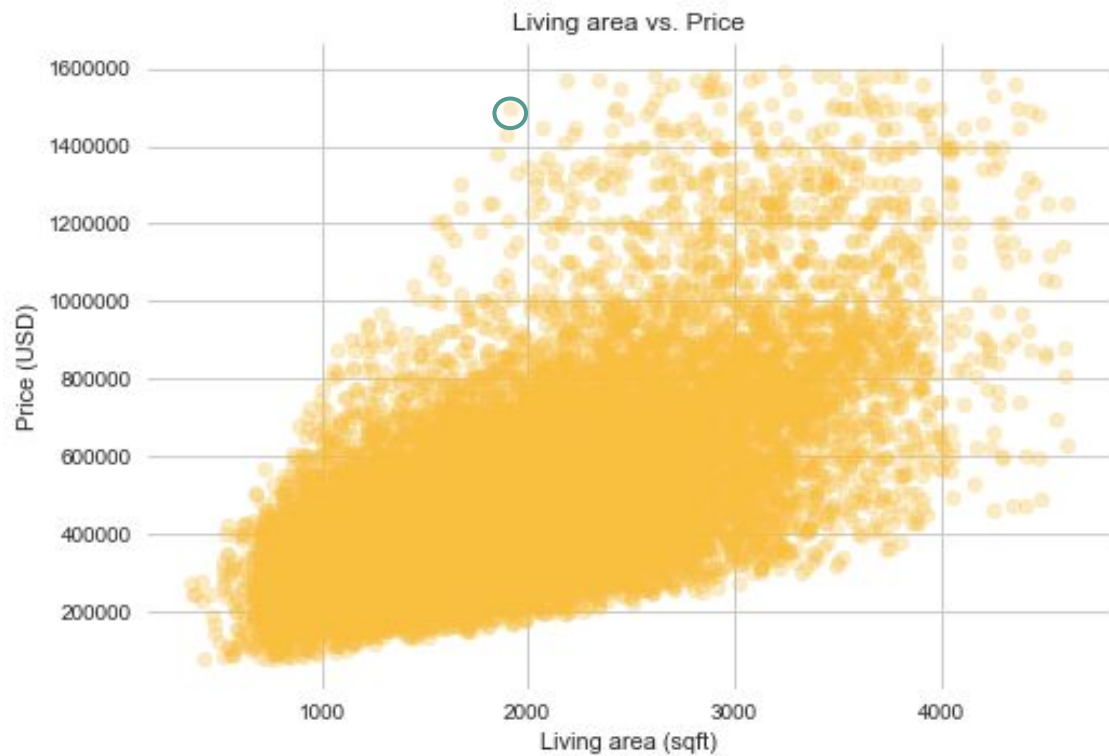


House Features

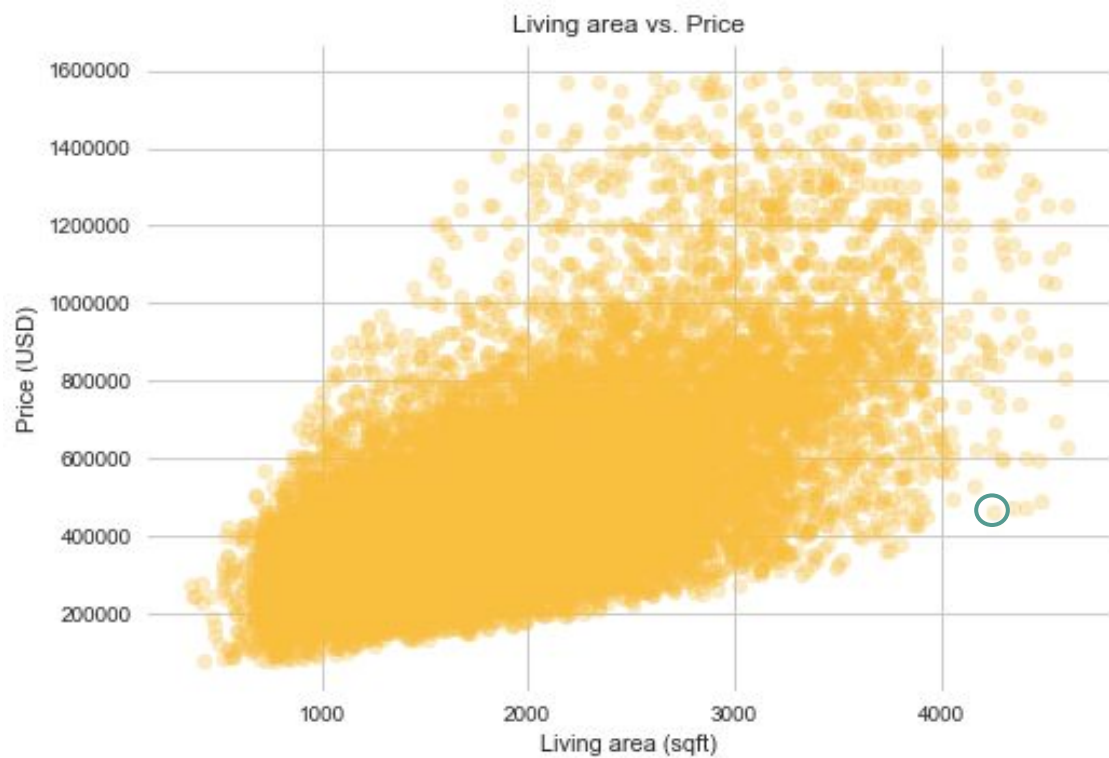


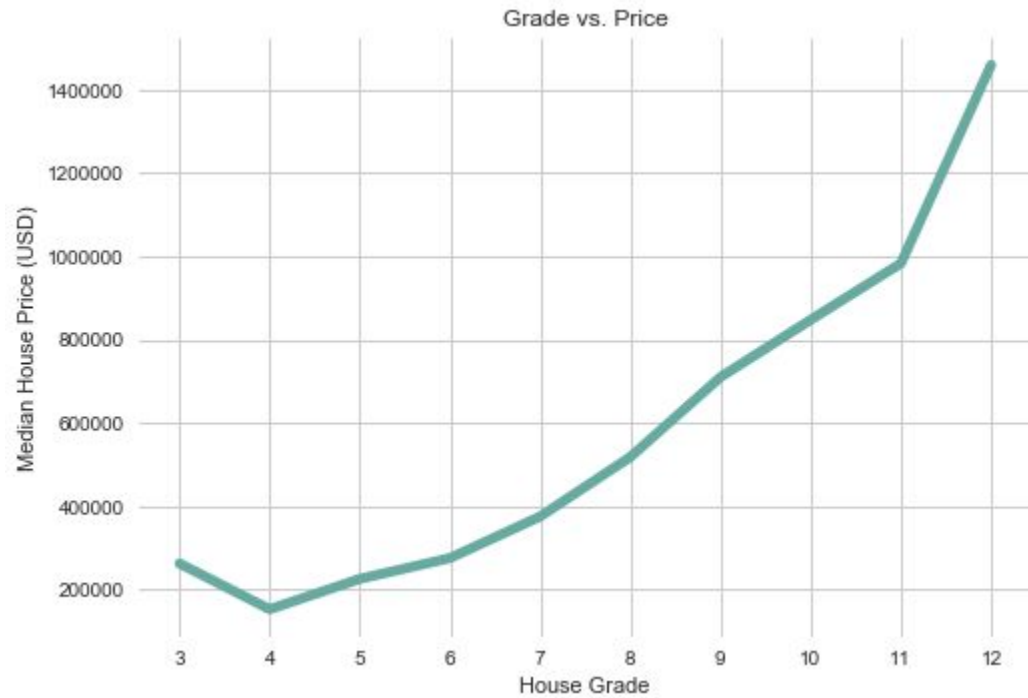


House Features - Living Area



House Features - Living Area







Other House Features

Was viewed

Square Feet of Lot

Recently renovated

Condition

Year Built

Bedroom count



Bathroom count

Waterfront view

Presence of Basement

Number of floors



Recommendations



Location

- Importance of waterfront
- Bellevue and Mercer Island areas



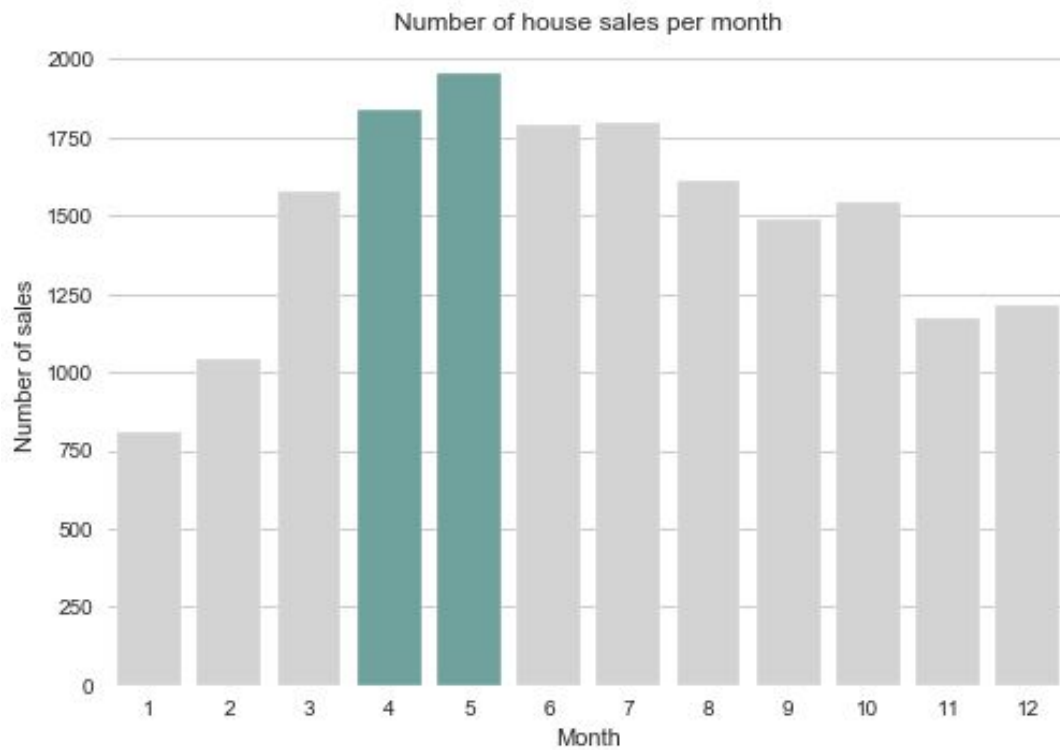
Home Features

- Larger living area (sqft)
- Grade 10 and above
- Grade better predictor



Time of Year





Recommendations



Location

- Importance of waterfront
- Bellevue and Mercer Island areas



Home Features

- Larger living area (sqft)
- Grade above 10
- Grade better predictor



Time of Year

- Constant median house price
- April/May highest sales volume
- Campaign in March/April



Predicting House Prices





Predicting House Prices

	Model A	Model B
Features	17	87
Pros	Easy to interpret, generalises well	Performance
Cons	Less accurate	Uses exact zip code data
Score	0.70	0.83
Mean Error	USD 132,444	USD 99,654



Best predictors - Model A



Grade



**Zip Code
Tier**



Waterfront



Viewed



**Number of
Bathrooms**



Further work

School Ratings Data

Proximity to a good school is likely to increase sale price

Commuting Time Data

Homes better connected to downtown Seattle are likely to be more valuable

Longer Time Scale

See which areas show signs of growth/ decline



THANK YOU

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APPENDIX

Model A Coefficients



	Feature	Coefficient		Feature	Coefficient
1	grade_12	515,536	10	zip_tier_5	168,374
2	grade_11	463,199	11	viewed	153,790
3	zip_tier_1	435,924	12	zip_tier_6	133,920
4	grade_10	327,375	13	bathrooms_4	105,063
5	zip_tier_2	313,144	14	zip_tier_7	99,454
6	waterfront	277,442	15	grade_8	88,713
7	zip_tier_3	250,036	16	grade_5	-94,930
8	zip_tier_4	248,289	17	grade_4	-136,094
9	grade_9	233,634			