King County Housing

Real Estate marketing campaign

Data-Driven insights and predictive modeling

Problem Statement

Advertising campaign to promote sales in King County

- **Data-Driven Decisions**
- **Model to predict House Prices**

As an aspirant data scientist, I share the results of my project to promote an advertising campaign in King County real estate market.

we will provide recommendation to shape the campaign based on our regression model to predict the prices

Business Value

- Generate revenue via successful marketing campaign
- better understand the preferences of buyers
- Assist valuation team providing price predictions

Business Value

the business value of our project is to drive a successful advertising campaign which leads the generation of revenue, but also to provide a good service for the buyers.

this project also helps understand buyer preferences and provides guidance to the sales team.

finally, having a model capable of predicting house prices will help the valuation team by providing a good estimate

Methodology

- **Data analysis**
- **Investigate features and gain insights**
- **Find significant pattern and trends using statistical methods**
- **Build prediction model**

The dataset used in our project consists of 21,597 house sales prices for the period between 1900 and 2015.

the investigative part of our analysis is to find valuable features that provide interesting insights to promote our campaign.

finally we build a model capable to predict house prices.

House Features

Analysing houses features to determine which factor drive the price up and which factor are doing best predictor price
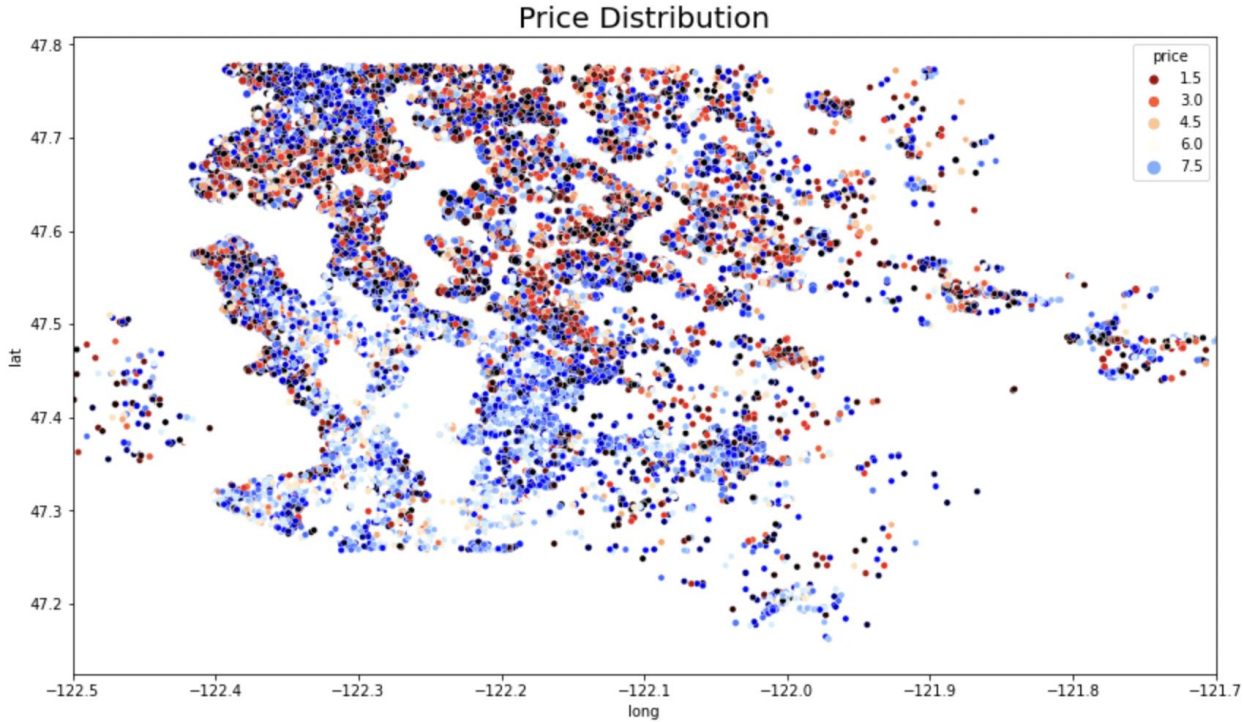
Location

the first key feature we explore is location. We want to understand which areas have the highest house prices and how much house prices are affected, this is an important key on which we focus our campaign.
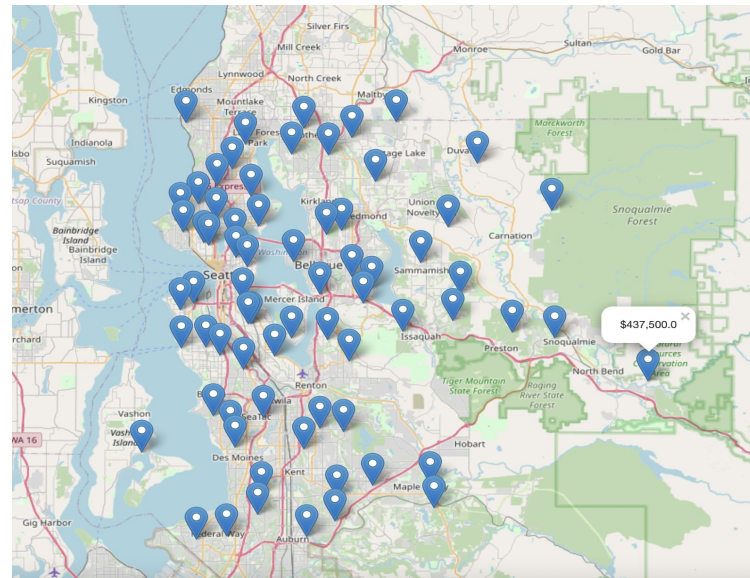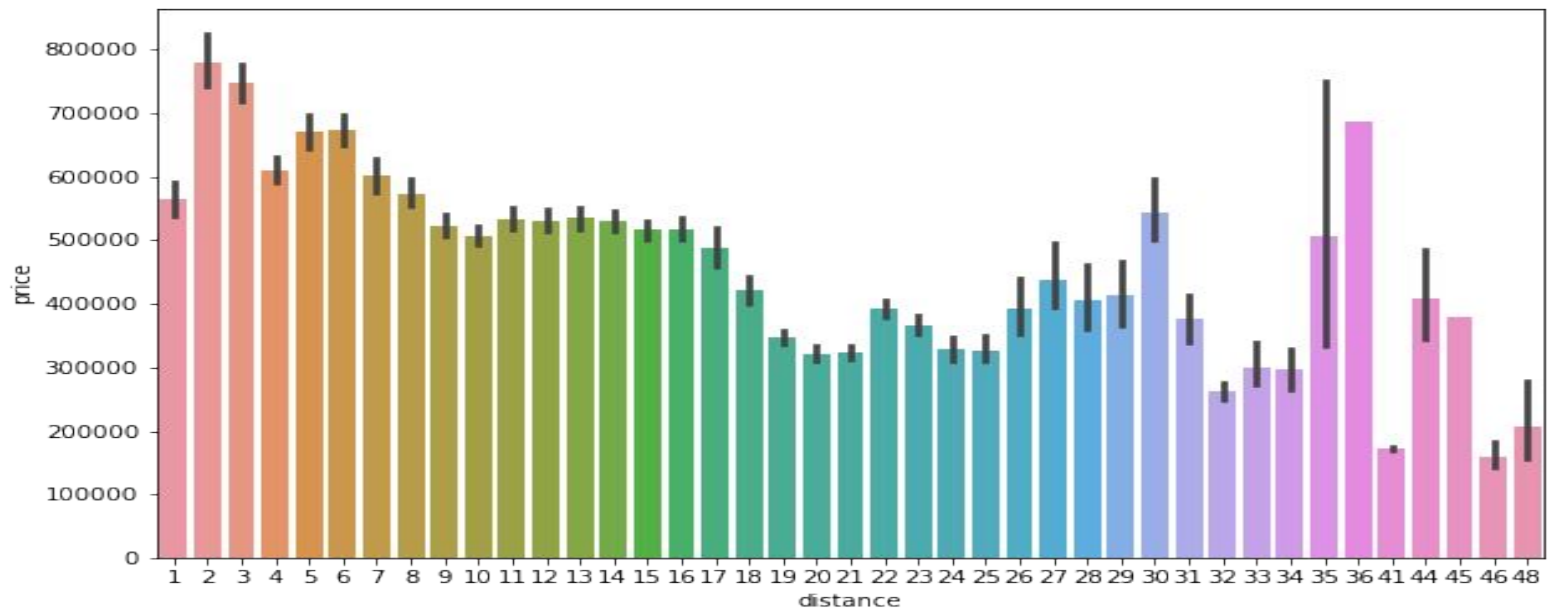

as zoomed on the interactive plot shows the 70th unique zip codes which represent the sales of 24 cities between 2014-2015.

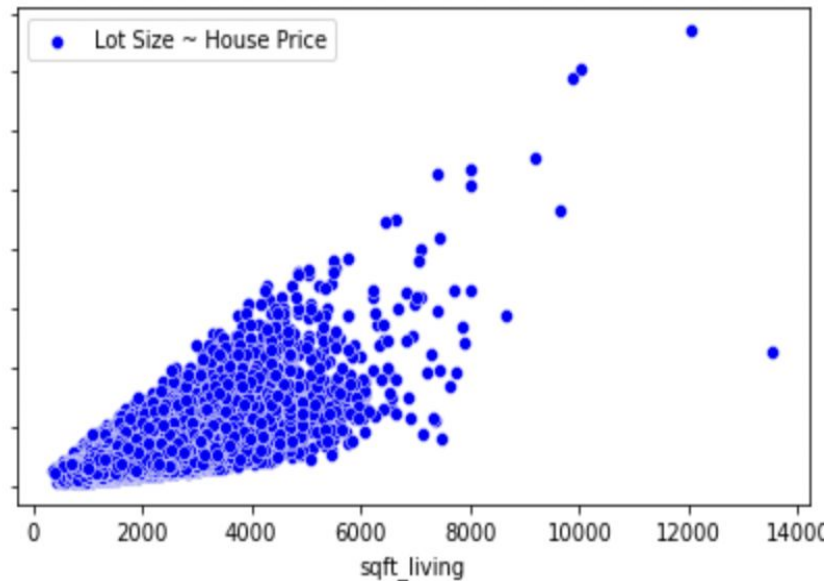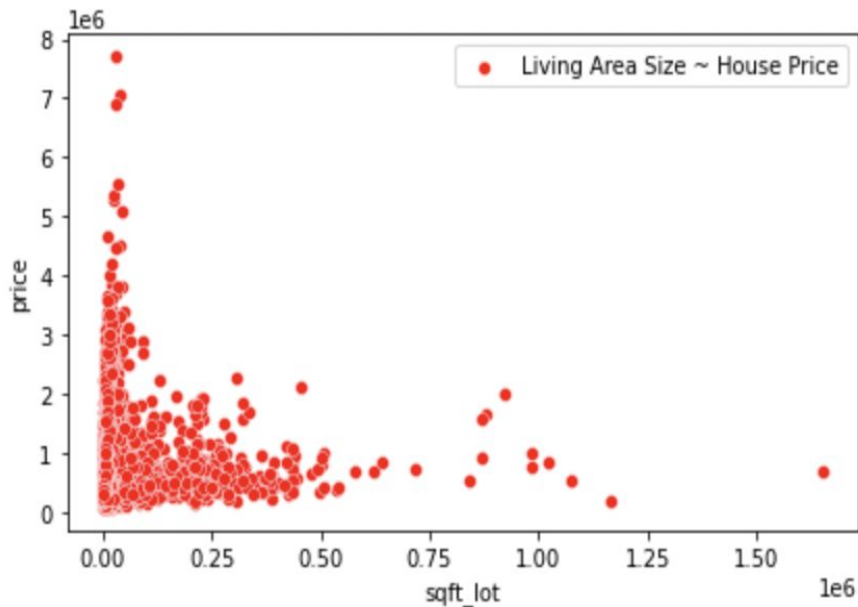# Price projection based on longitude and latitude

# Distance & nearby Features vs. Price

the distance factor can influence why some neighborhoods require high prices and others that are a few miles away do not. Additionally, a location's proximity to highways, utility lines, and public transport can affect the overall value of a home

# Living aera & Lot size vs. Price

one of the most important features that positively affects the house prices is the square foot lot and living area, we would expect large house to be expensive.
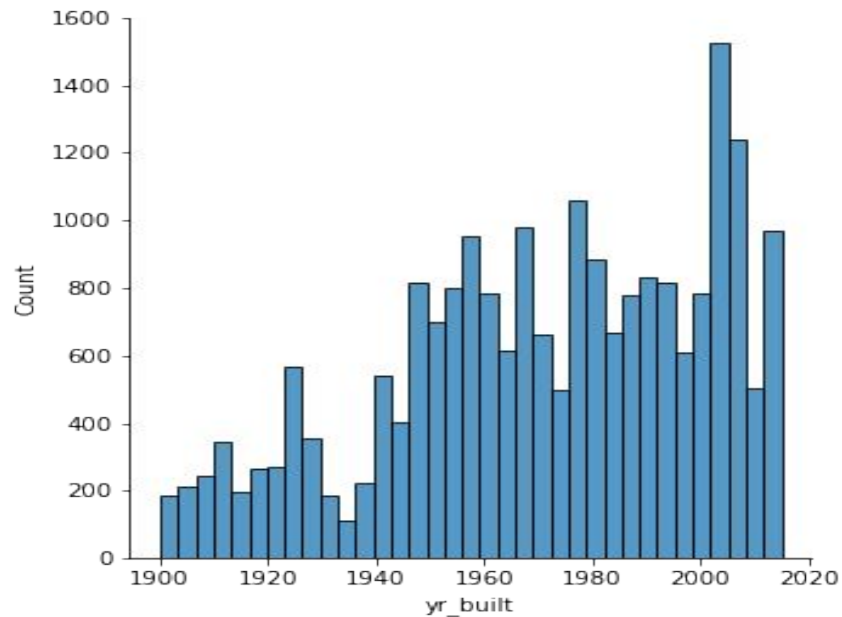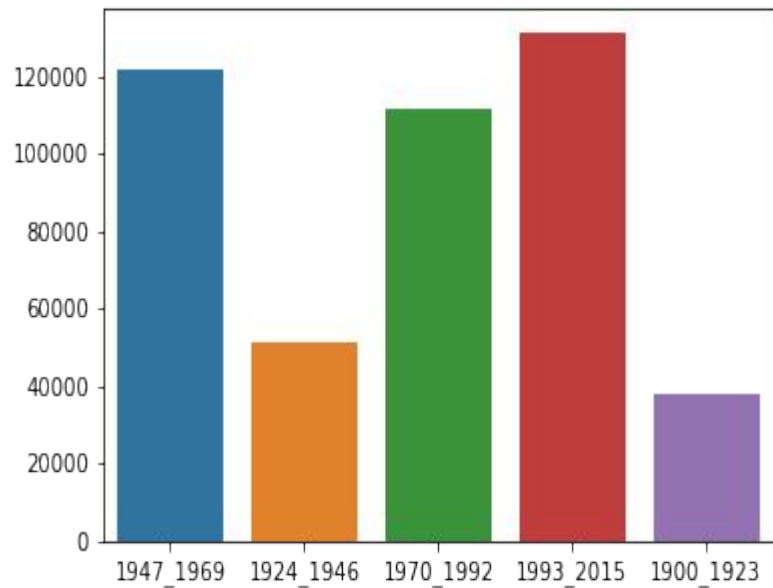
Grade vs. Price
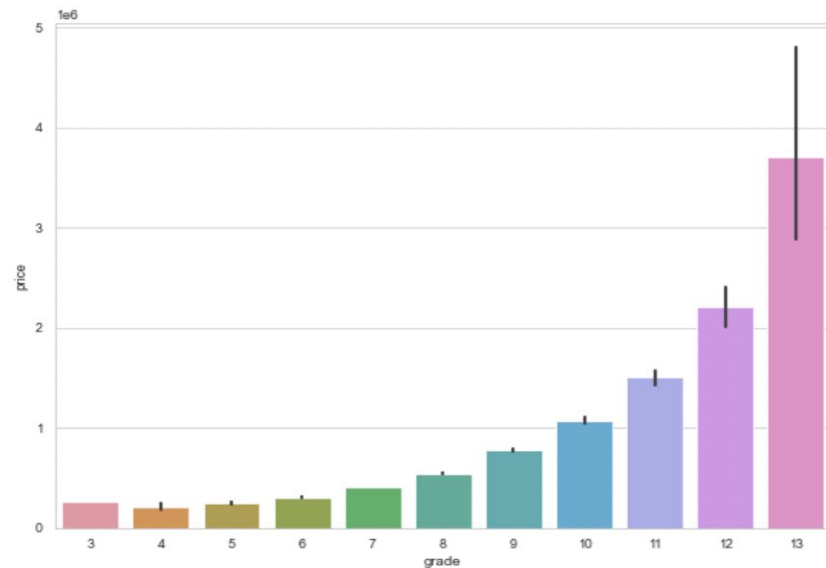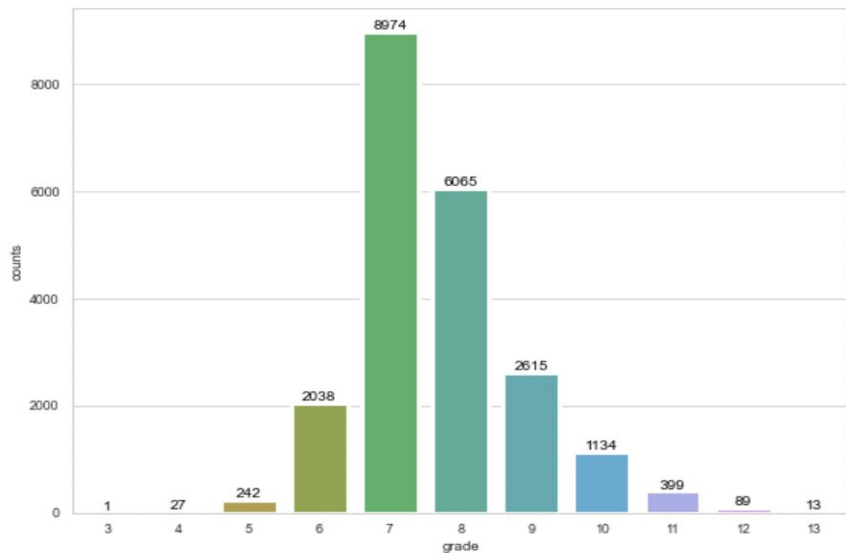
Construction grade which range from 1 to 13 is important features with high correlation for our campaign we would recommend houses with grade 9 or above. this would have a median price above $700,000.

Floors & Bedrooms vs. Price
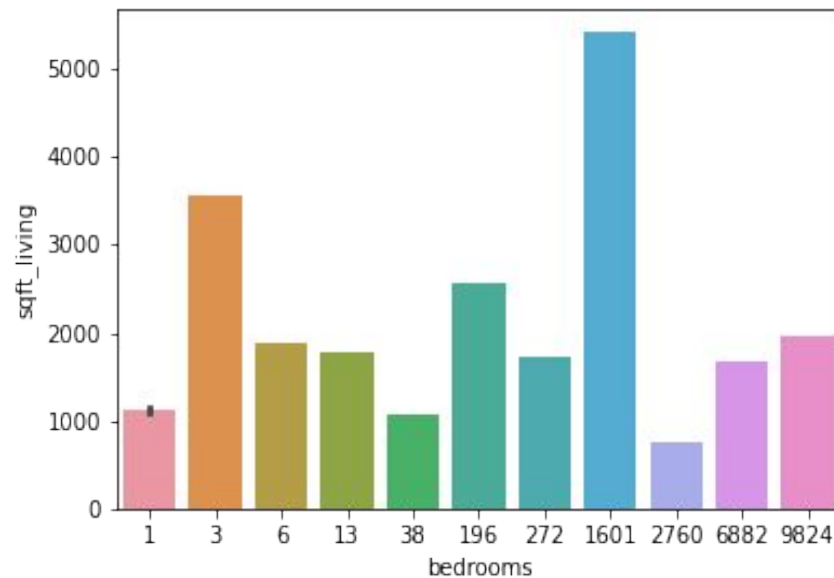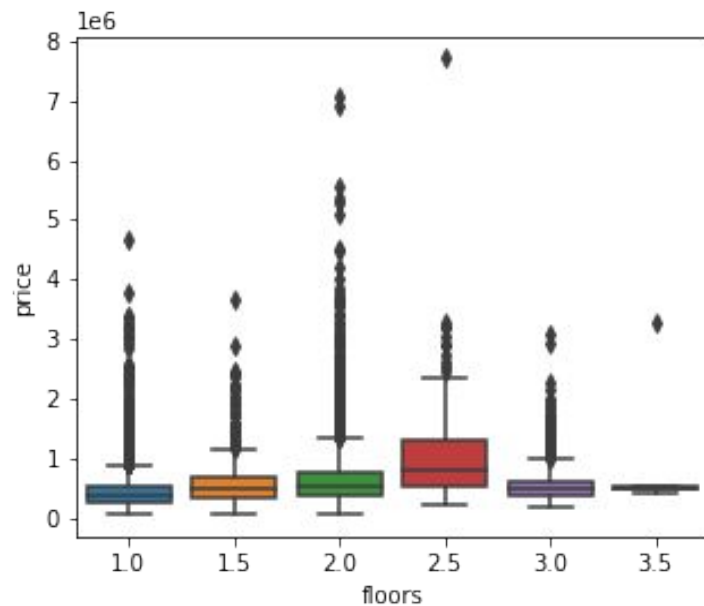
Year Built vs. Price

Predicting House Prices

	Model A	Model B
Features	5	65
Pros.	Simple interpretation	Performance
Cons.	Less accurate	Categorical Features
Score	0.626	0.80
Mean Error	$ 224,726.54	$ 157,457.27