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Seattle Airbnb

Open Data Analysis and Prediction

Marwan Ali

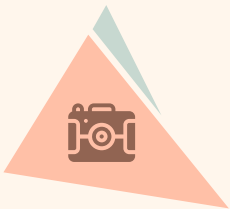Springboard Final Project Presentation

Contents

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Business Overview

Airbnb

is a platform of accommodation which match the needs of staying and of lending.
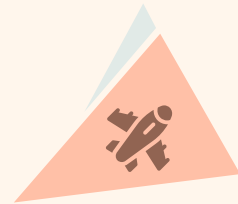
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Dataset Explanation

Listing Data

Including full descriptions and average review score

Reviews Data

Including unique id for each reviewer and detailed comments

Calendar Data

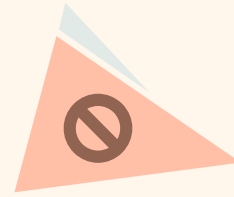*Including listing id and the price and availability for that day*

Airbnb Open Data

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Business Problem

Problem

What are the most important ingredients/features for the Airbnb price?

Solution

Providing pricing tips for a new listing to assist hosts in accurately pricing their properties.
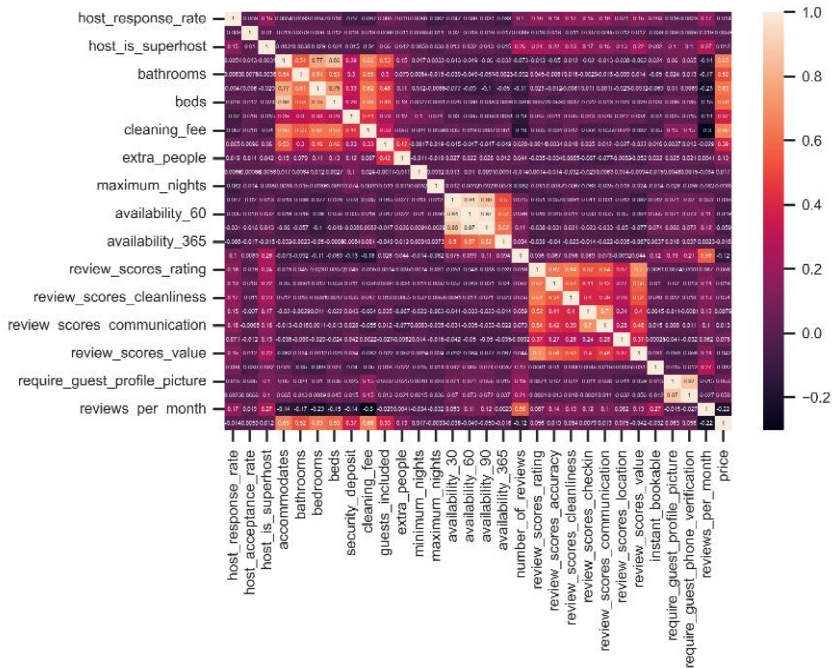
EDA and Feature Engineering

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Heat Maps
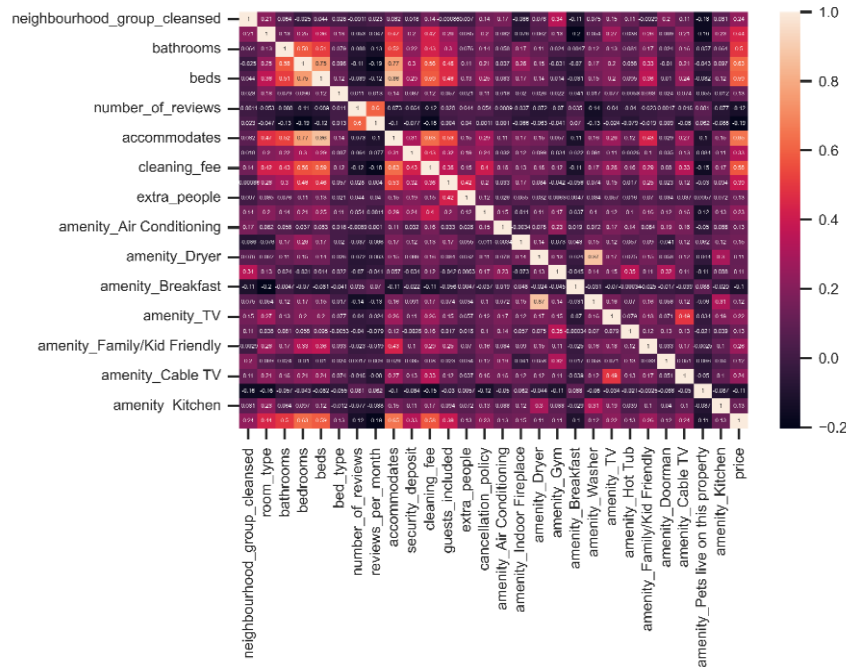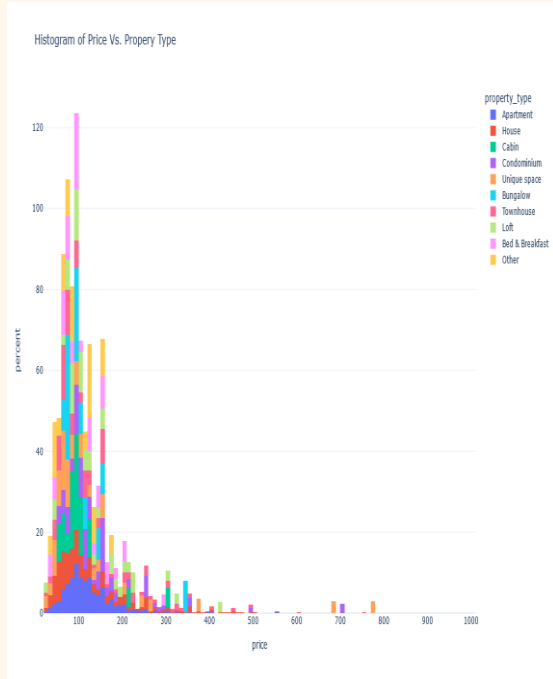
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Heat Map 1

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Heat Map 2

Histograms

▲ **Price Vs Property Type** ▲ **Price Vs Room Type** ★★★★★ **Price Vs No. of Beds**
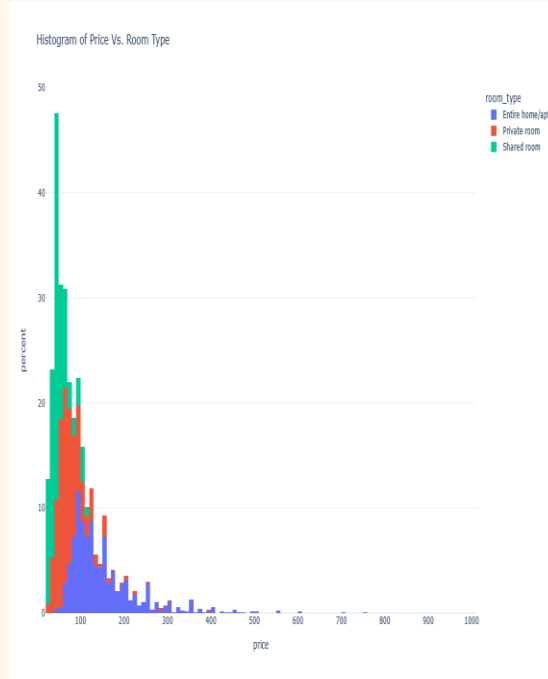
Market Size Essentials

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63%
Occupancy - Entire Home

45%
Type-House

25%
Capitol Hill

- Ballard
- Beacon Hill
- Capitol Hill
- Cascade
- Central Area
- Delridge
- Downtown
- Interbay
- Lake City
- Magnolia
- Northgate
- Other neighborhoods
- Queen Anne
- Rainier Valley
- Seward Park
- University District
- West Seattle
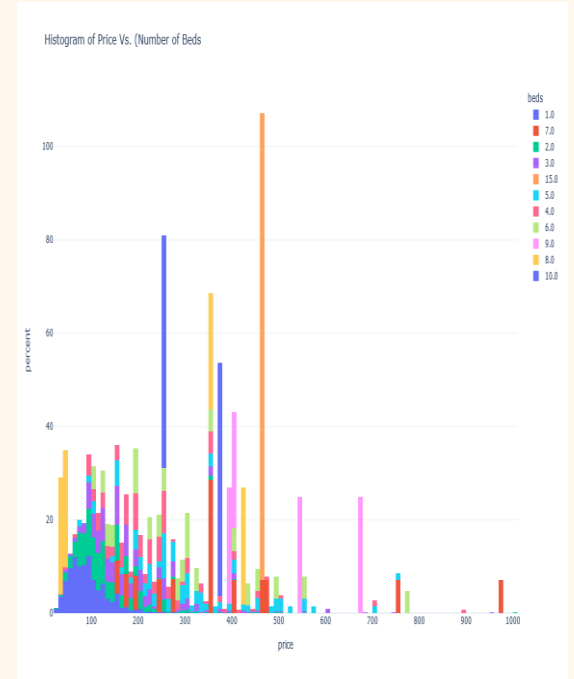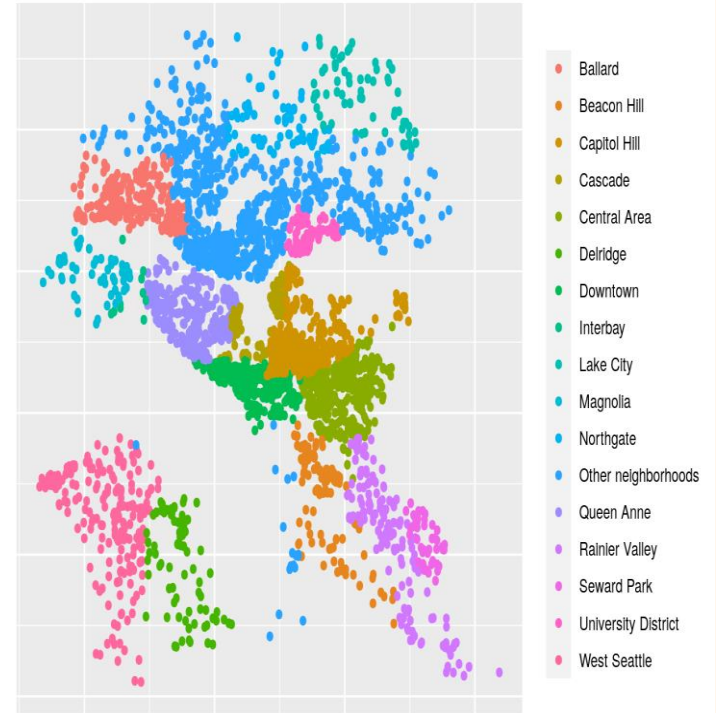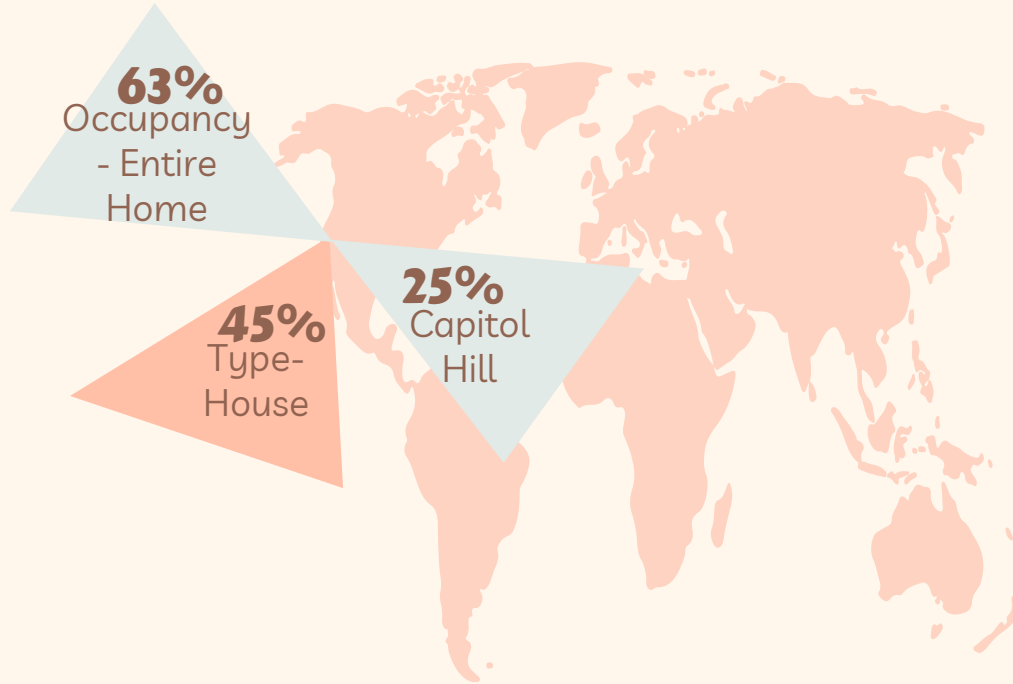
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Modeling and Summary

XGBoost

is an optimized distributed gradient boosting library designed to be highly **efficient**, **flexible** and **portable**

LightGBM

is a gradient boosting framework that uses tree based learning algorithms.

Conclusions and Suggestions

06

Actionable Outcomes

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Decrease the Following

Cleaning fees and Security deposits

Policy Change

Cancelations, Guest included, and Extra people

Amenities

Cable TV, Air conditioning, family/ kid friendly

Extras

Doorman, gym, Dryer, and Indoor fire place

Good to Update

Room types and enteral decoration

Hard to Change

Neighborhoods, bedrooms, and bathrooms

References

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- Hotel Business Plan *[PowerPoint slides]. (n.d.). Slidesgo. https://slidesgo.com/theme/hotel-business-plan*
- Springboard Data Science Career Track Syllabus.