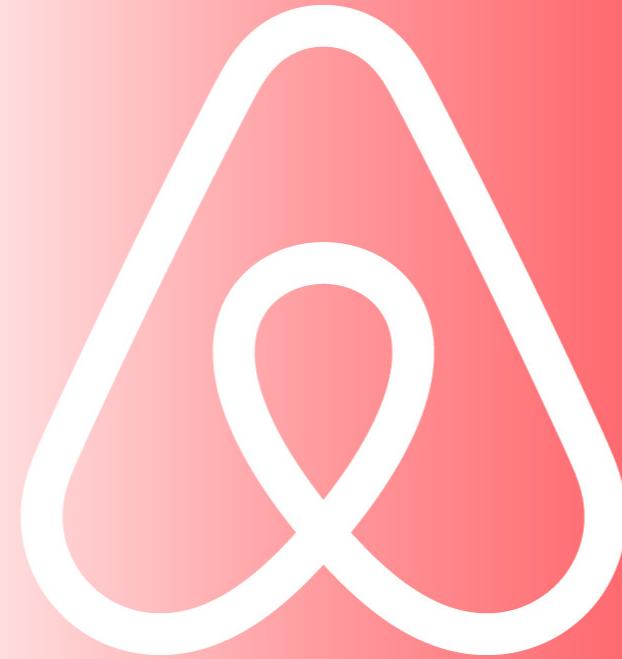




Airbnb Price Predictions: Florida Edition

By: Rebecca Pierre



Introduction



Goal: Develop a predictive model for estimating daily prices of Airbnb listings in Florida.



Purpose: Provide valuable insights for hosts, travelers and individuals interested in the rental arbitrage market.



Objective: Gain insights into the dataset and develop accurate price predictions for Airbnb listings in Florida.

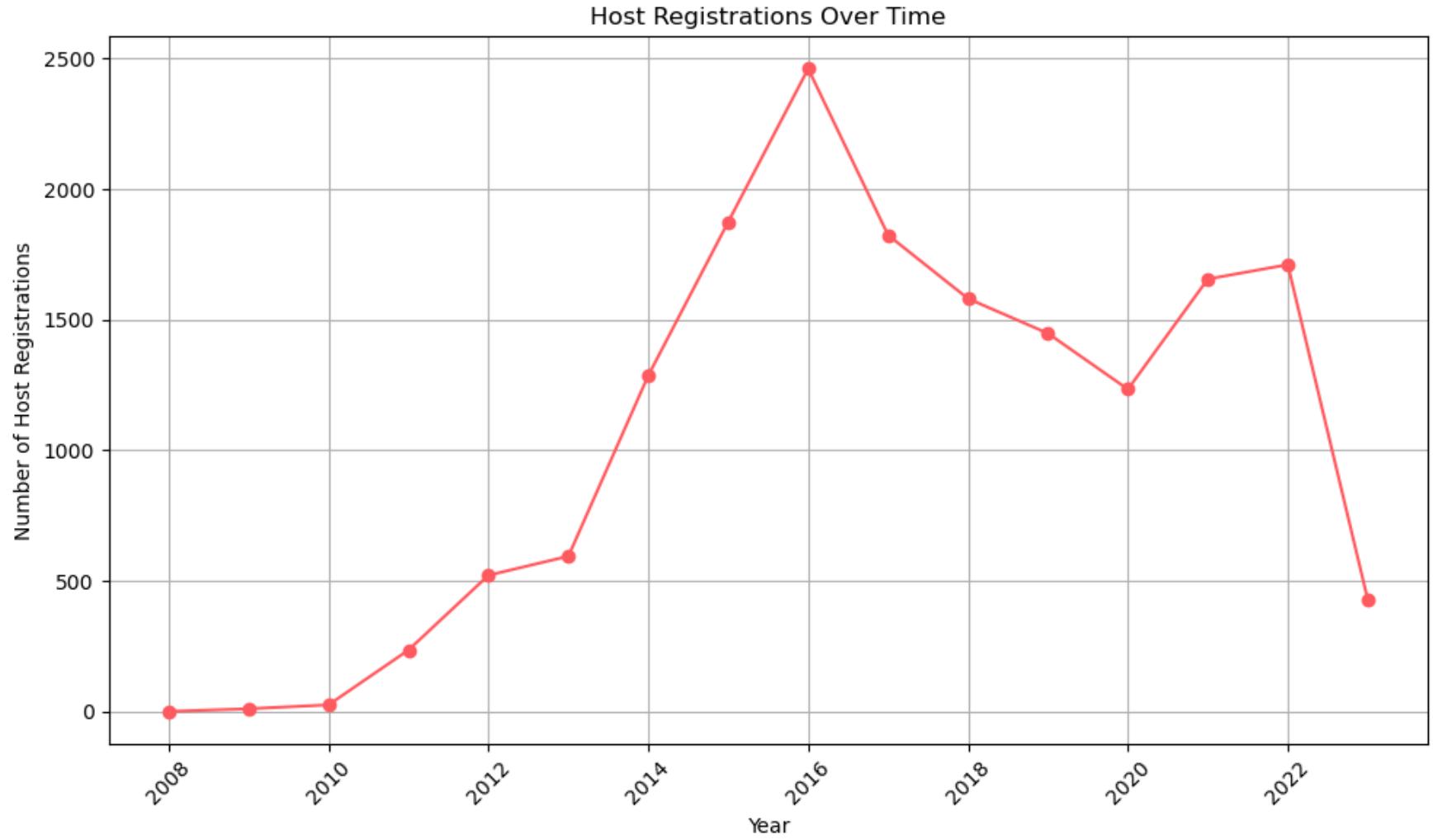
Problem Statement

- The "Airbnb Price Predictions Florida Edition" data science project aims to solve the challenge of predicting the daily prices of Airbnb listings in Florida. With the increasing popularity of Airbnb as an alternative to traditional accommodation options, there is a growing need to understand and accurately predict the factors that influence daily listing prices. This information is essential for both hosts and travelers to make informed decisions and optimize their experiences.

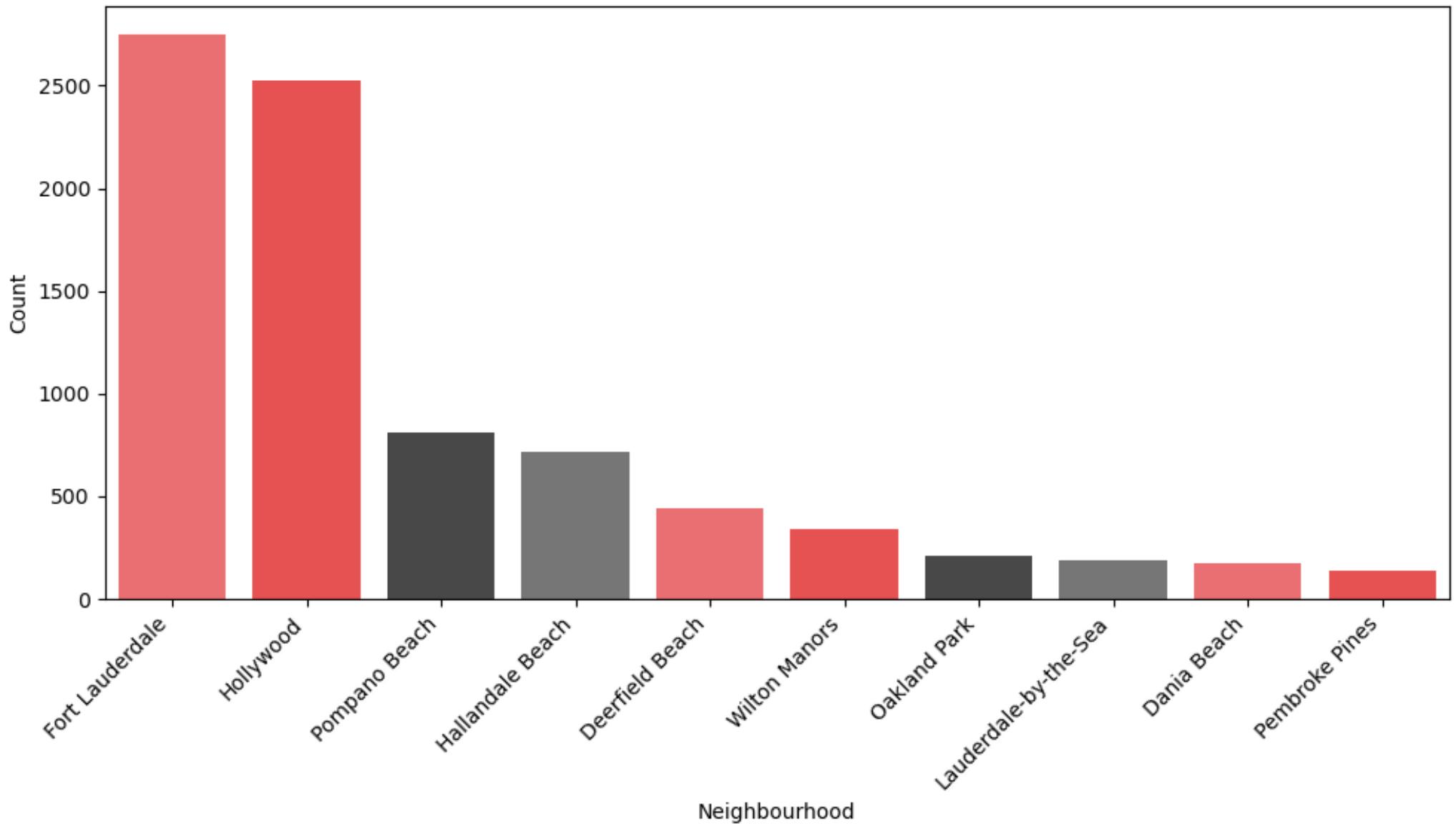
Methodology

- Data Collection
- Data Preprocessing
- Feature Engineering
- Exploratory Data Analysis
- Regression Models
- Model Evaluation

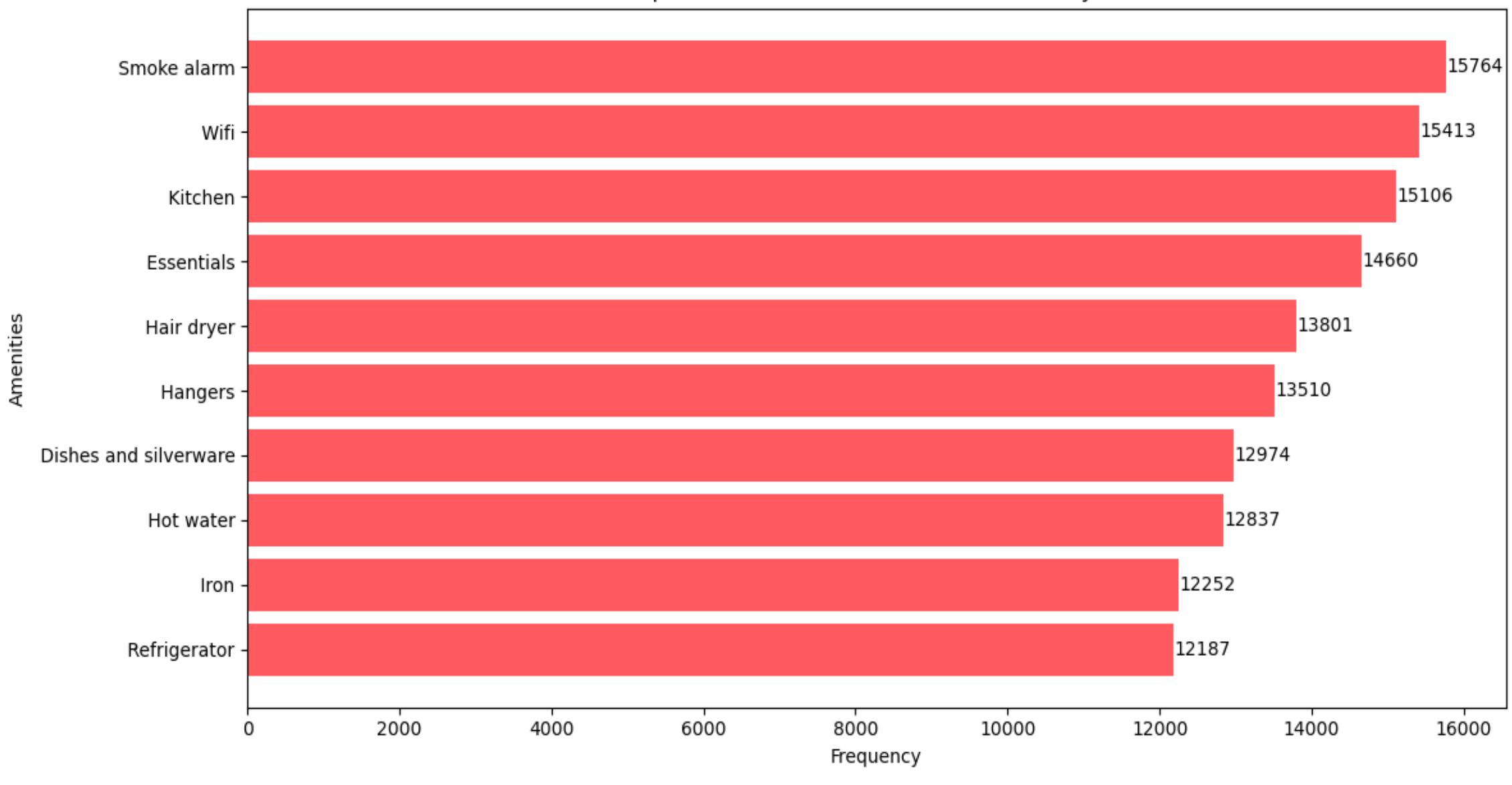
Data Exploration



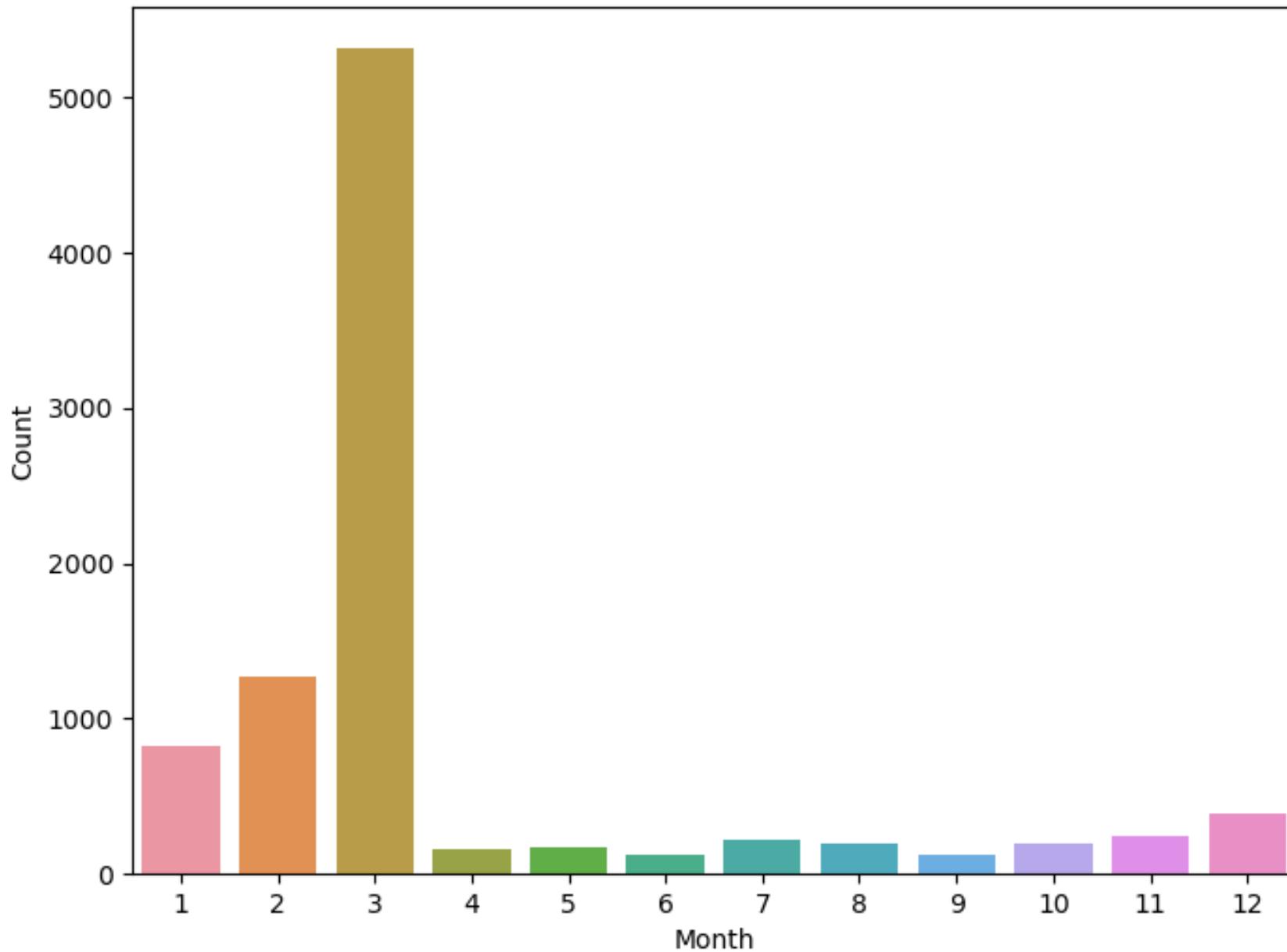
Neighbourhood Distribution



Top 10 Airbnb Amenities in Broward County FL



Distribution of Last Review Month



Models Used

Linear Regression

Gradient Booster

LassoCV

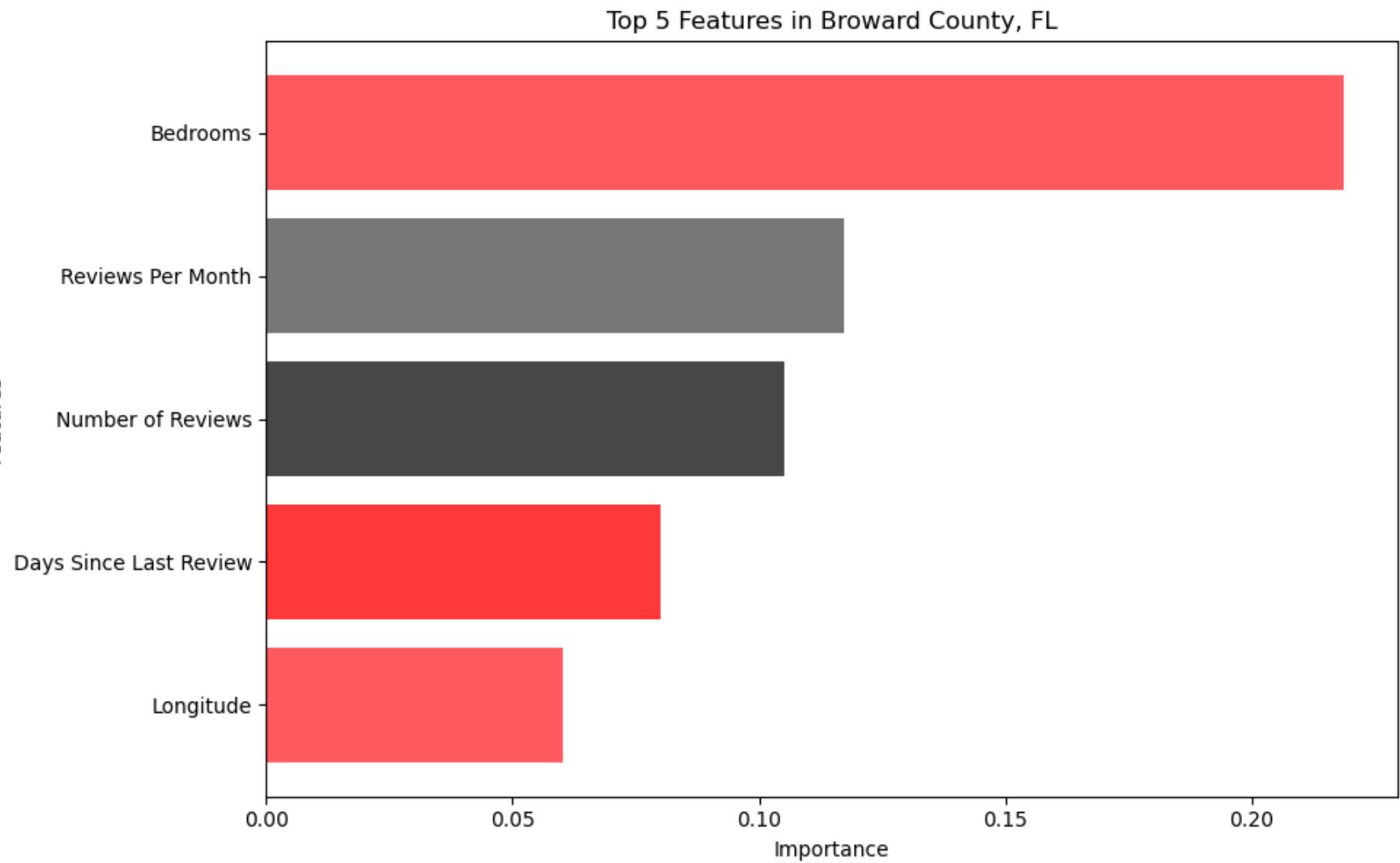
RidgeCV

Model Performance Summary

- Best performance:
- Gradient Boosting Model
 - lowest RMSE
 - Highest R²
 - Smallest MSE and MAE

Model	RMSE	R ²	MSE	MAE
Baseline	0.9173	-	-	0.4673
Linear Regression	570.72	-3.55	3.26	35.84
Gradient Boosting	0.7210	0.4333	0.5198	0.2619
LassoCV	0.8088	0.2869	0.6542	0.3183
RidgeCV	0.8093	0.2869	0.6549	0.3225

Feature Importances



Conclusion



Developed a predictive model for estimating Airbnb prices in Florida.



Leveraged the Gradient Boosting model for accurate price predictions.



Important features: Bedrooms, reviews per month, and number of reviews.



Hosts can make informed pricing decisions in the rental arbitrage market based on these features.



Practical implications for hosts: Optimizing listings and maximizing profitability in Florida.

Recommendations

Consider the number of bedrooms and average reviews per month when setting listing prices in Florida.

1 →

Actively manage and maintain a high number of positive reviews to positively impact the pricing strategy.

2

Pay attention to guest feedback and address any issues promptly to maintain positive reviews.

5 →

Stay informed about local events and seasonality to optimize pricing during peak periods.

Next Steps..

1

Incorporate external data sources:

- Include local events, festivals, or holidays as variables in the pricing models.
- Utilize data on local market trends and economic indicators.

2

Evaluate the impact of COVID-19 on Airbnb prices and adjust modeling approaches accordingly.

3

Expand the project to cover other regions or cities outside of Florida for a broader analysis of Airbnb pricing dynamics.



Thank you!