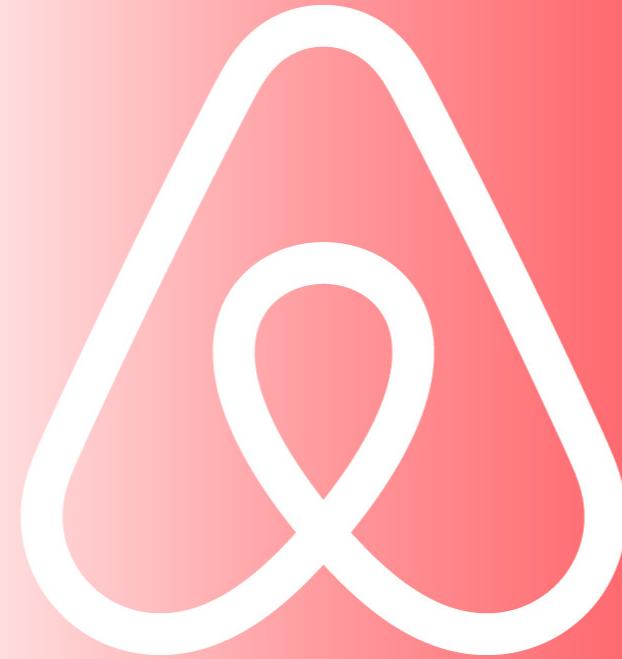




# Airbnb Price Predictions: Florida Edition

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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.

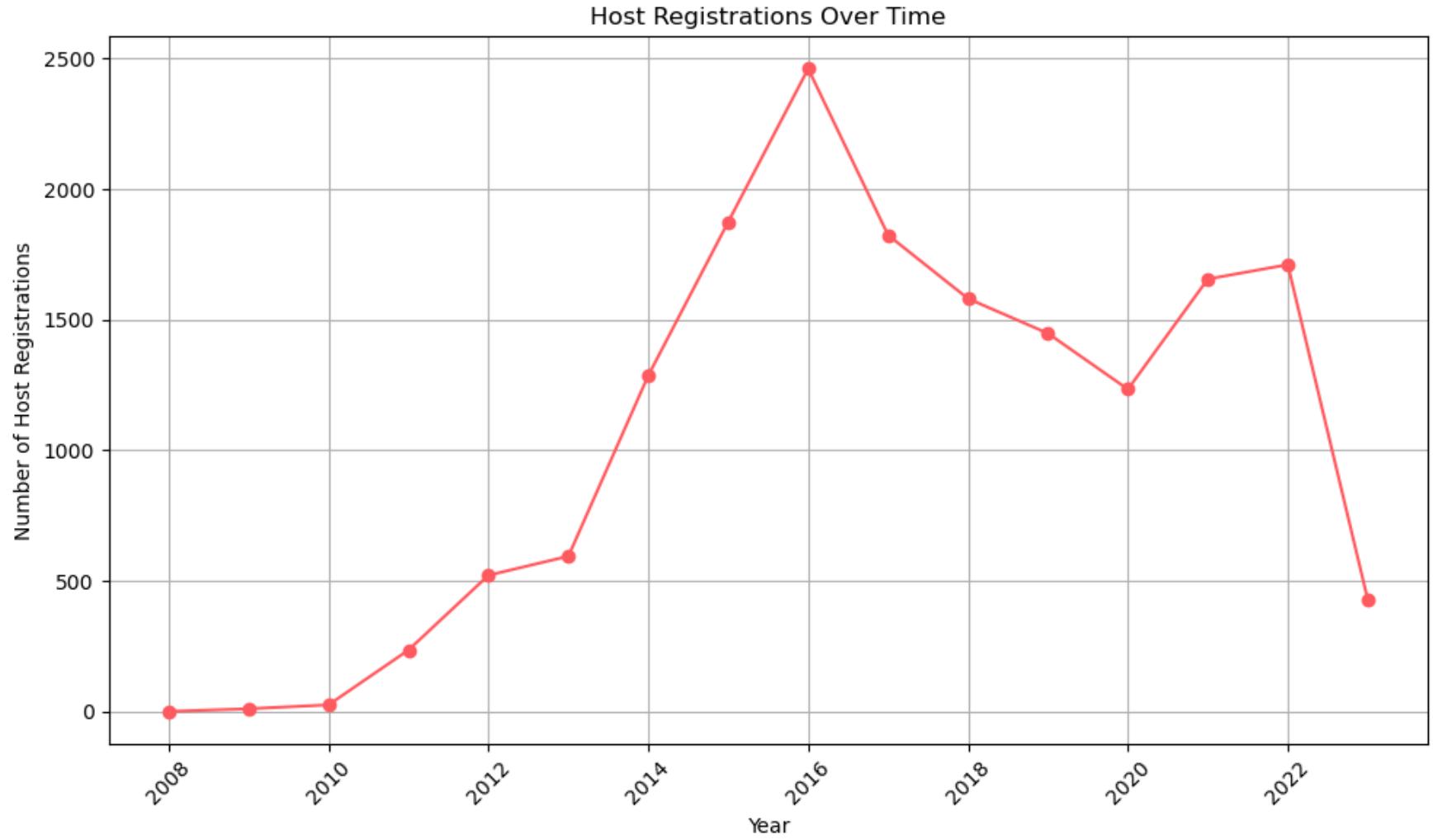
# Problem Statement

- 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.

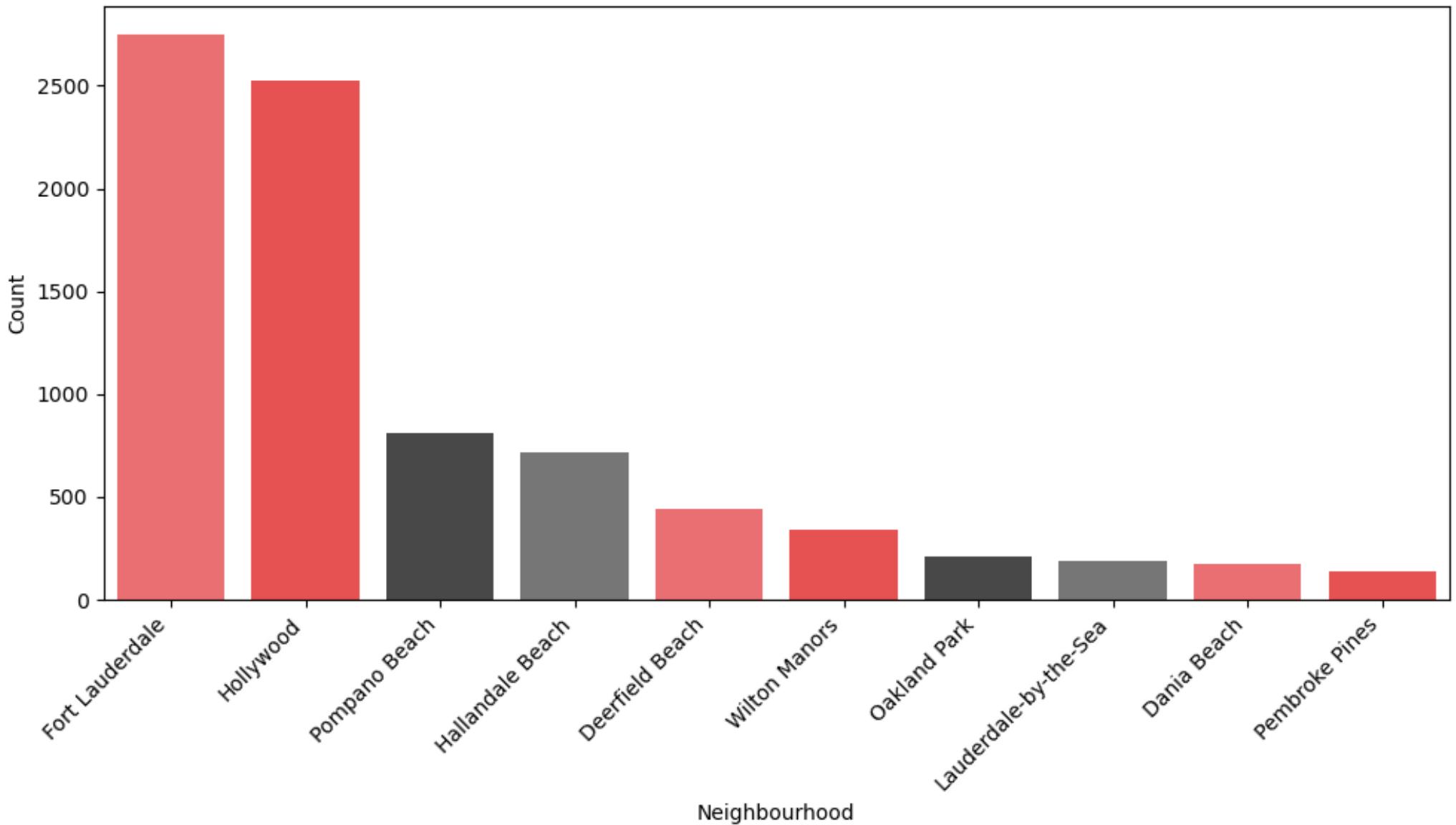
# Methodology

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

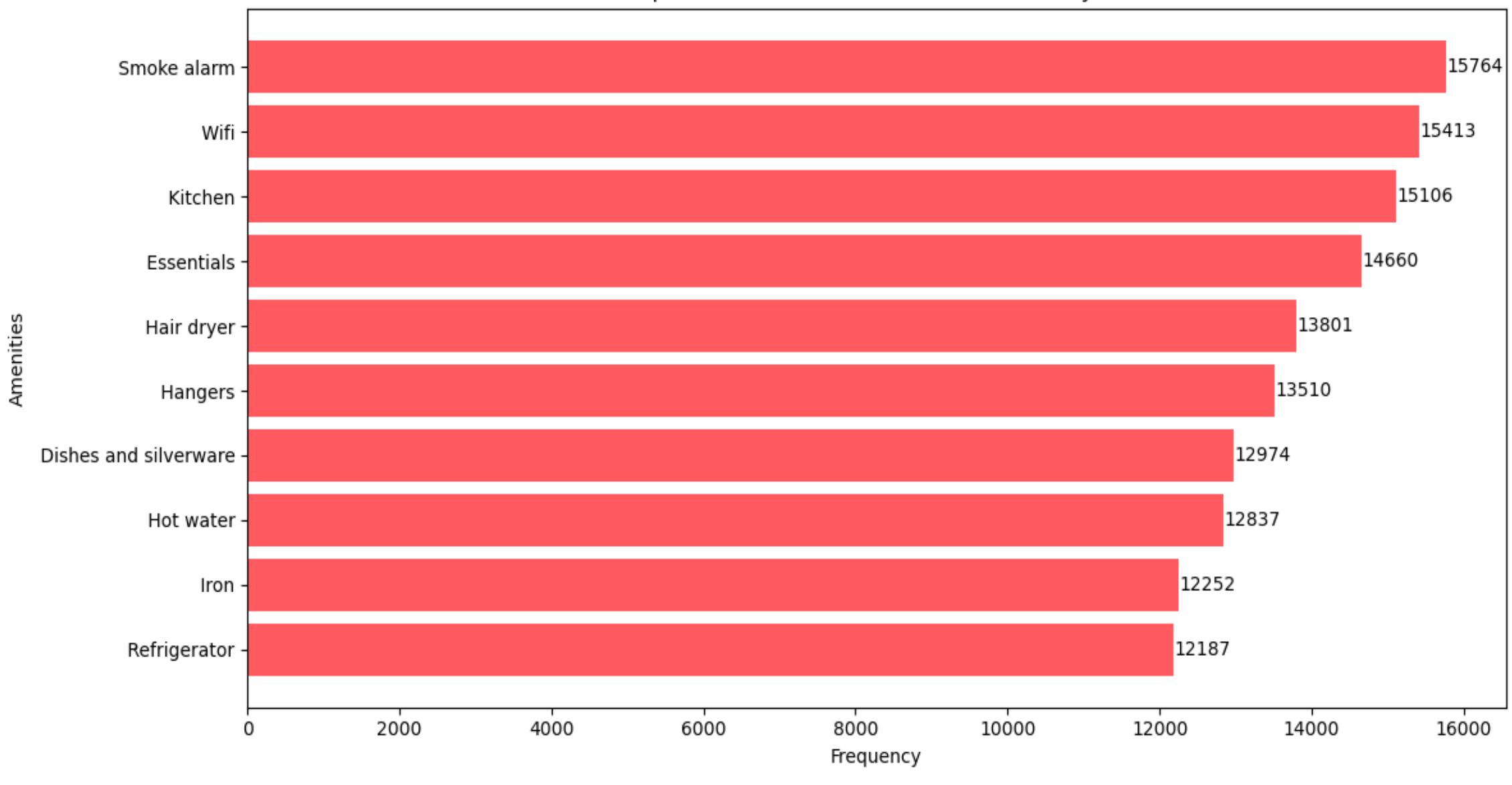
## Data Exploration



### Neighbourhood Distribution



Top 10 Airbnb Amenities in Broward County FL



# Models Used

Linear Regression

Gradient Booster

LassoCV

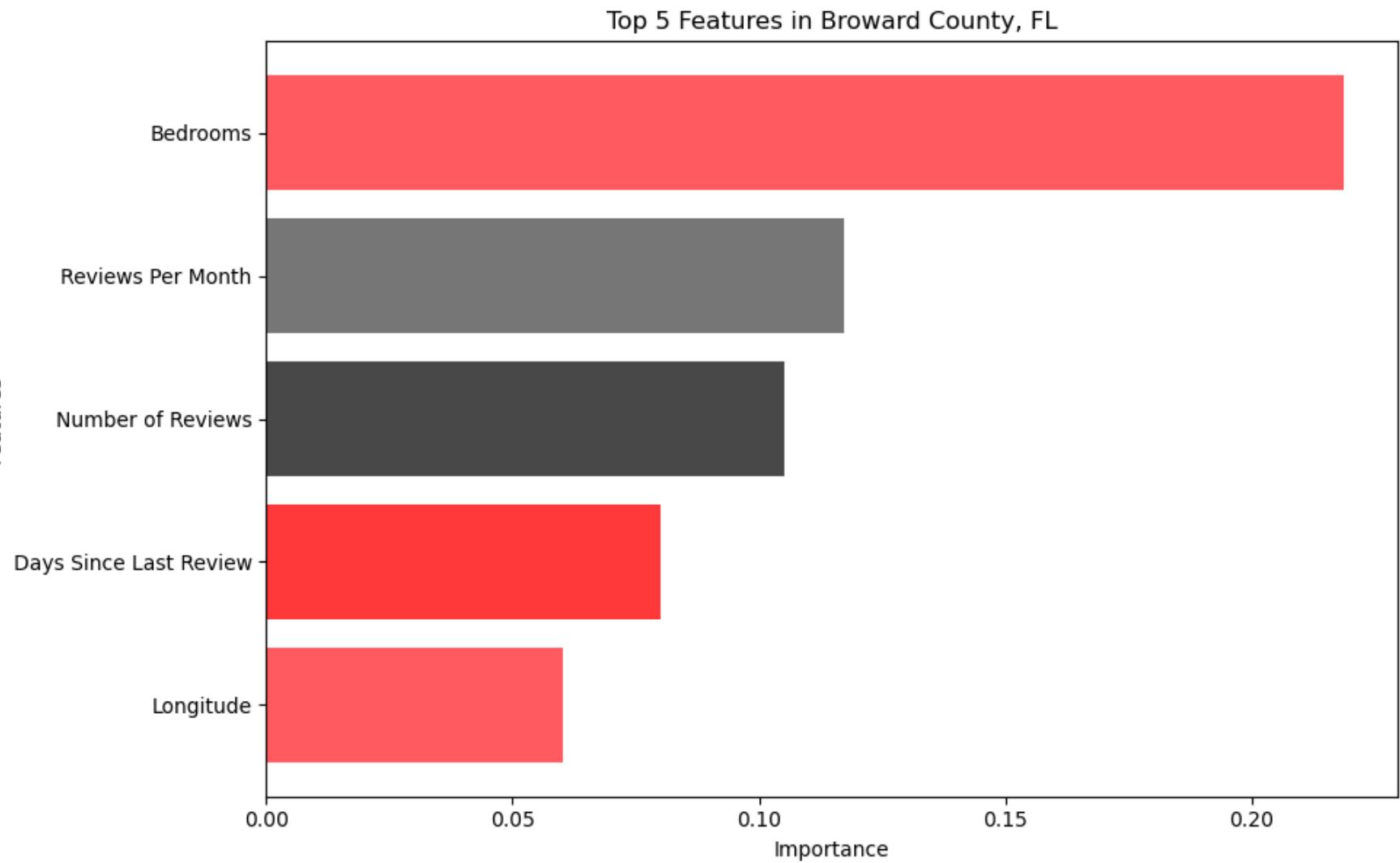
RidgeCV

# Model Performance Summary

- Best performance:
- Gradient Boosting Model
  - lowest RMSE
  - Highest R<sup>2</sup>
  - Smallest MSE and MAE

Model	RMSE	R <sup>2</sup>	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.

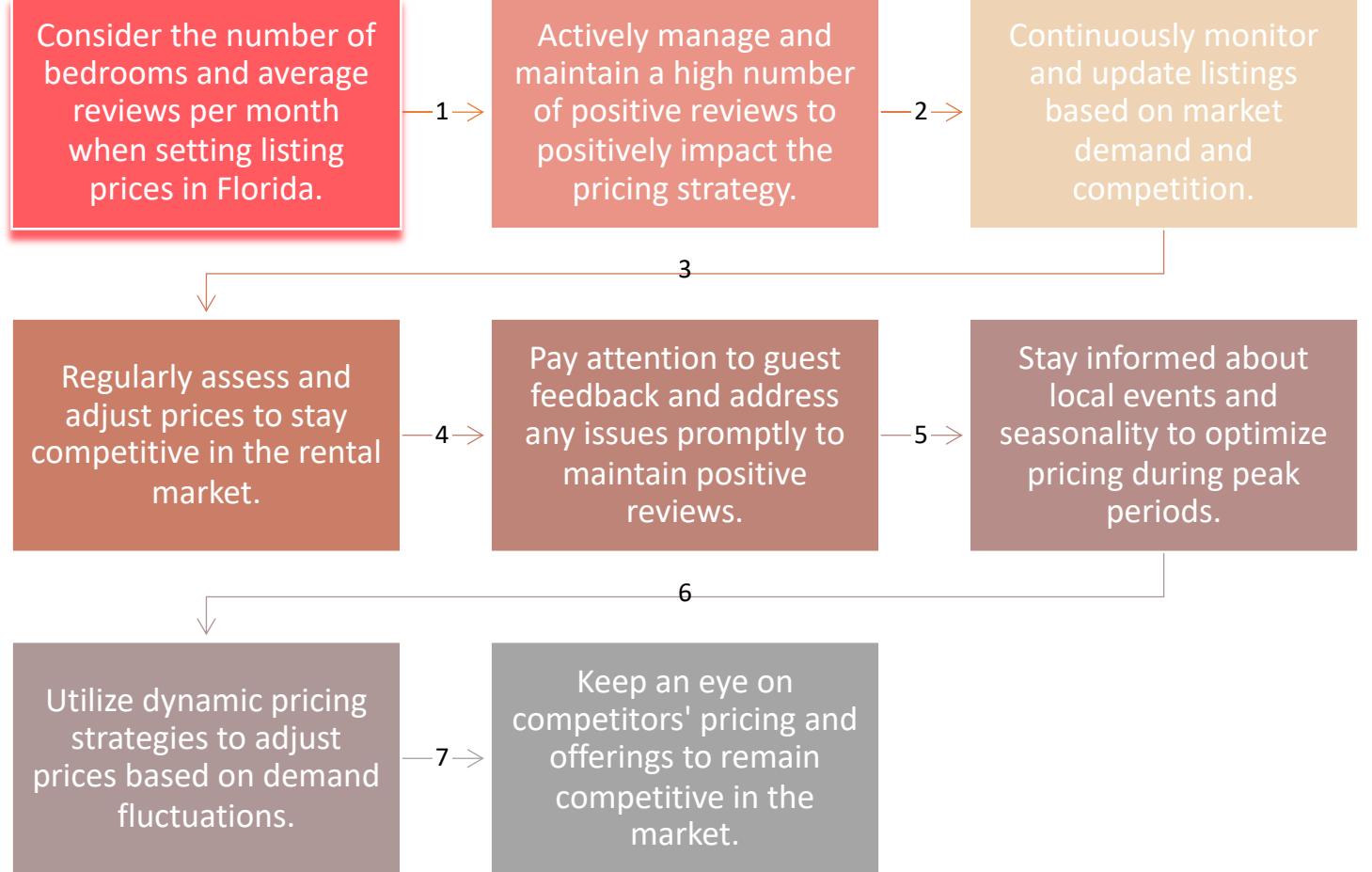


Hosts can make informed pricing decisions in the rental arbitrage market based on these features.



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

## Recommendations



# 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

Consider geographic-specific analyses:

- Conduct similar studies for different regions within Florida to capture regional variations in pricing factors.

3

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

4

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



Thank you!