

# Airbnb Listings Trends in NYC by Nikhil Poojari

A deep dive into the dynamics of NYC's Airbnb market

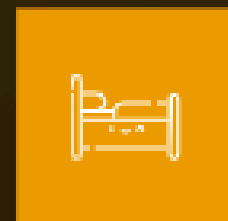
## Objective of the Analysis

To analyze **Airbnb NYC listings** for pricing trends, host behavior, and popular neighborhoods, enhancing market understanding.



## Dataset Overview

The analysis is based on **Inside Airbnb** data, featuring **over 36,000 records** of NYC listings, providing a comprehensive view.



## Tools Used for Analysis

Utilizing **Python**, **Pandas**, **NumPy**, and visualization libraries like **Matplotlib** and **Seaborn** to extract insights from data.



# Effective Data Cleaning & Preparation for Airbnb Analysis

Streamlining data for insightful Airbnb analysis in New York City



**Removed irrelevant columns for clarity.**

---

Excluded URLs and text-heavy data.



**Converted 'price' to numeric values.**

---

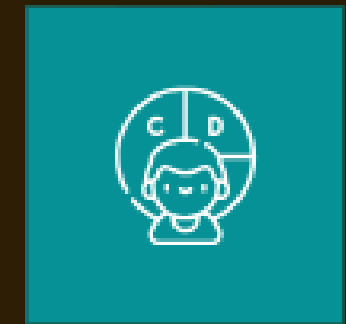
Filtered out price outliers above \$1000.



**Handled missing review data effectively.**

---

Filled gaps and filtered crucial info.



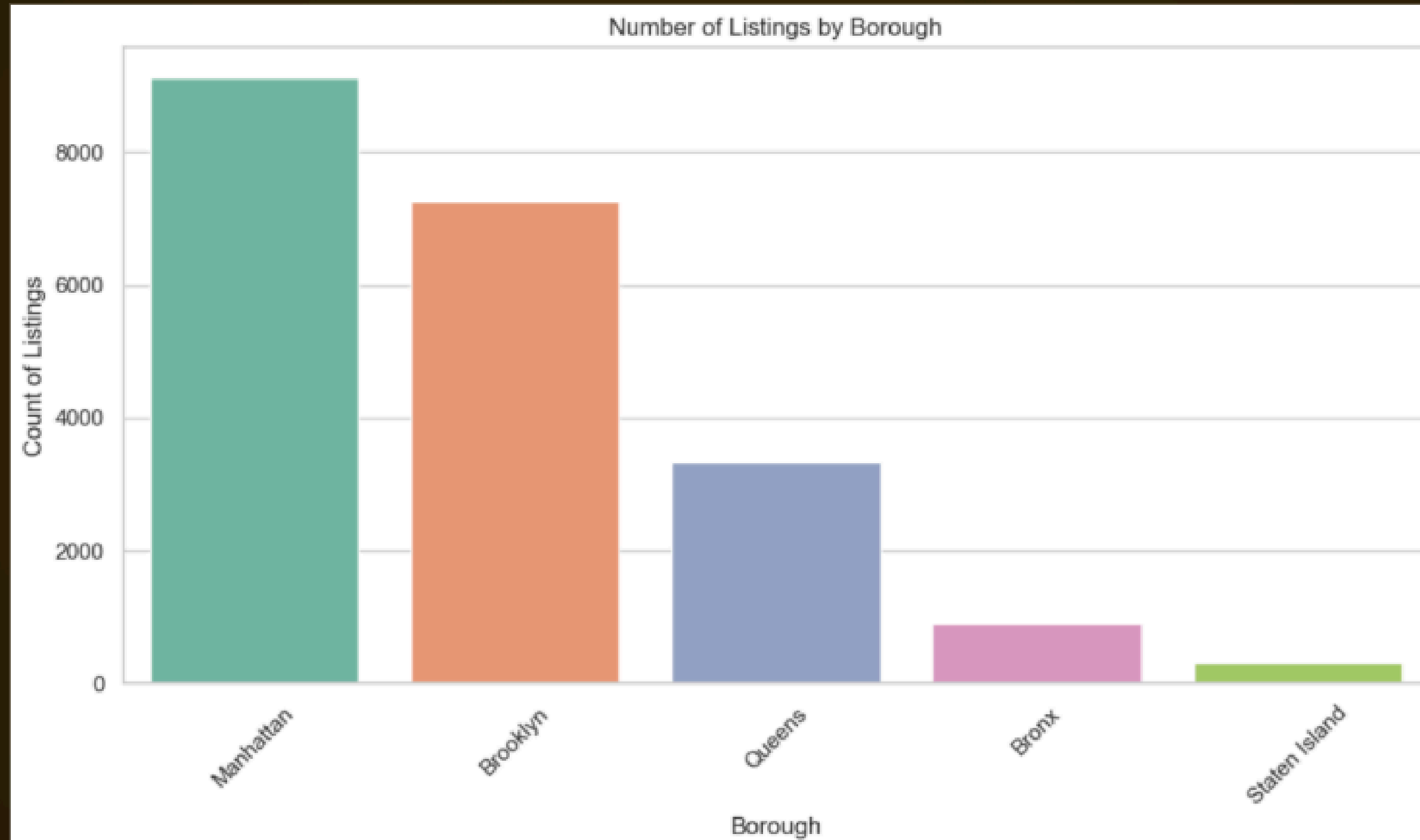
**Grouped data by reliable neighbourhoods.**

---

Used 'neighbourhood\_cleansed' for accuracy.

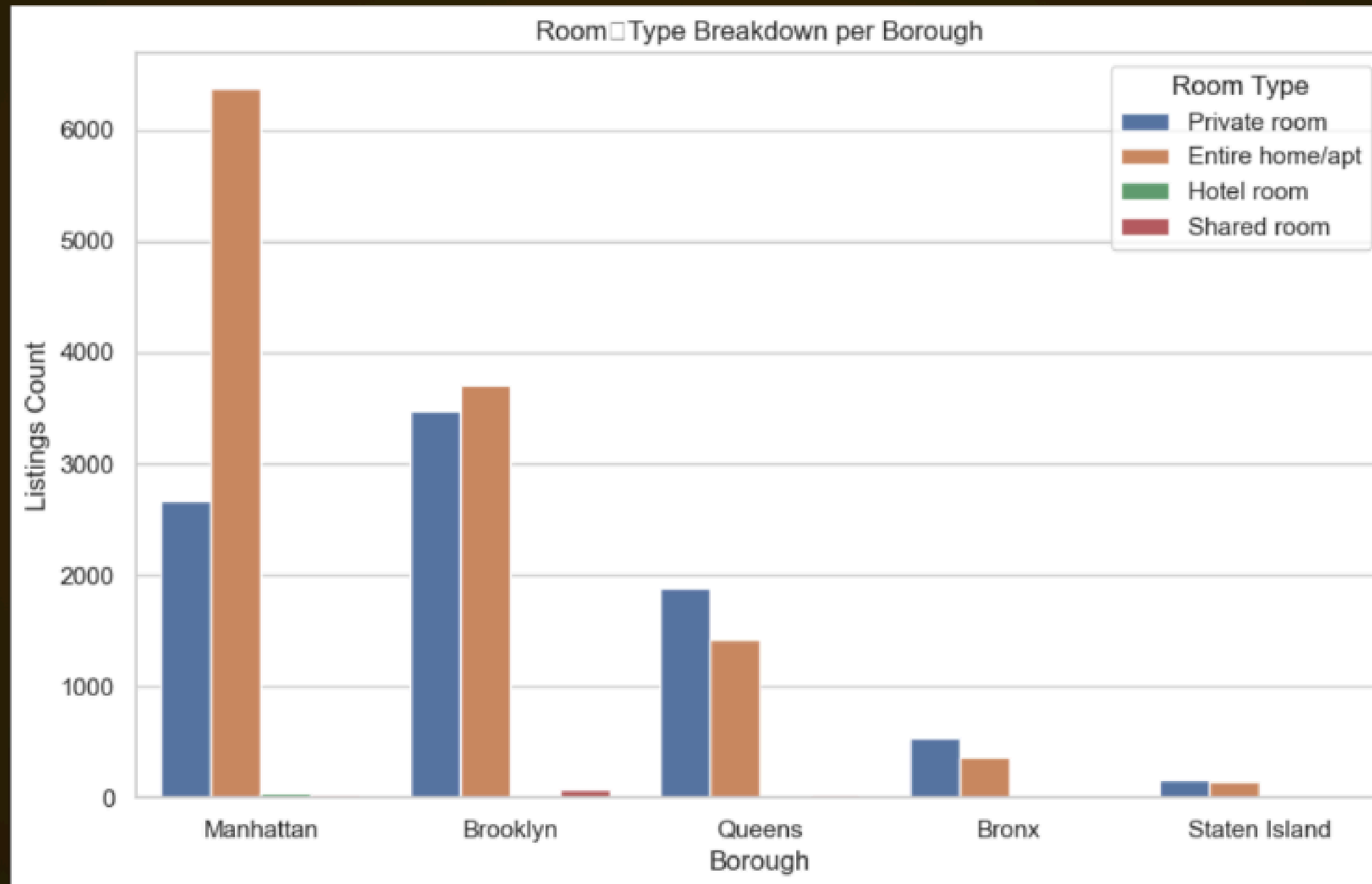
# Exploratory Data Analysis

## 1. Listings by Borough



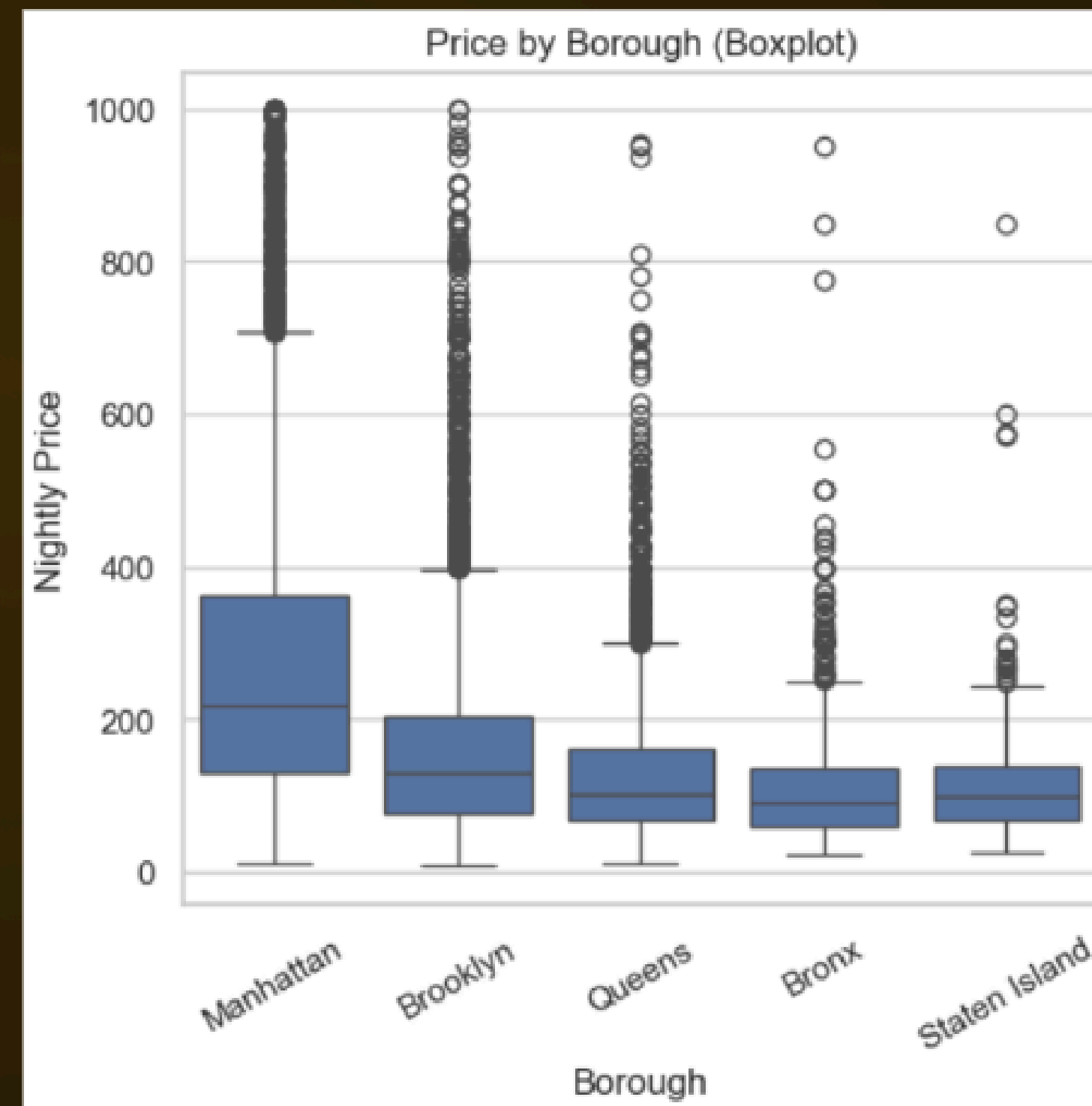
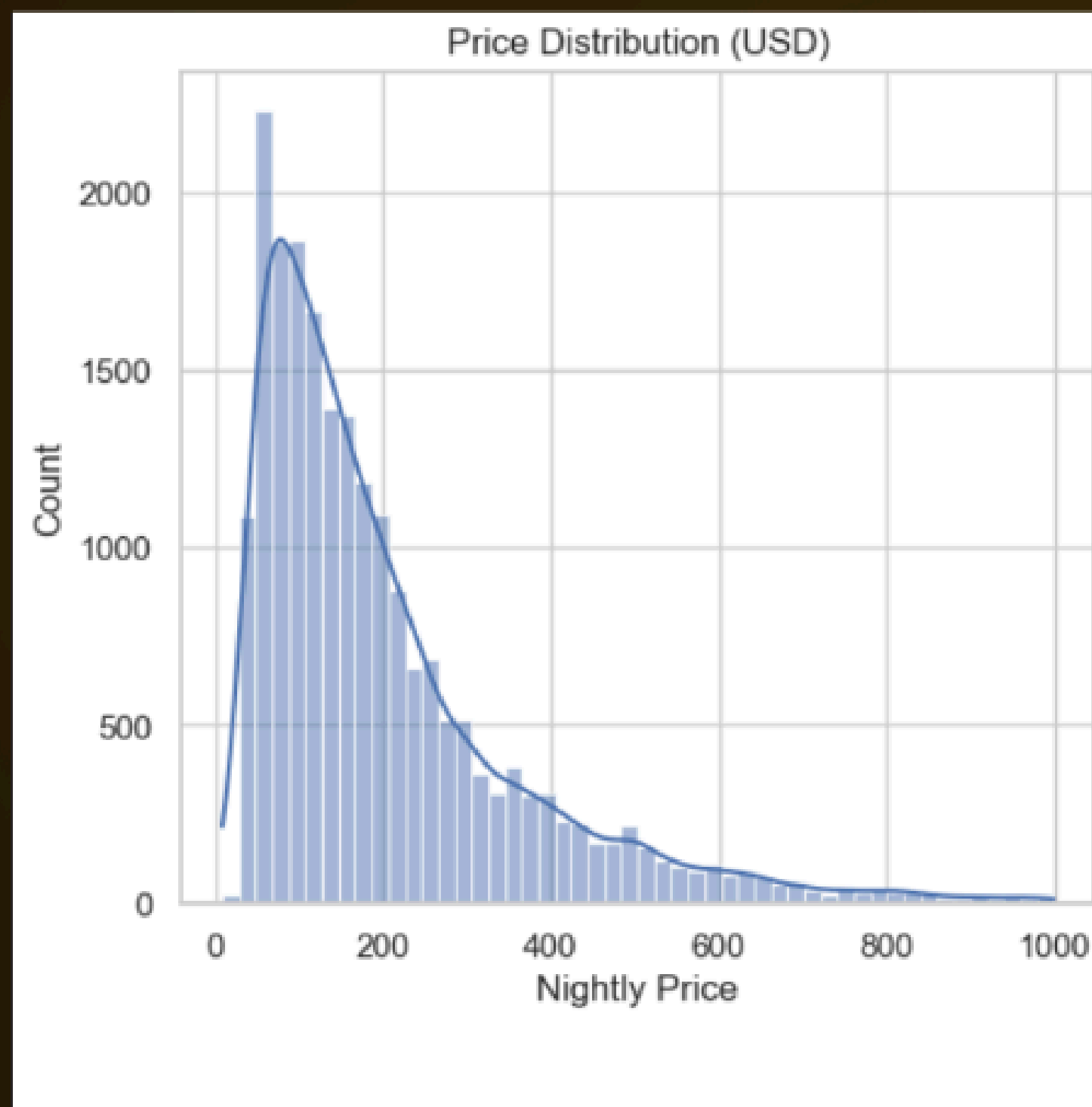
# Exploratory Data Analysis

## 2. Room-type distribution vs borough



# Exploratory Data Analysis

## 3. Price distribution overall & by borough



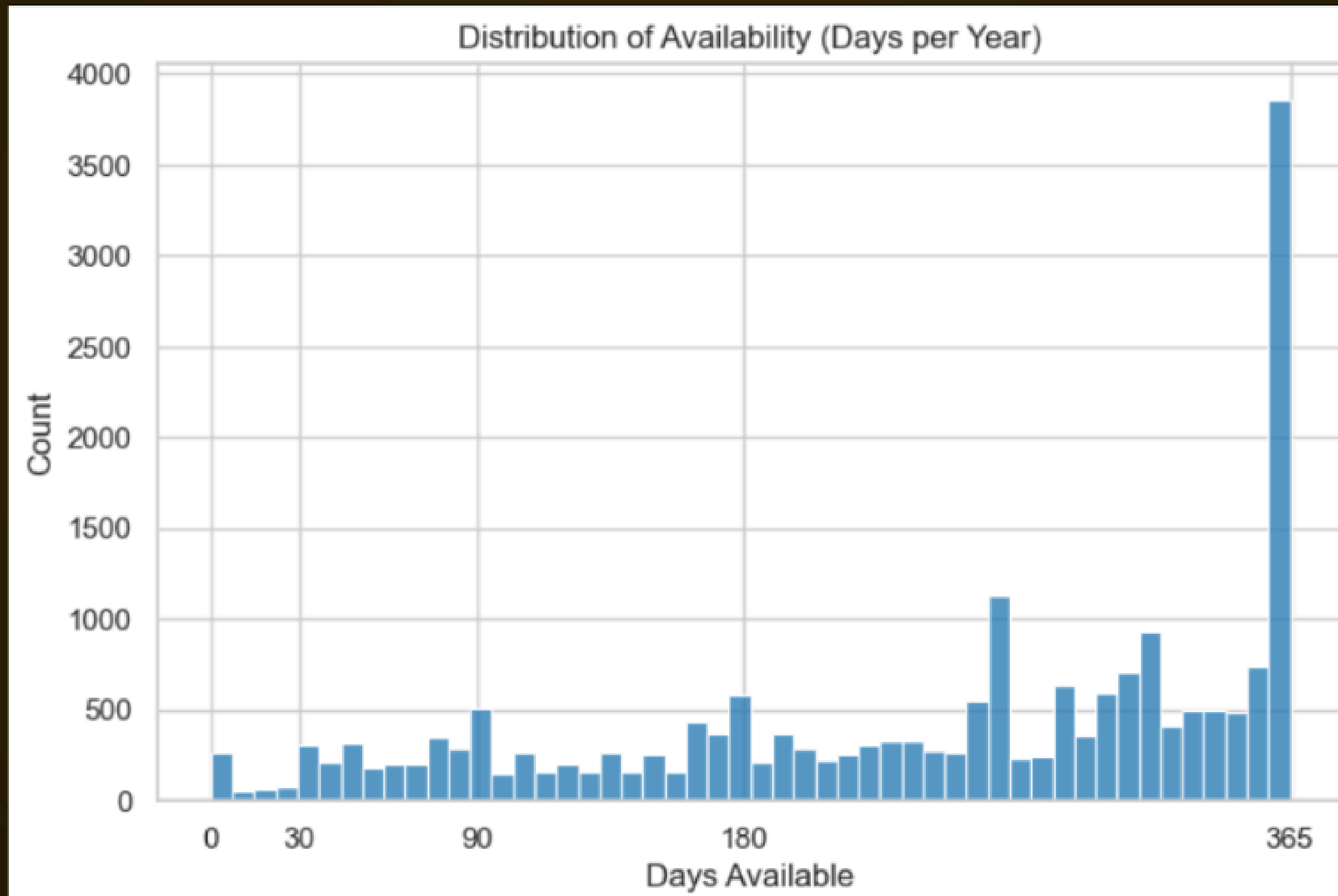
# Exploratory Data Analysis

## 4. Average price by neighbourhood bar chart



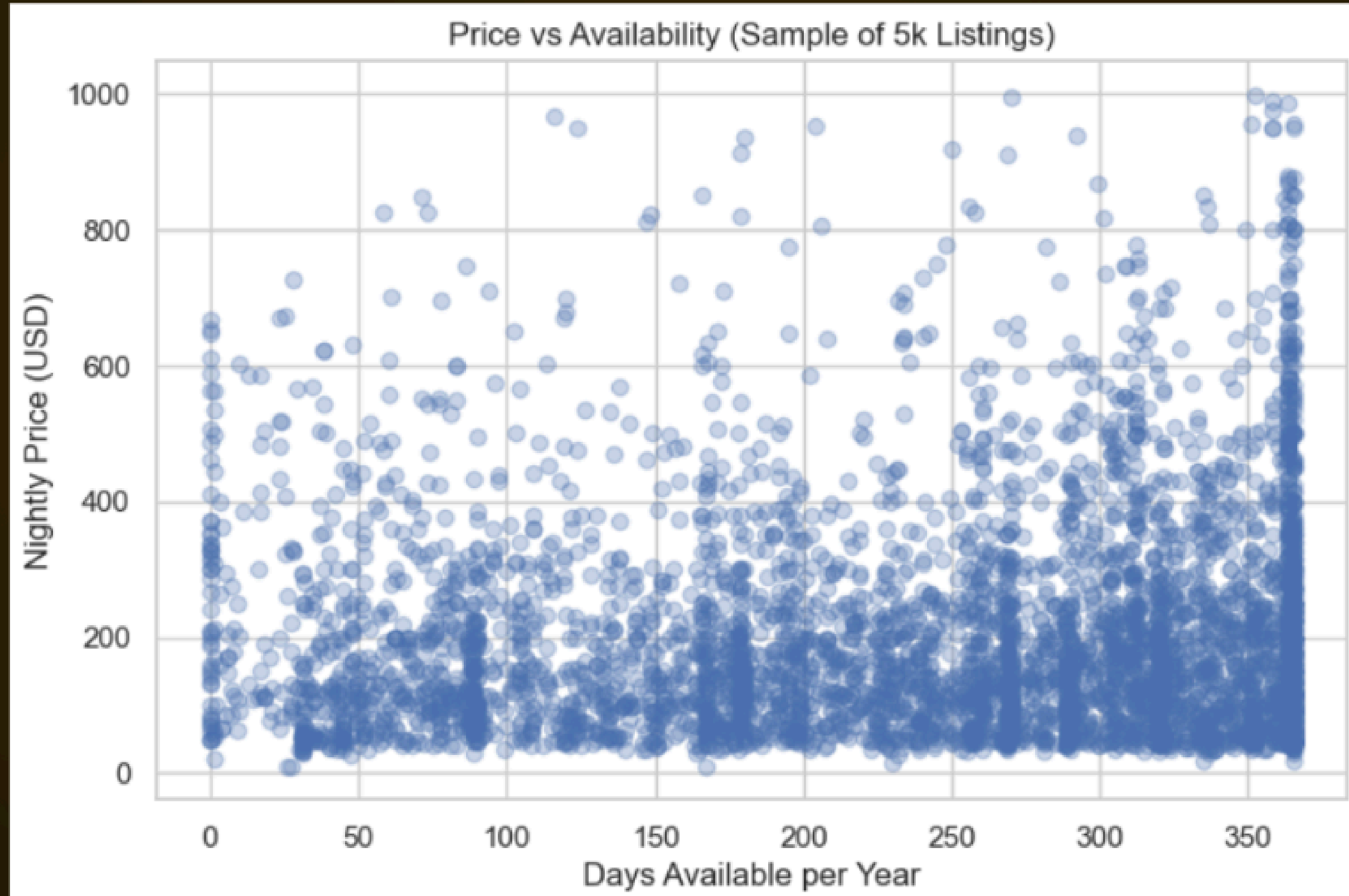
# Exploratory Data Analysis

## 5. Availability analysis



# Exploratory Data Analysis

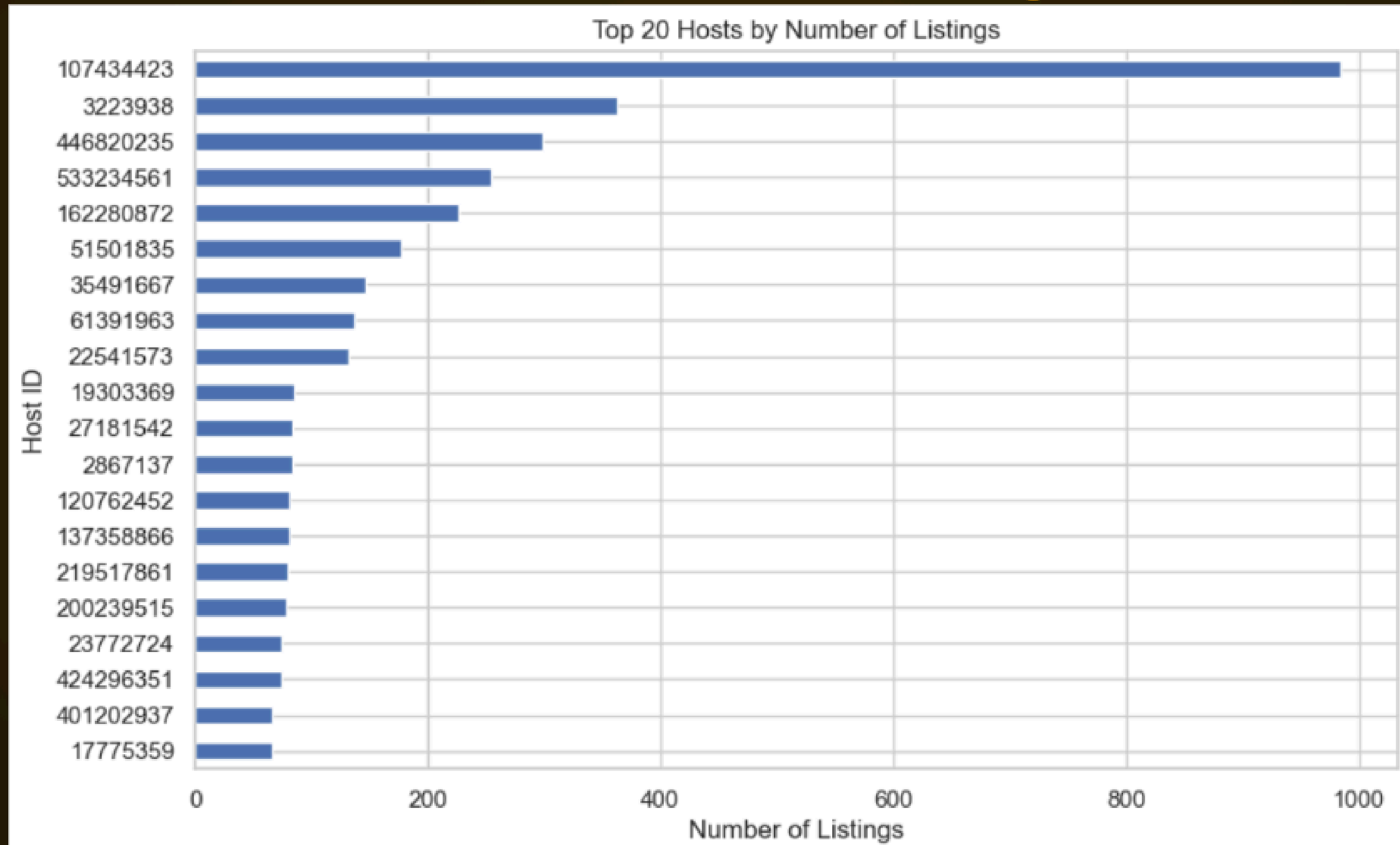
## 6 .Availability vs price





# Exploratory Data Analysis

## 7. Host behaviour – multi-listing hosts



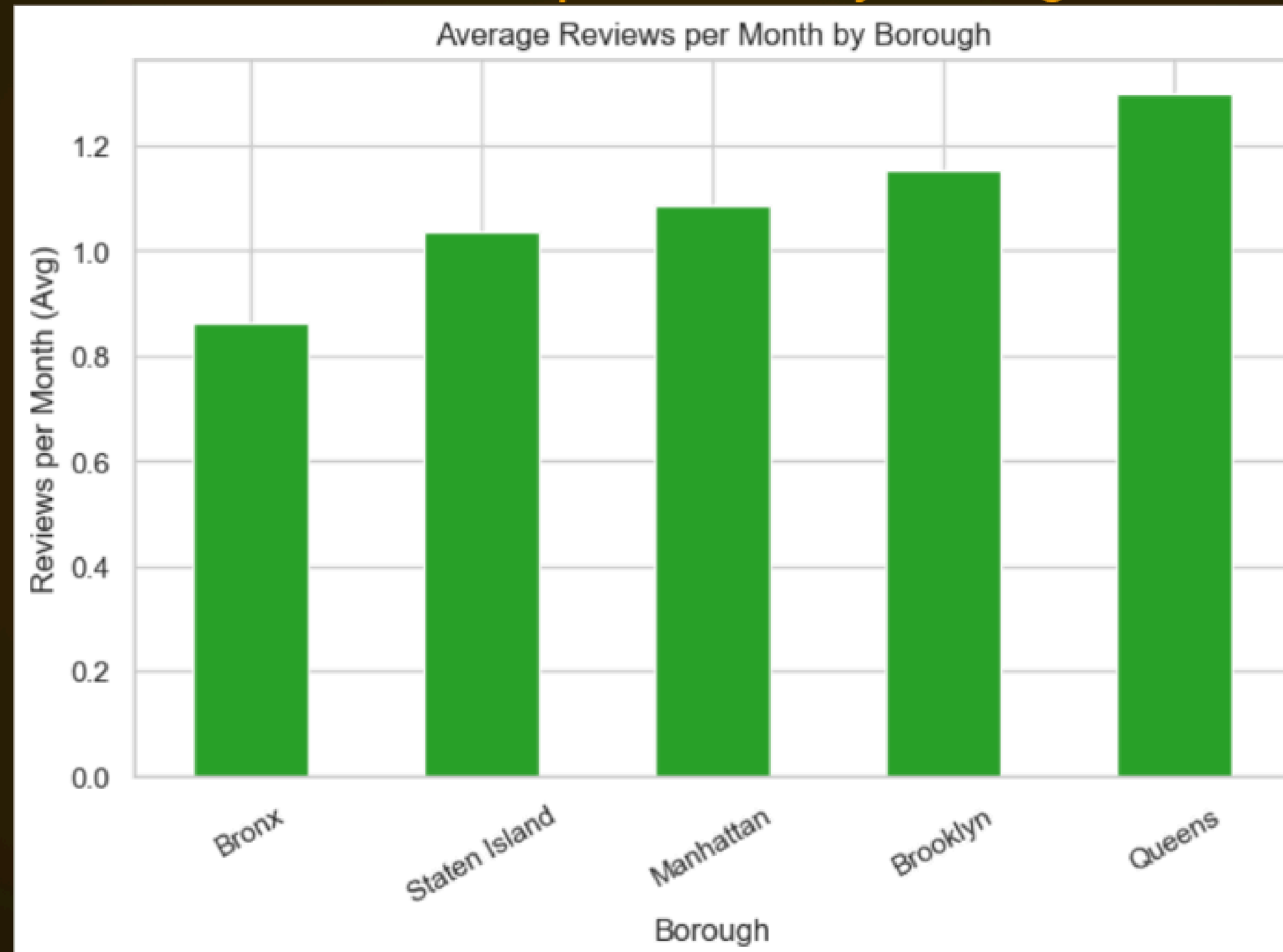
# Exploratory Data Analysis

## 8. Reviews & ratings



# Exploratory Data Analysis

## 9. Reviews per month by borough



# Exploratory Data Analysis

## 10. Clustering



# Analyzing Host Segmentation with K-Means Clustering

Discovering unique host clusters in NYC Airbnb listings for strategic insights

## Host Segmentation Process

Segmented hosts using features like **price**, **availability**, and **rating**.

**Commercial vs Casual Listings**  
Distinguished between **Commercial** and **Casual** listings for targeted marketing.

## Identified Unique Clusters

Identified **4 unique host clusters** for potential business strategy development.

**Budget vs Premium Hosts**  
Differentiated between **Budget** and **Premium** hosts based on features.





# Exploring Key Insights from Airbnb Listings in NYC

Understanding pricing dynamics and commercial hosting trends in New York City

## Pricing Dynamics in NYC: Manhattan vs. Brooklyn

Manhattan listings command the **highest prices** on the platform, while Brooklyn showcases a **diverse range of room types**, catering to different market segments.

## Commercial Hosts and Year-Round Availability

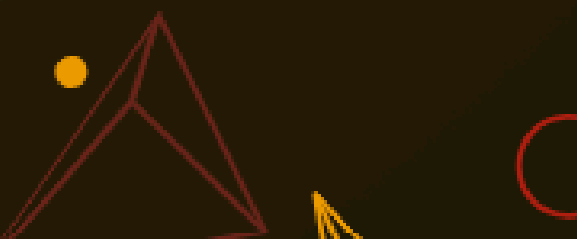
Listings that are available **365 days a year** are often indicative of **commercial hosts**, highlighting a shift towards professional hosting in the Airbnb market.

## Weak Correlation Between Review Scores and Pricing

A **correlation analysis** of review scores and pricing reveals a **weak relationship**, suggesting that high prices do not necessarily guarantee better reviews.

## Top Neighborhoods for Premium Pricing Strategy

Analysis reveals the **top neighborhoods** in NYC that successfully implement a **premium pricing strategy**, which is crucial for maximizing revenue in competitive areas.



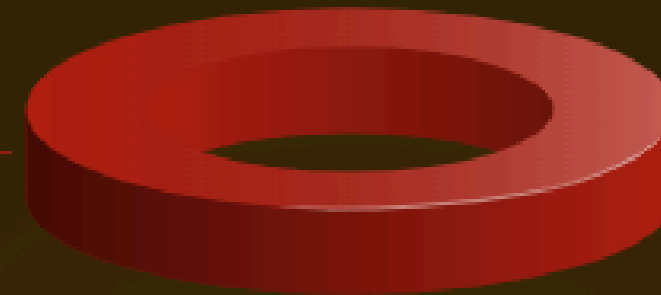
# Key Achievements in Airbnb Data Analysis

Exploring insights and techniques from Airbnb listings in NYC

## Performed EDA on 36K+ listings.

Explored data to uncover trends.

1



## Created visualizations with Matplotlib & Seaborn.

Crafted impactful visuals for insights.

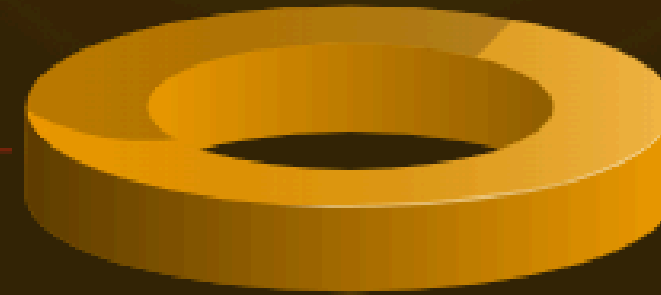
2



## Engineered features & addressed data issues.

Improved data quality for analysis.

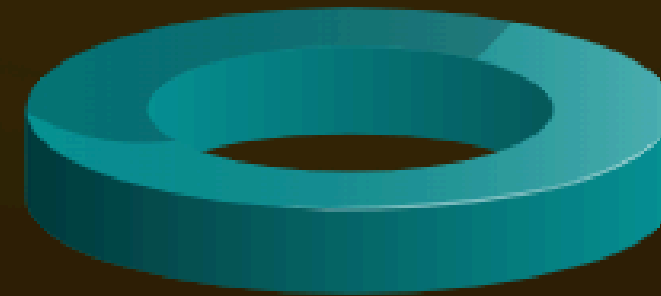
3



## Applied clustering for host segmentation.

Segmented data for business insights.

4



# Let's connect on LinkedIn for deeper insights

I appreciate your attention and interest *Let's connect on LinkedIn to explore further insights and opportunities in the dynamic world of data analysis related to the Airbnb market in New York City. I look forward to engaging discussions and collaborations*

