



New York City Airbnb Data Analysis

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Objective

- How the **Prices** of **Room_type** vary by **Location**?
- How populated **Airbnb** in **NYC** localities?
- What are the different types of rooms in NYC? Do they vary by neighborhood?
- Are the demand and *prices* of the *rentals* correlated?
- Most commonly used **word** in comments
- Analyse the comments

Introduction

- **Airbnb**
 - **online marketplace** for arranging or offering **lodging**, primarily **homestays**, or **tourism** experiences.
 - provides a platform for hosts to accommodate guests with short-term lodging and tourism-related activities

DataSet

- Since 2008, guests and hosts have used Airbnb to expand on traveling possibilities and present more unique, personalized way of experiencing the world. This dataset describes the listing activity and metrics in NYC.
- Information about hosts, geographical availability, necessary metrics to make predictions and draw conclusions.

Exploratory Data Analysis (EDA)

- Understanding the data sets by summarizing their main characteristics often plotting them visually.
- Data profiling :- summarizing the dataset through descriptive statistics
- Feature Selection
 - Correlation Identification
 - Sentiment Analysis
 - Most used word count
 - Spatial Data Analysis

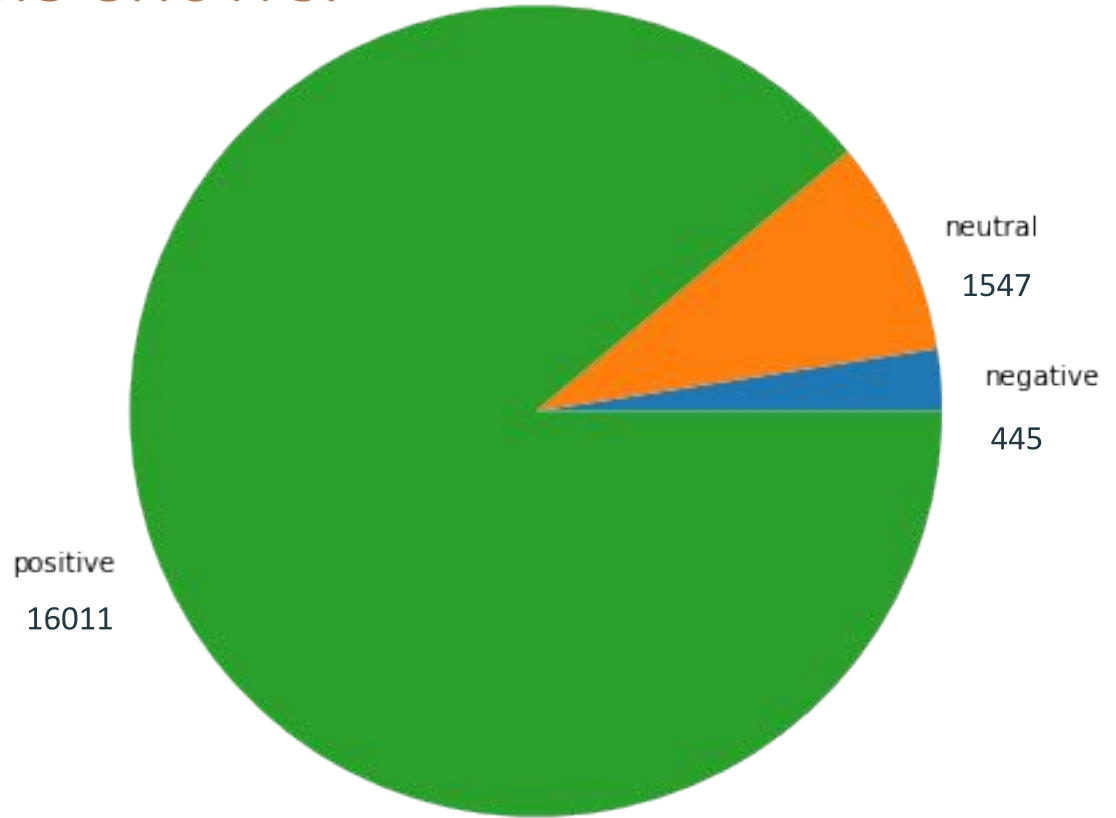


availability_365	comments	neighbourhood_group	review_sentiment	sentiment_category
87	Gran anfitrión, muy amable. El departamento es...	Manhattan	0.0000	neutral
0	当日はあいにくの雨でしたが、薄暗い本堂の中で雨音をBGMに坐禅を組むというアジのある体験と...	Manhattan	0.0000	neutral
364	The only regret you'll have is not being able ...	Manhattan	-0.4215	negative
98	What a wonderful apartment, location, experien...	Manhattan	0.9843	positive
56	Amazing experience with a monk in an old templ...	Manhattan	0.8176	positive
...
312	Vernon was very helpful and welcomed us with o...	Bronx	0.9799	positive
139	Die Wohnung war für uns vier Städtebesucher id...	Bronx	-0.8519	negative

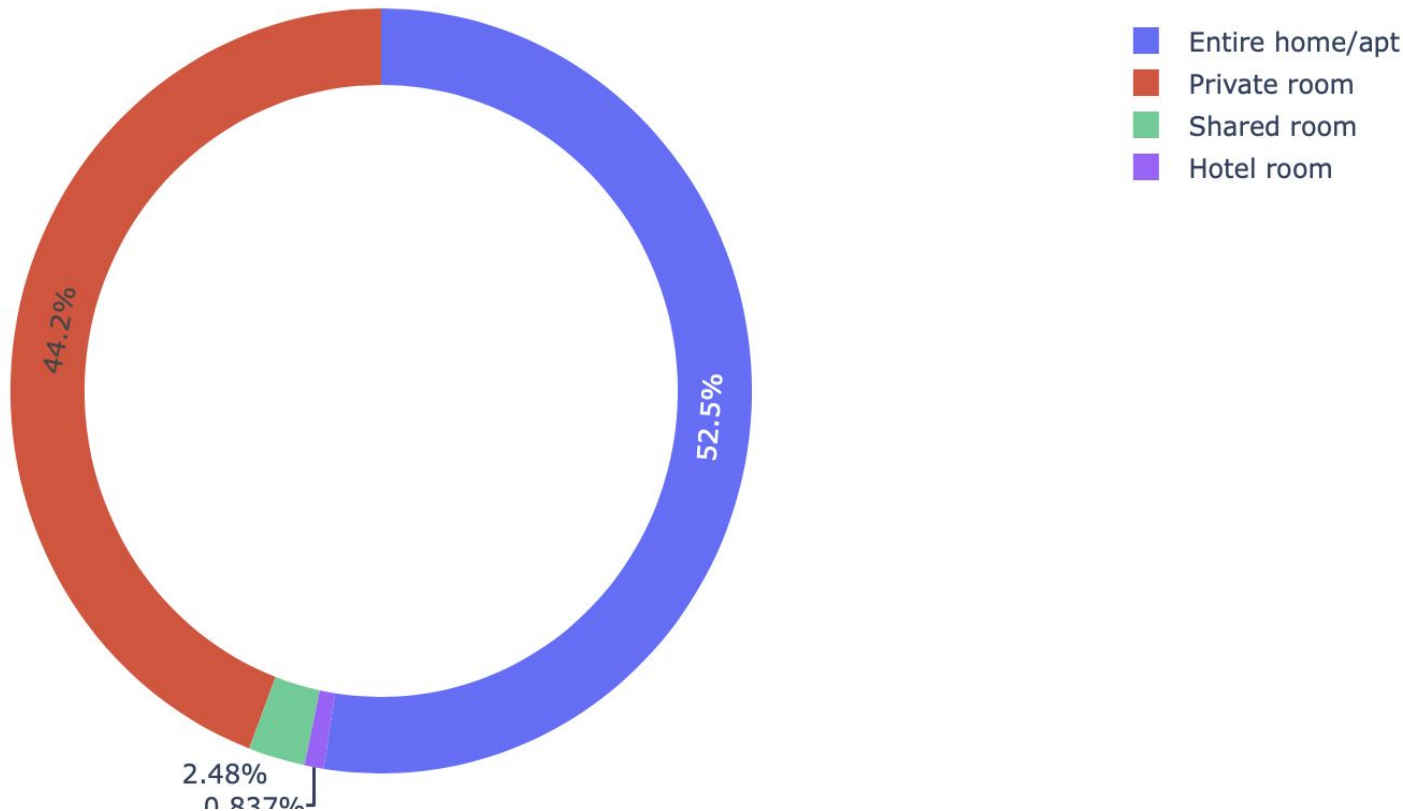
Analysis and Visualizations

□ *very nice neighborhood, close enough to a train, comfortable bed and clean home over all. Jenny's cat is very sweet and fun to play with, but wants to sleep in bed with you and won't shut up unless such privileges are granted . . .Meyow meyow meyow.*

Sentiment analysis shows:

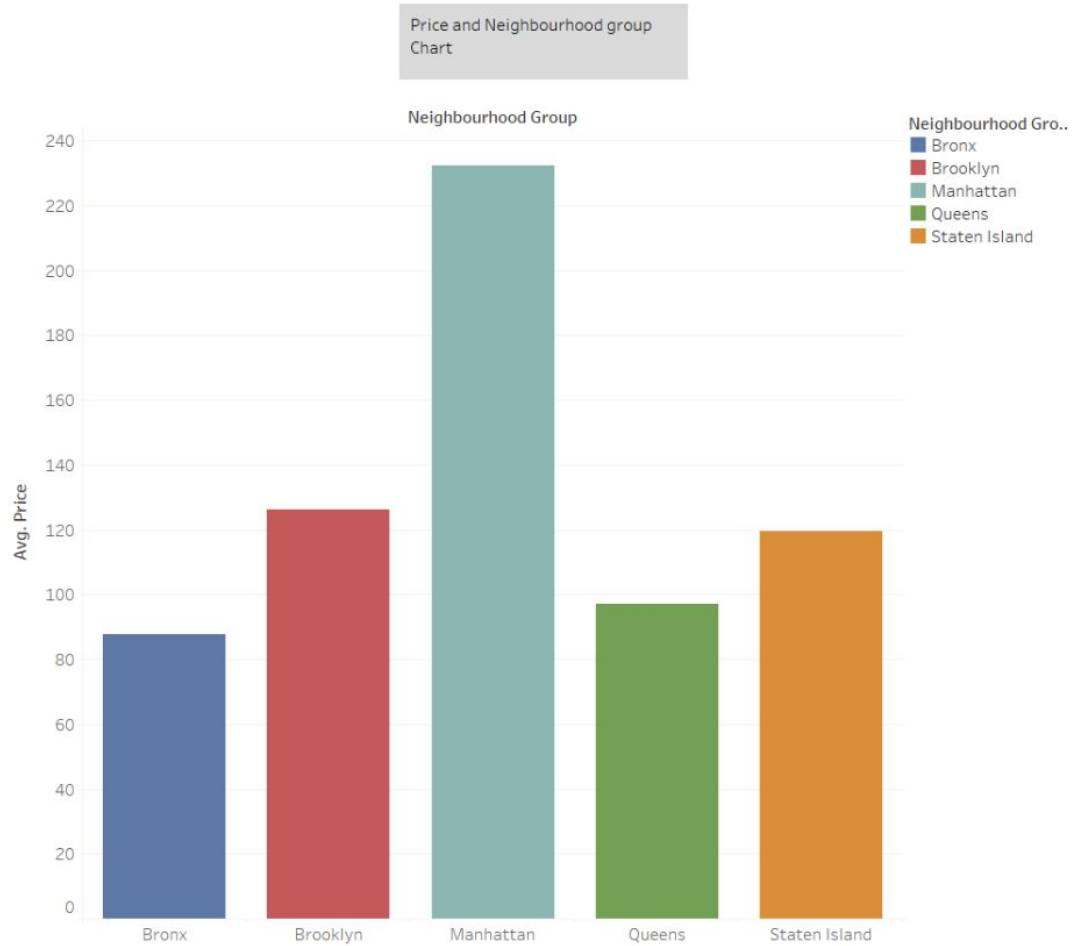


Analysis and Visualizations

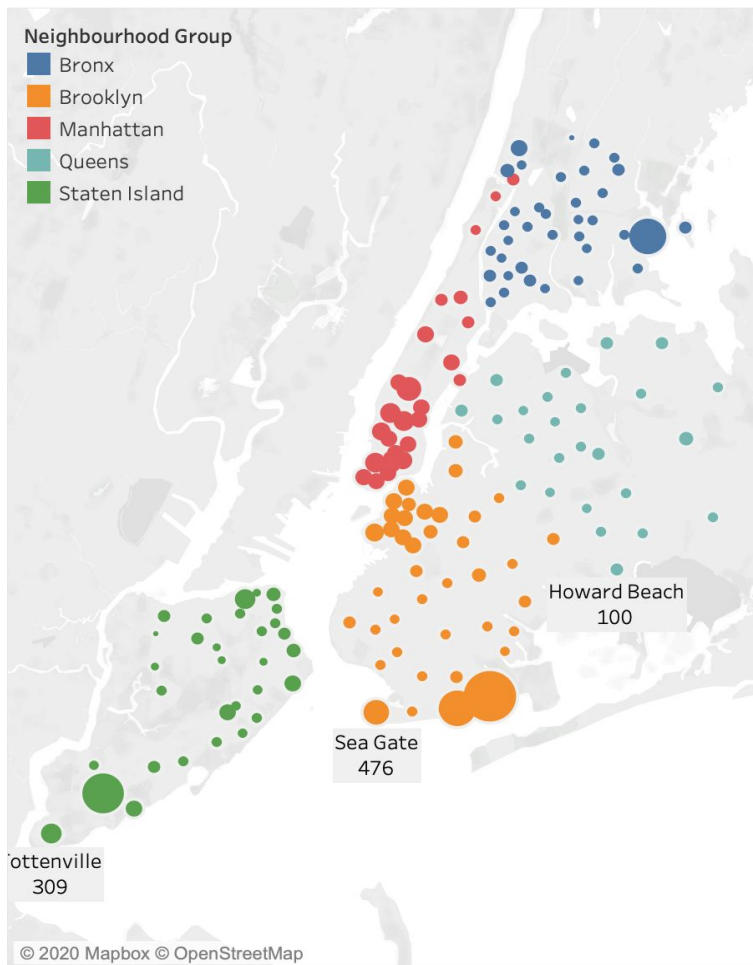


Price vs Neighbourhood group

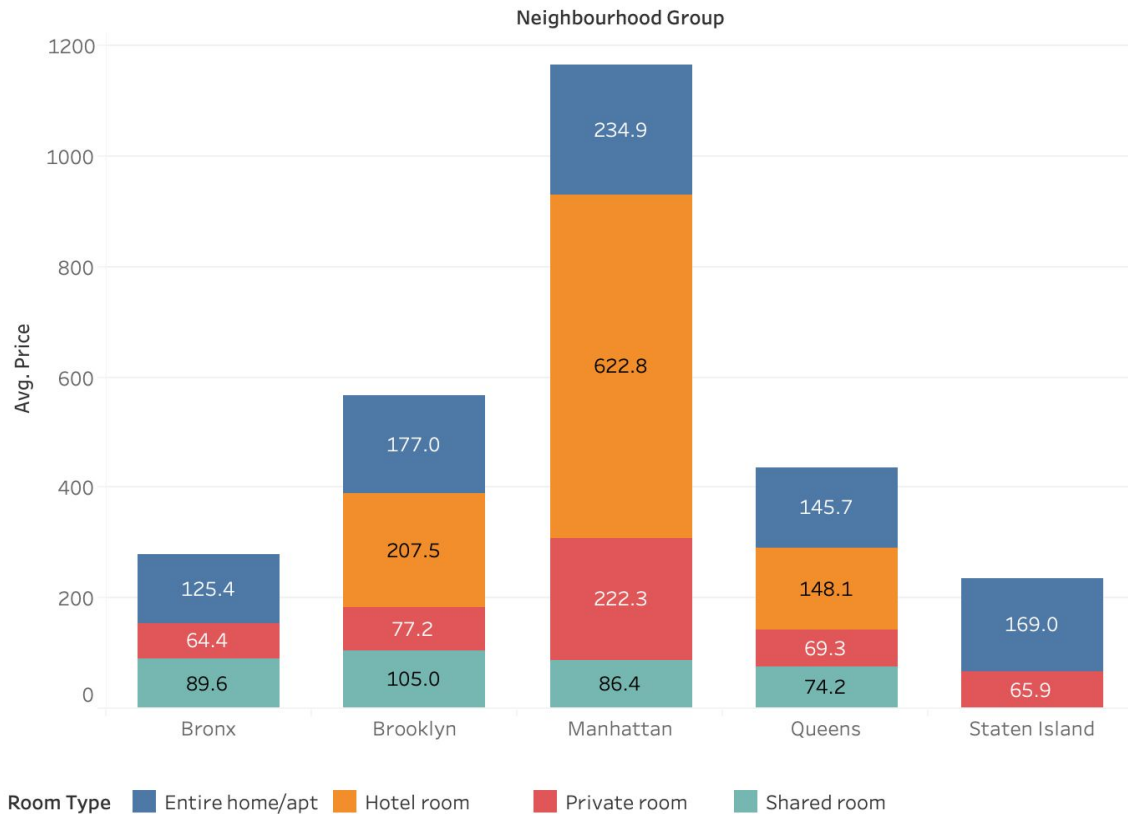
NYC Airbnb Dataanalysis



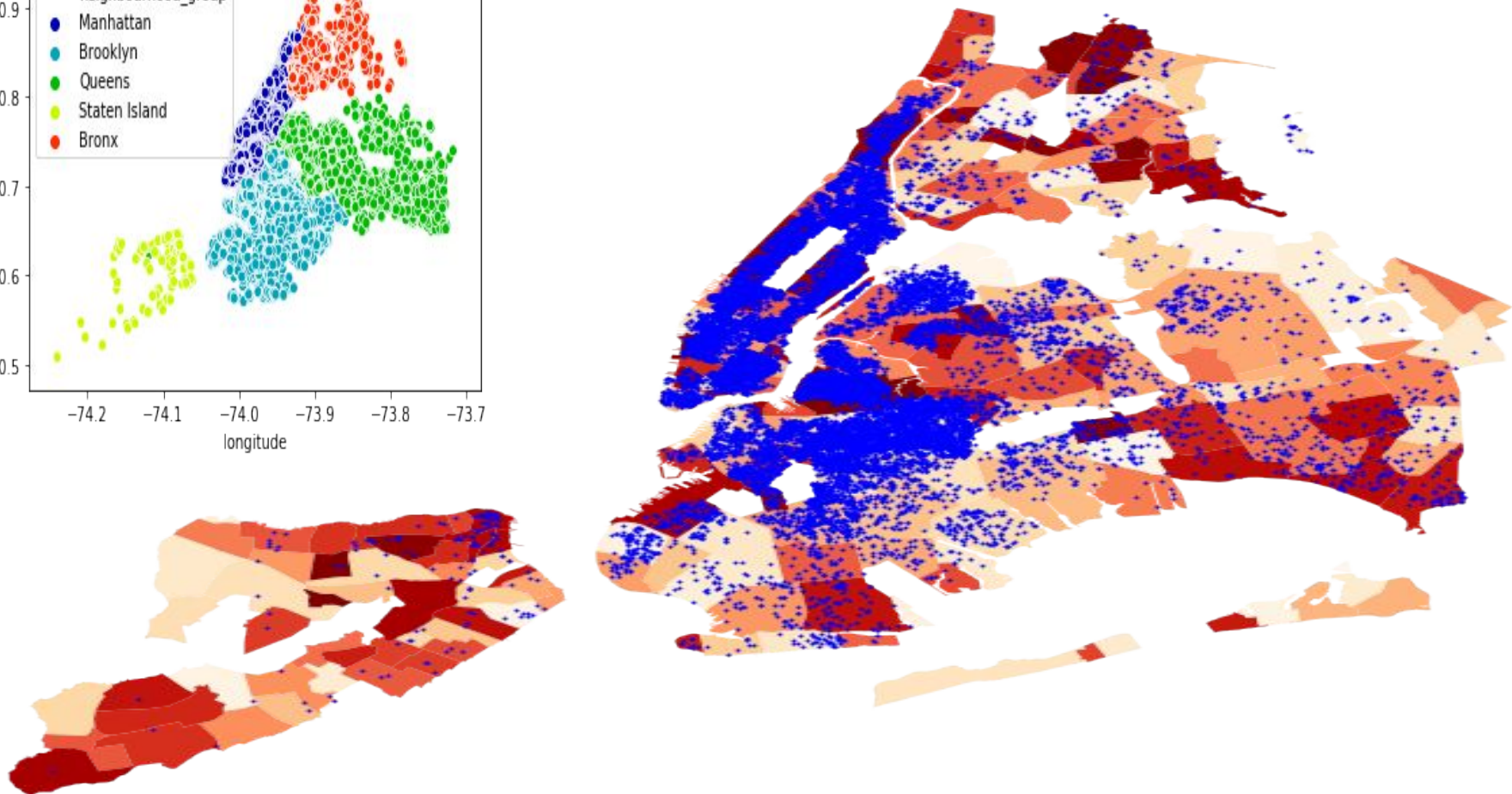
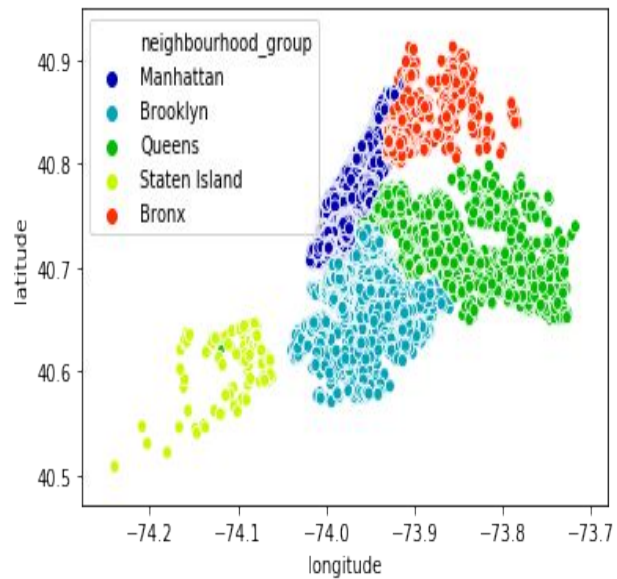
Avg. price vs Neighbourhood



Average price vs Neighbourhood group



NYC Airbnb sites



Concluding remarks

- Price seems to be correlated with longitude, implying that one can expect variation of prices as position in NYC moves West.
- In a similar vein, latitude also indicate to have effect on the price.
- Price is negatively correlated with number of reviews and reviews per month. From which one can safely infer that prior reviews could impact the prices to some extent

...cont'd

- There seems to be high demand for airbnb services in and around Manhattan, which is the most expensive borough of the city, and we can see this is located on the west side of the city. This figure also goes in line with our conclusion that average prices are high around western part of the city.
- Sentiment analysis, indicates that customers overwhelmingly approve their hosts.
- **Observation on sentiment analysis:**
We note that comments left by languages other than english are seen to be categorized as **negative (German/Dutch) or neutral (Japanese)**.

Thank you for your attention