

New York City Airbnb Analysis

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Guests and hosts have been using **Airbnb** since 2008 to **broaden** travel **opportunities** and **offer** a more **immersive** way to **experience** the world.

This is a data visualization to analyze and understand Airbnb business. This example was chosen to extract meaningful insights through visualization that would in turn would be beneficial to learn about different hosts and areas, price and facility comparison, density overview. Thus, visualization can be valuable since it answers the questions in a pictorial and perceivable way. It can be improved by adding interactive visualizations.

[Project Link](#) [Dataset Link](#)

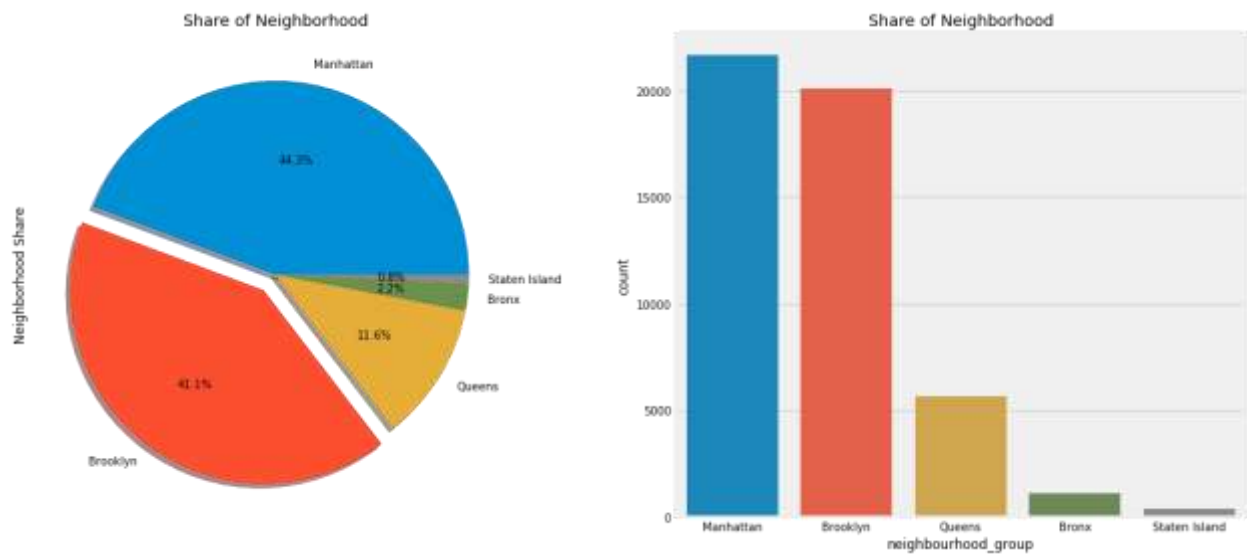
Data Set Description:

The dataset has 16 attributes and has around 49,000 observations. Attributes:

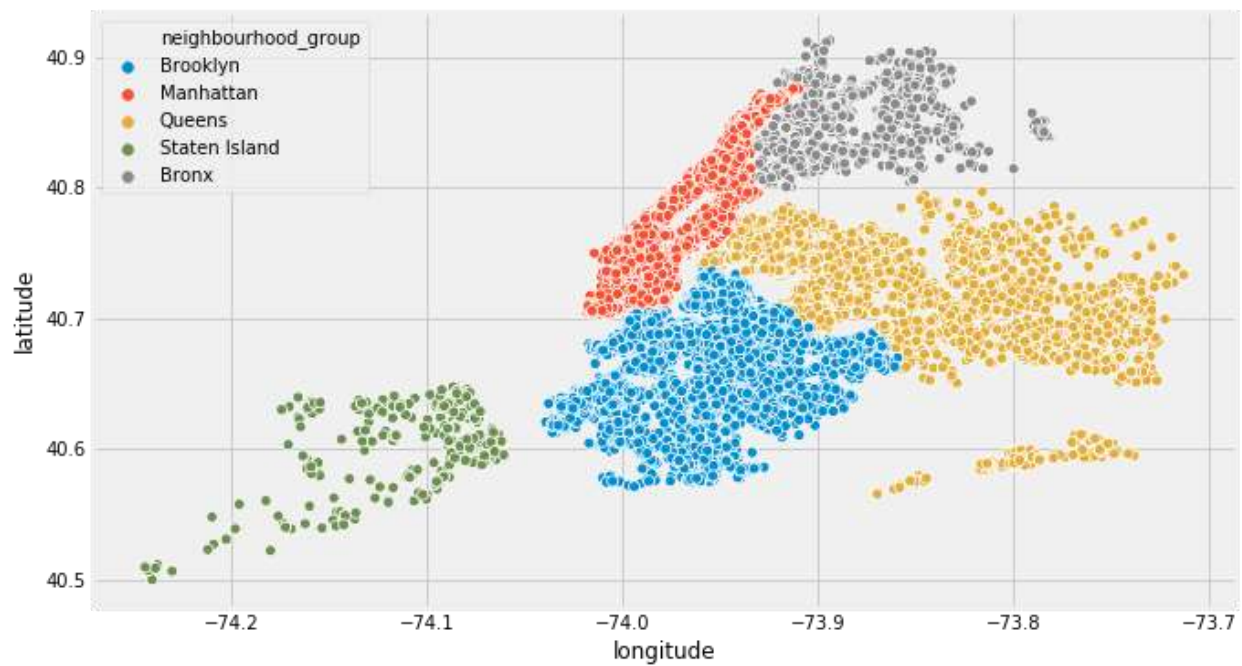
- **id** - Listing ID
- **name** - Listing Title
- **host_id** - ID of Host
- **host_name** - Name of Host
- **neighbourhood_group** - Borough that contains listing
- **neighbourhood** - Name of neighborhood that listing is in
- **latitude** - latitude of listing
- **longitude** - longitude of listing
- **room_type** - Type of public space that is being offered
- **price** - price per night, USD
- **minimum_nights** - minimum number of nights required to book listing
- **number_of_reviews** - total number of reviews that listing has accumulated
- **last_review** - date in which listing was last rented
- **reviews_per_month** - total number of reviews divided by the number of months the listing is active
- **calculated_host_listings_count** - amount of listing per host
- **availability_365** - number of days per year the listing is active

Exploratory Data Analysis:

1. Which neighborhood has the highest share of hotels?

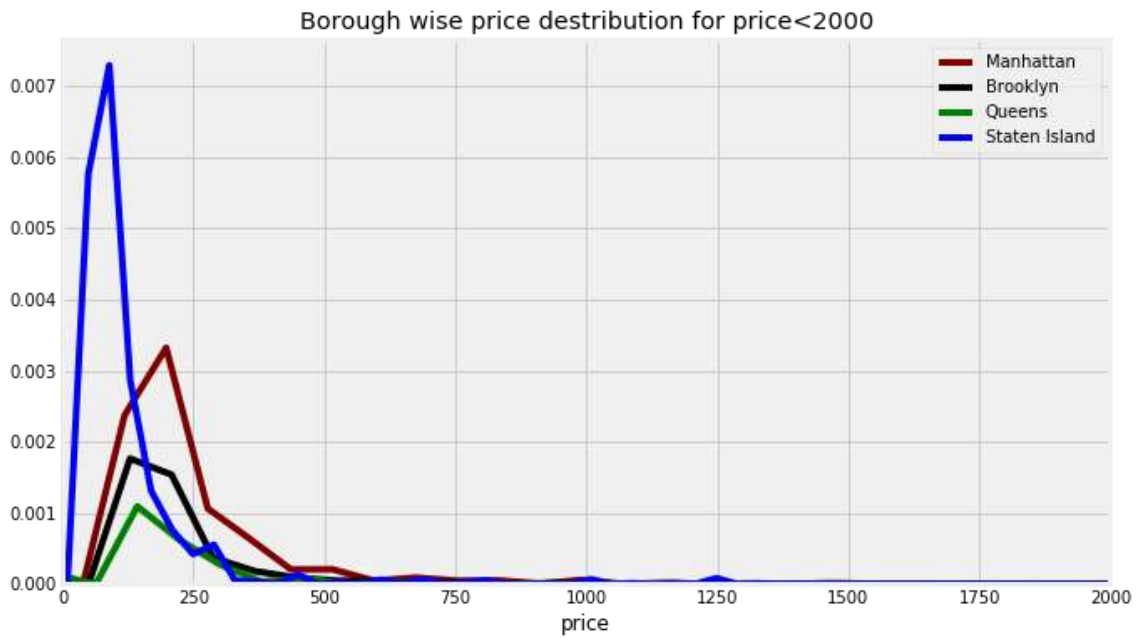


After analyzing close to 49000 observations, it can be inferred that, Manhattan has the highest share of hotels (44.3%) and Staten Island has the lowest (0.8%).

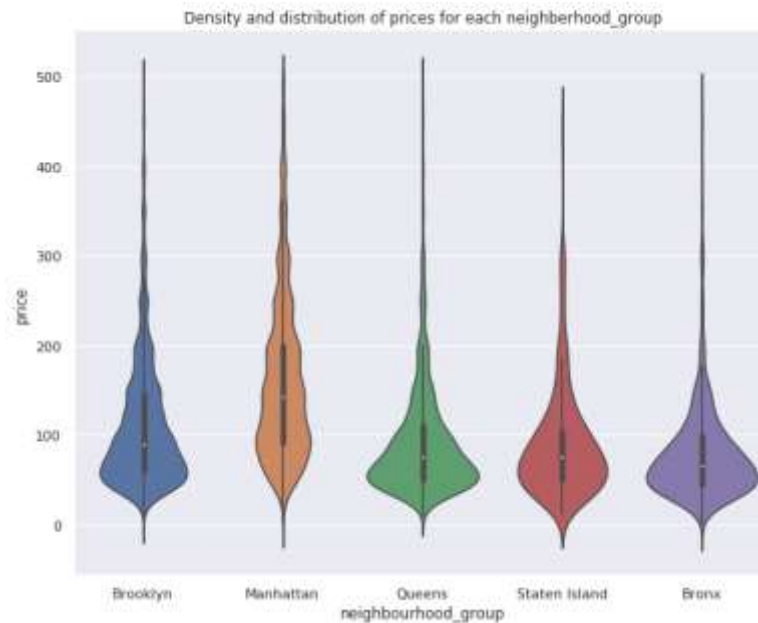


This scatter plot displays Hotel Distribution across neighborhoods in NYC.

2. How Do Prices Vary with Area?

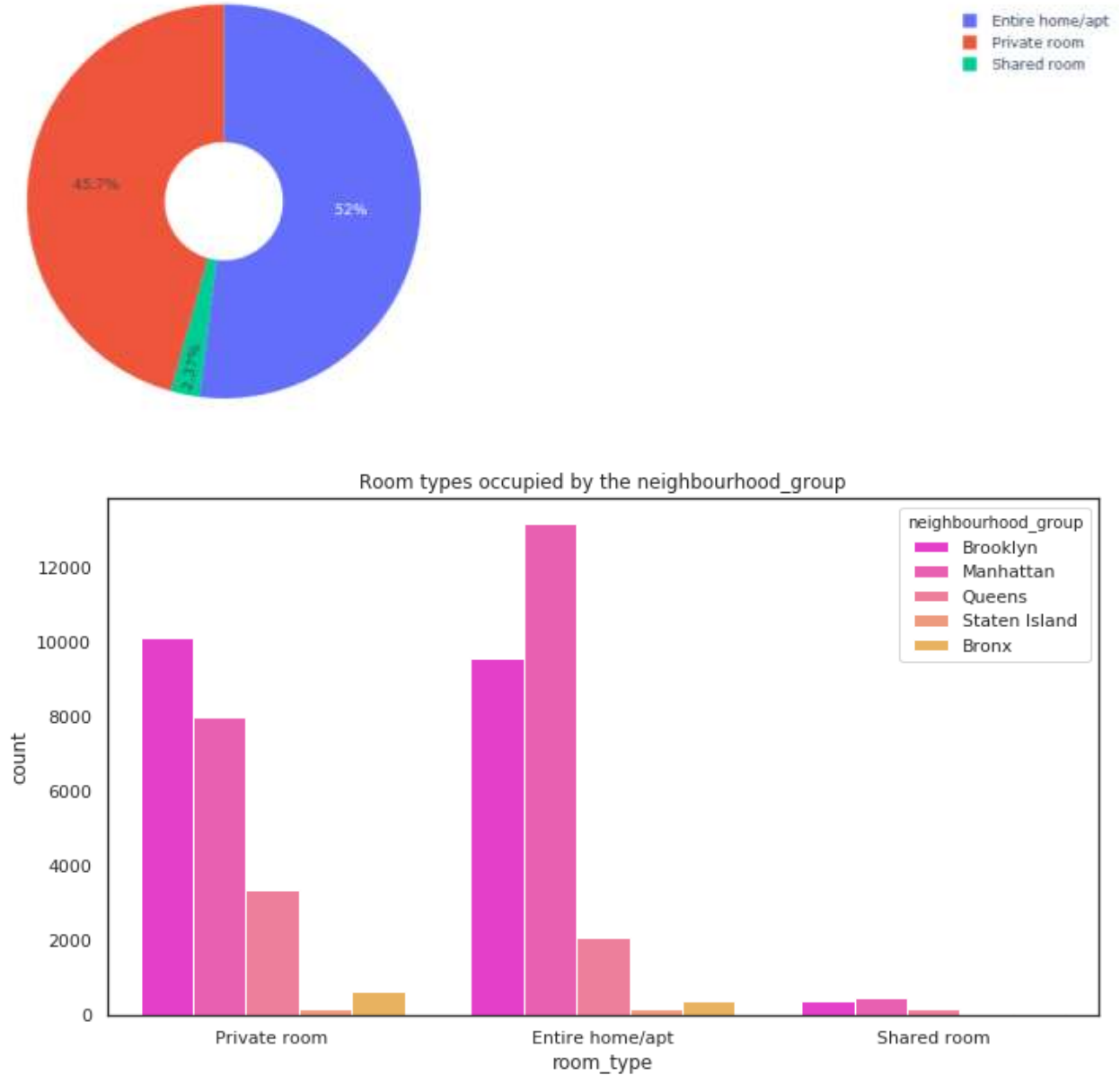


Manhattan has the most expensive Airbnb rooms, quite obvious for the most expensive place in the world to live in.



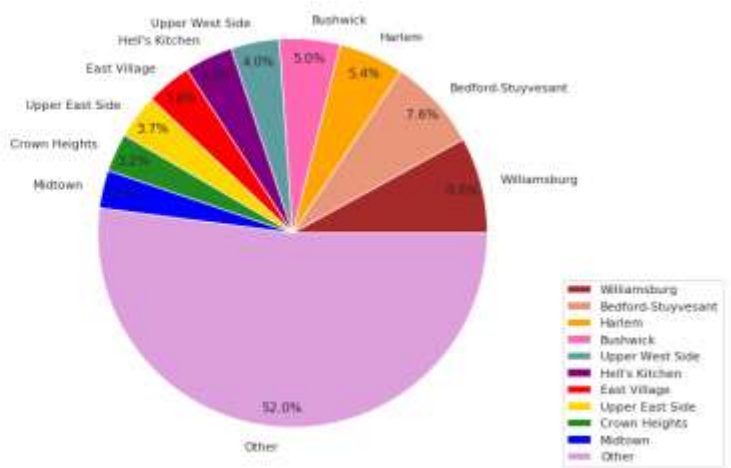
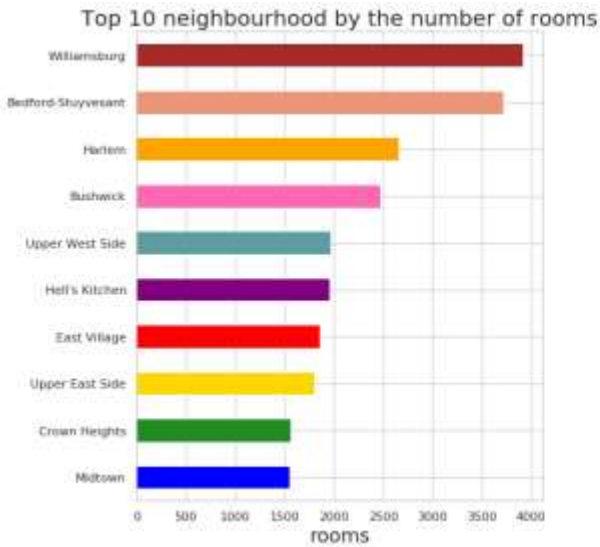
The violin plot shows that Manhattan has the highest range of prices with \$150 price as average observation, Staten Island has the cheapest.

3. Distribution of Shares of Rooms by its type:



Entire Home Apartments (EHA) as room type have the highest share (52%) amongst all room types. Shared Rooms have the least share (2.37%). Considering the room distribution across neighborhoods, EHA have highest count in Manhattan and also the overall highest count for room type.

4. Top 10 Neighborhoods by number of rooms:



Williamsburg has the highest number of rooms (8%) amongst all the neighborhoods. Midtown has the lowest (3.2%)

5. Word Cloud of High-Price and Low-Price Airbnb's Listing Titles:



Figure 2. Low Price Listing Title Word Cloud



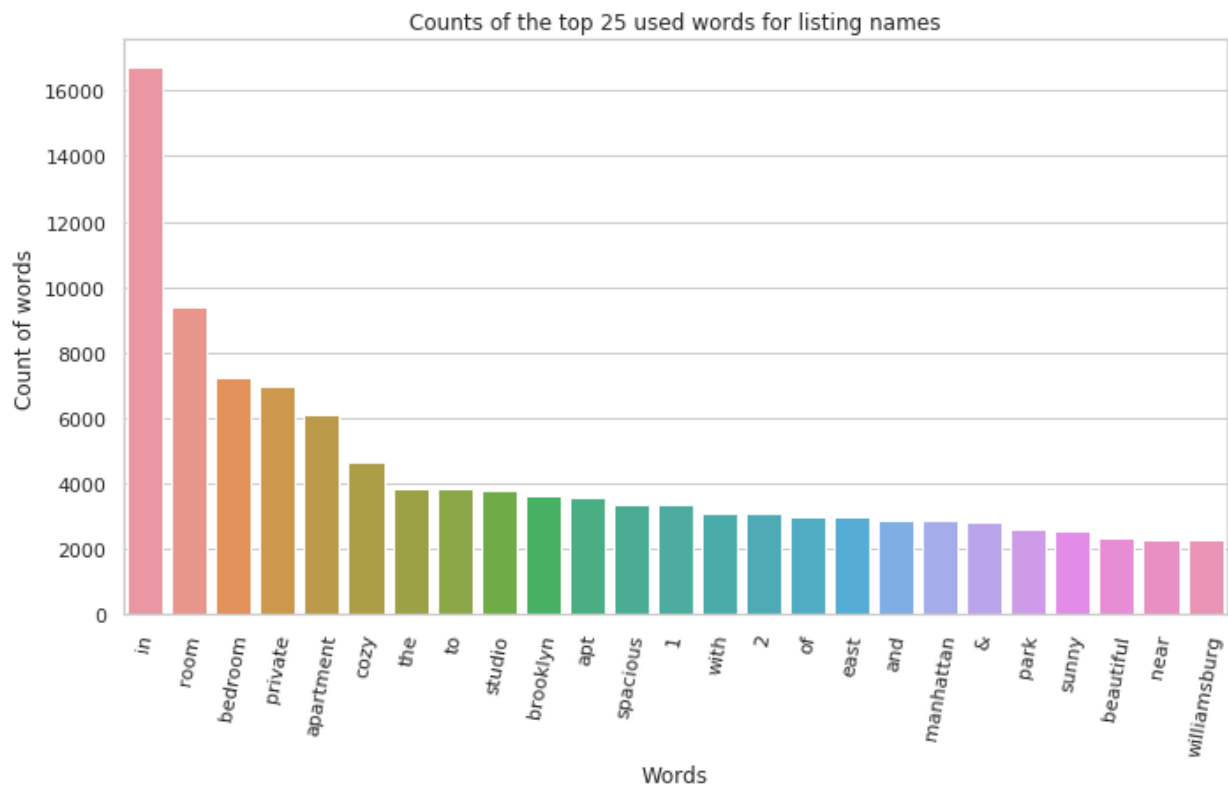
Figure 1. High Price Listing Title Word Cloud

Words “Cozy, Room, Private and Bedroom” and “apartment, luxury, bedroom” are more frequent and visible in (Fig.2) and (Fig.1) respectively.

6. Top words in Listing Names:



Word Cloud shows frequent words used in Listing Names



Words room, bedroom, private and apartment are most frequent words.