

The background of the entire image is a solid black field. Overlaid on this are numerous thin, vibrant red lines. These lines are not straight; they are fluid, wavy, and often form concentric or overlapping loops, creating a sense of motion and depth. The lines vary in density, with some areas having many closely packed lines that create a textured, almost fabric-like appearance, while other areas have fewer, more widely spaced lines. The overall effect is one of dynamic energy and complex, organic structure.

The Battle of Neighborhoods

Shashwat Kumar Singh

Introduction/Business Problem

- **Problem Background**

New York City, the most populated city in New York and the United States with a population of 17,990,455, lies at the end of the Hudson River on the southernmost tip of the state New York. It is a global hub of business and commerce. The city is a major center for banking and finance, retailing, world trade, transportation, tourism, real estate, new media, traditional media, advertising, legal services, accountancy, insurance, theater, fashion, and the arts in the United States.

The cost of living and the cost of opening a new business is always a key initial factor for any organisation or entrepreneur. Thus if any new business venture or expansion is taking place, it needs to be analysed very carefully. The analysis should provide the key factors that will drive the environment and health of any business

Problem Description

- A Food Joint is one among those businesses which can grow in no time provided that the area market is first analyzed. A food Joint may include a restaurant , pub, cafe, parlors, etc. Considering a Businessman Mr. M wants to open an ITALIAN restaurant and he approaches a data scientist to analyze the factors that will play a key role in the development as well as growth. Since New York is already known for its excellent cuisines and Italian food culture, the following factors are very important to be analyzed:
 - 1.The best possible location for the Italian restaurant .
 - 2.Which neighborhoods and boroughs of New York City have the most as well as the best Italian restaurants
 - 3.Where would one go in New York City to have the best Italian food?

Data

- The city which will be analysed thoroughly: New York City
- New York City has a total of 5 boroughs and 306 neighborhoods. In order to segment the neighborhoods and explore them, we will essentially need a dataset that contains the 5 boroughs and the neighborhoods that exist in each borough as well as the latitude and longitude coordinates of each neighborhood.

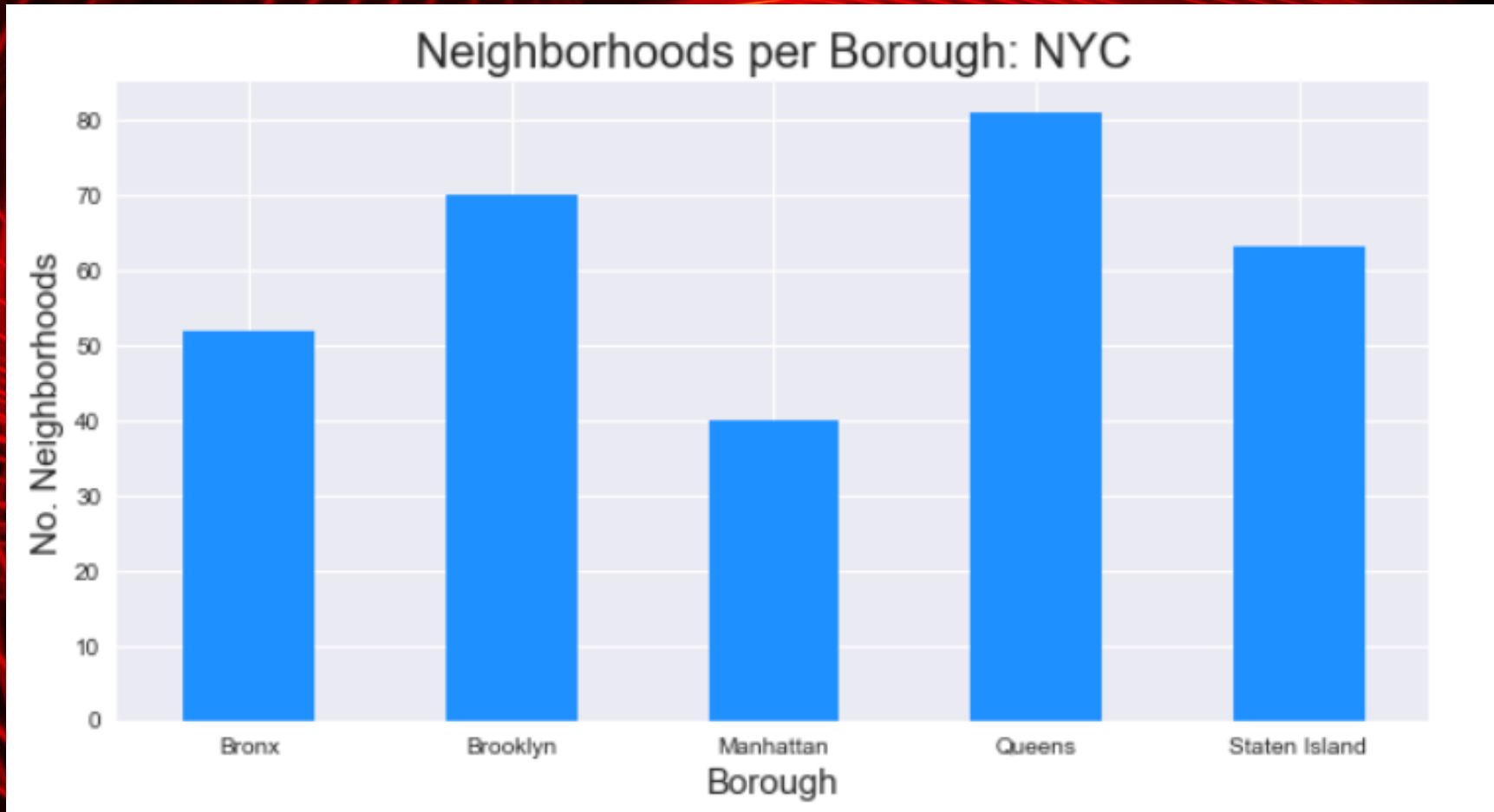
- Links to the datasets :

https://cocl.us/new_york_dataset

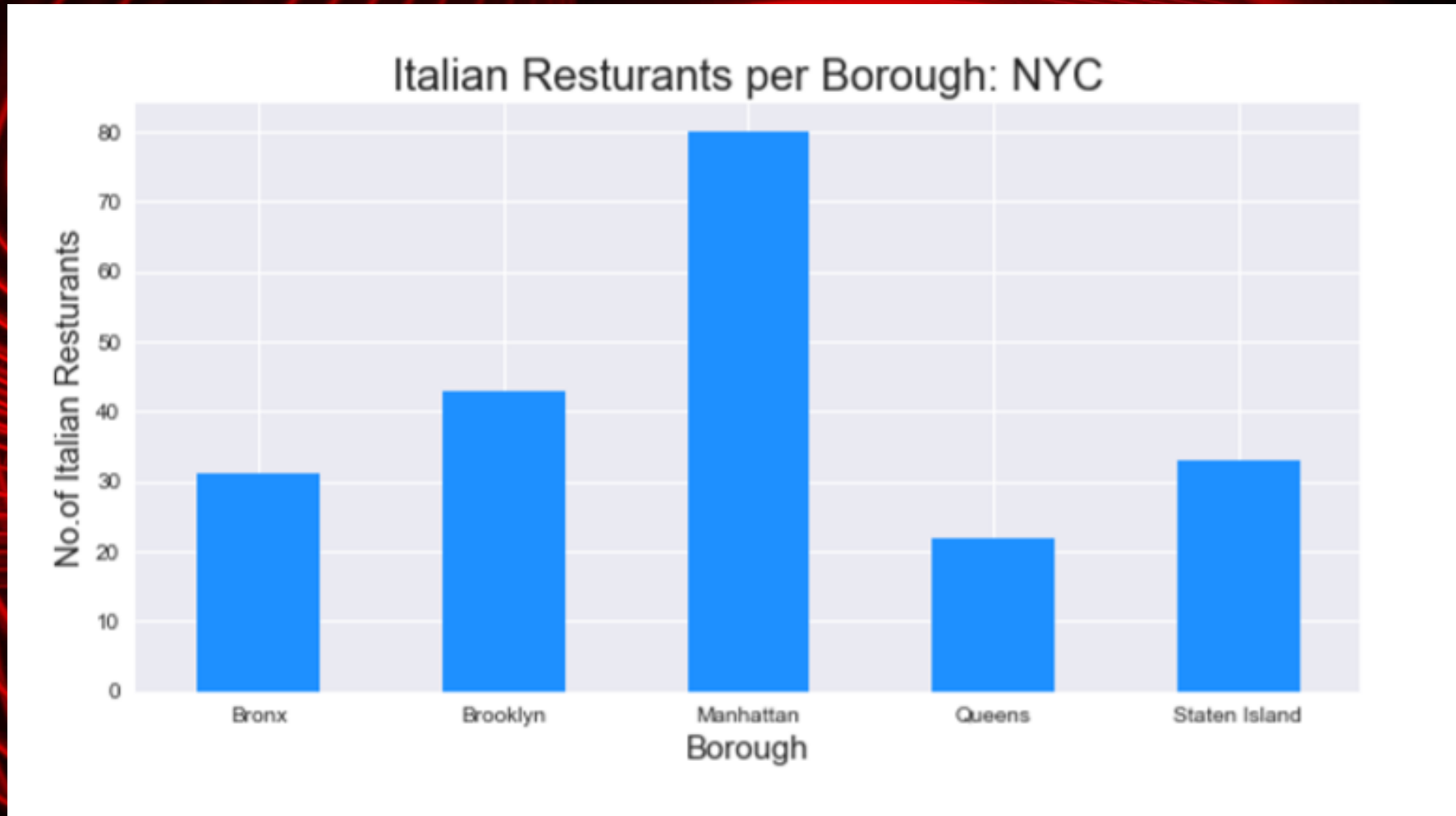
<https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>

Newyork city geographical coordinates data will be utilized as input for the Foursquare API, that will be leveraged to provision venues information for each neighborhood. We will use the Foursquare API to explore neighborhoods in New York City. The below is image of the Foursquare API data.

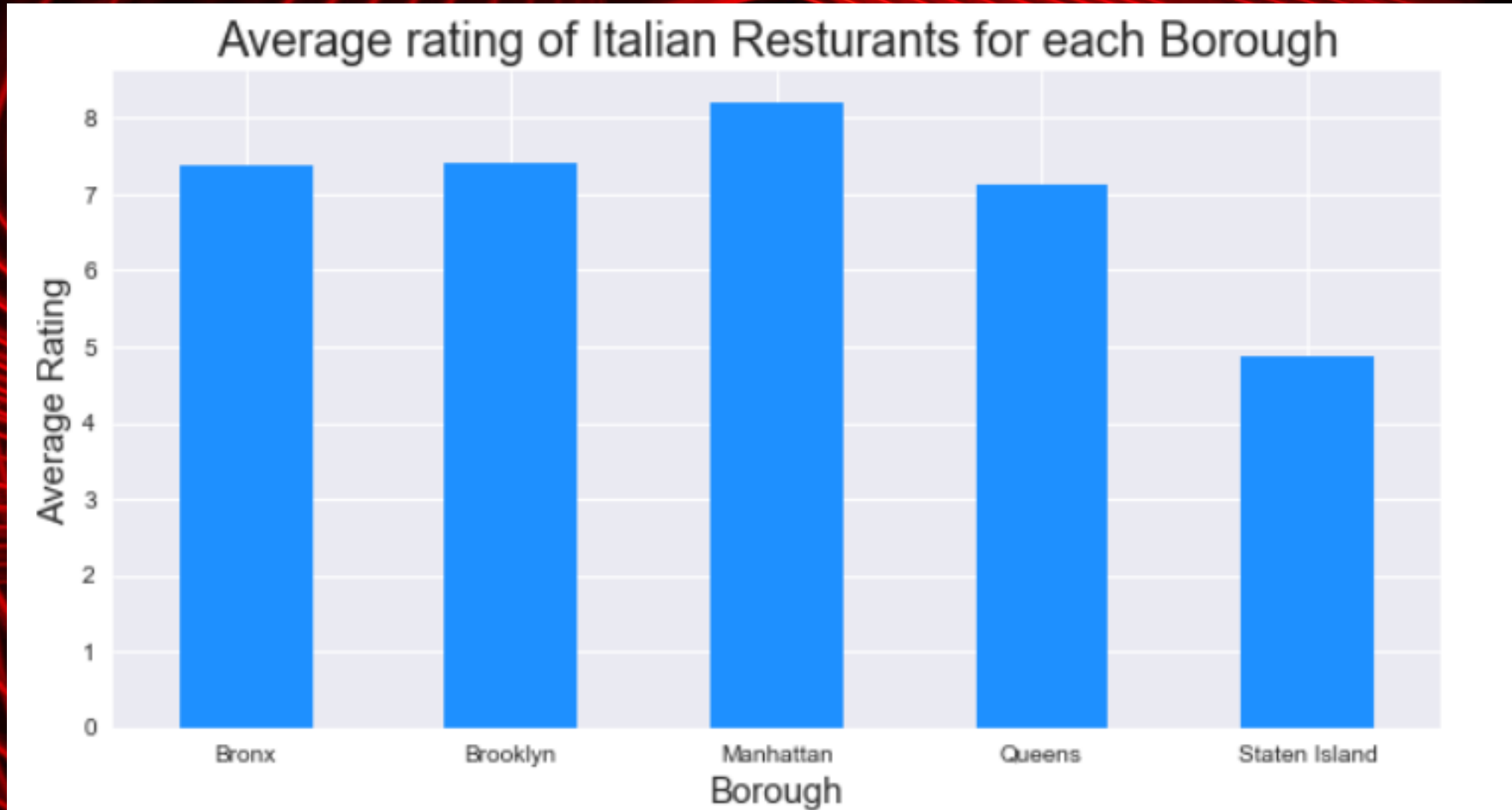
Visualizing the number of neighborhoods per borough across New York City to better analyze the distribution of Restaurants.



Visualizing the number of Italian Restaurants per borough across New York City to better analyze the distribution of Restaurants.



Visualizing the Average Rating of Italian Restaurants per borough across New York City to better analyze which borough has better restaurants liked by the customers.



Result

- From the graph plotted above for No of Italian Restaurants per Borough we can conclude Manhattan has the highest whereas Queens has the lowest number of Italian Restaurants.
- Brooklyn, Bronx and Staten Island have approx. half the number of Italian Restaurants when compared to Manhattan wherein Bronx has the lowest case.
- From the Average Ratings data frame created above we can conclude that Manhattan and Queens have the best rated Italian restaurants on average.
- Belmont of The Bronx is the neighborhood in all of NYC with the most Italian Restaurants

Conclusion

Despite Manhattan having the least number of neighborhoods in all five boroughs, it has the most Italian restaurants. Based on this information, I would state that Manhattan and Queens are the best locations for Italian Restaurant in NYC. Queens has multiple neighborhoods with average ratings exceeding 8.0 of a scale of 1.0 to 10.0 and has the least number of Italian restaurants making competition easier than in other boroughs