

THE BATTLE OF NEIGHBORHOODS – FINAL REPORT

Introduction:

The city of New York is the most populous city in United States. It is the financial hub of USA. It provides lot of business opportunities and business friendly environment. It is a global hub of business and commerce. New York is composed of five boroughs, namely Brooklyn, Queens, Manhattan, the Bronx, and Staten Island.

This project explores the best locations of Italian restaurants throughout the city.

Potentially, the owner of the new Italian restaurant can have great success and consistent profit. However, as with any business, opening a new restaurant requires serious considerations and is more complicated than it seems from the first glance. In particular, the location of the restaurant is one of the most important factors that will affect whether it will have success or a failure. So, our project will attempt to answer the questions “Where should the investor open an Italian Restaurant?” and “Where should I go If I want great Italian food?”

Business Problem:

The objective of this Capstone project is to analyze and select the best locations in the city of New York to open a new Italian restaurant. Using Data Science methodology and instruments such as Data Analysis and Visualization, this project aims to provide solutions to answer the business question: Where in the city of New York, should the investor open an Italian Restaurant?

Target Audience of this project and some demographic facts

This project is particularly useful to developers and investors looking to open or invest in an Italian restaurant in the city of New York. Overall, New York is a great place to open a restaurant with an ethnical cuisine. As New York is the most diverse city in the world (800 languages are spoken in New York). With its diverse culture, comes diversity in the food items. There are many restaurants in New York City, each belonging to different categories like Chinese, Indian, Japanese, etc. Why did we decide to focus on Italian cuisine in our project?

As we all know the most delicious food in the world is Italian. Italian cuisine is humble, delicious with bold flavors and heavily relies on the best, and freshest ingredients. It is easy and cheap.

To solve the problem, we need the following data

- New York city data containing the neighborhoods and boroughs.
- Latitude and longitude coordinates of those neighborhoods. This is required to plot the map and get the venue data.
- Venue data, particularly data related to the restaurants. We are going to use this data to perform further analysis of the neighborhoods.

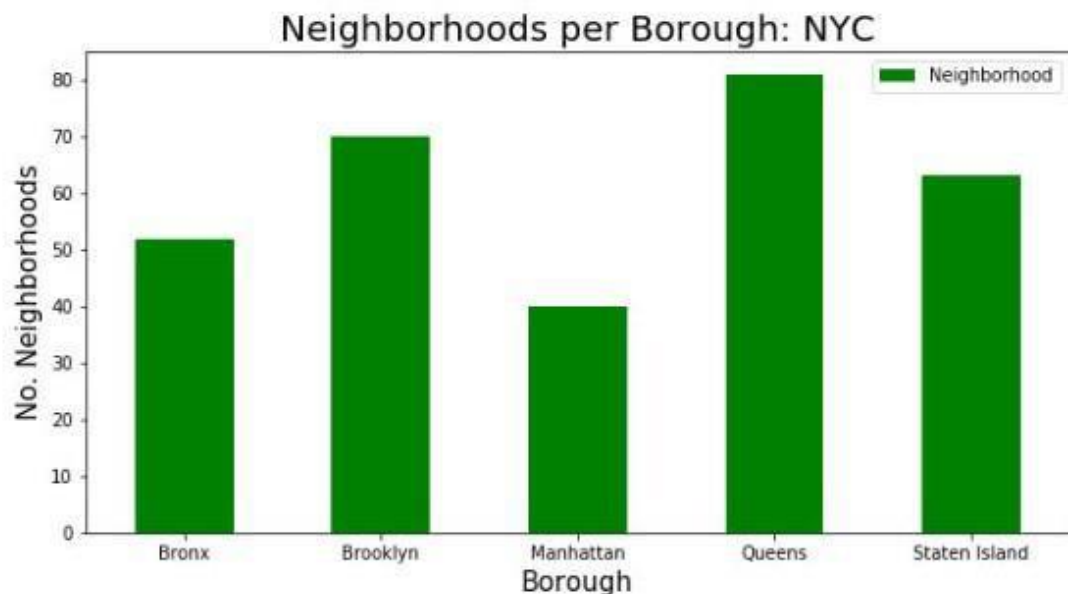
Data Source and methods to extract them

- Data will be collected from https://cocl.us/new_york_dataset and cleaned and processed into a data frame.
- Four-square be used to locate all venues and then filtered by Japanese restaurants. Ratings, tips, and likes by users will be counted and added to the data frame.
- Data will be sorted based on rankings.
- Finally, the data will be visually assessed using graphing from Python libraries.

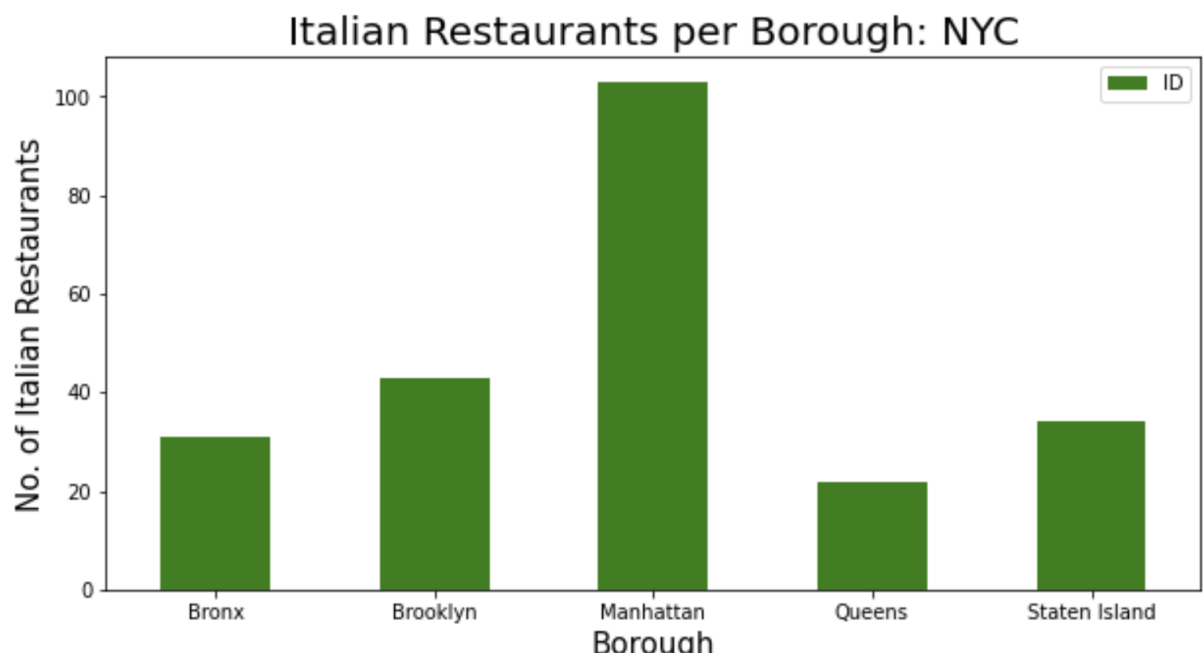
Results:

The results of our analysis showed below:

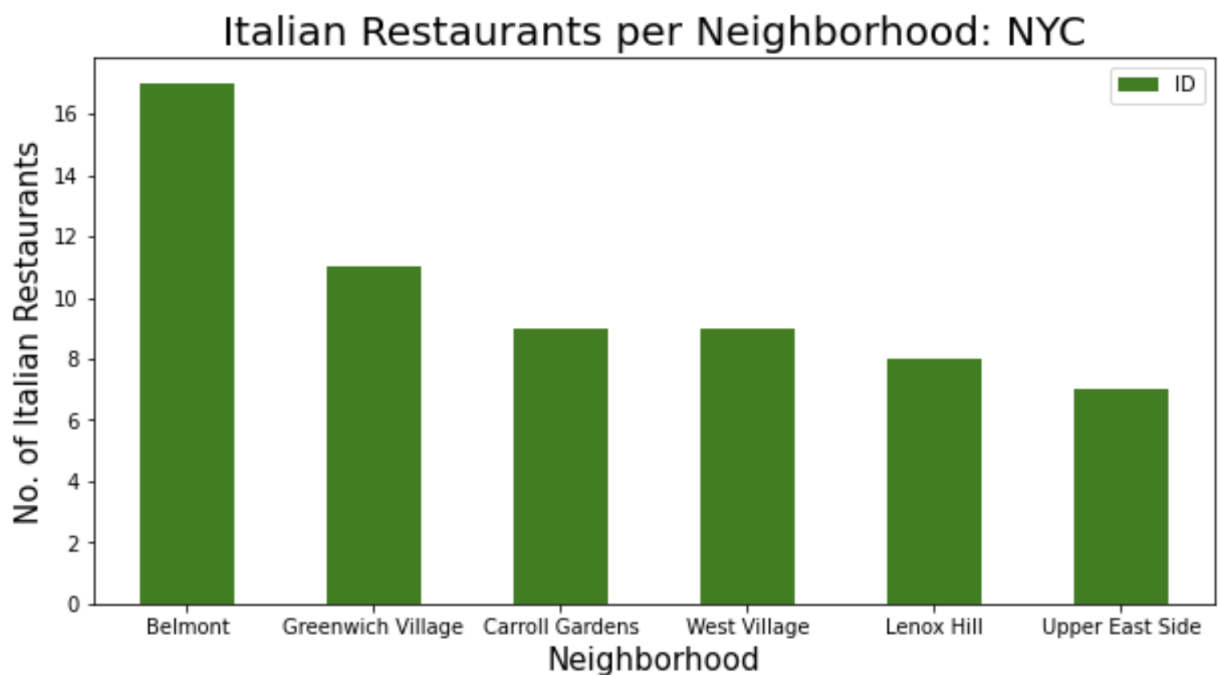
1. We see that Queens has the highest number of Neighborhoods.



2. Although Manhattan had the least number of neighborhoods, it does have the highest number of Italian restaurants.



3. The Belmont in Bronx has the highest number of Italian Restaurants with a total count of 17.



4. Among Bronx and Brooklyn, Bushwick of Brooklyn has the highest average rating for Italian restaurants.

	Neighborhood	Average Rating
0	Bushwick	9.3
1	Bedford Stuyvesant	9.1
2	Morris Park	8.6
3	Cobble Hill	8.5
4	Woodlawn	8.4
6	City Island	8.3

7	Pelham Gardens	8.3
8	Belmont	8.0
9	Gravesend	7.9
13	Bedford Park	7.8
14	Bensonhurst	7.8

Discussion Section

Based on the results of our analysis, I would state that Brooklyn is the best location for Italian cuisine in NYC. To have the best shot of success, I would open an Italian restaurant in Brooklyn. Brooklyn has multiple neighborhoods with average ratings exceeding 8.0 on a scale of 1.0 to 10.0 and has a smaller number of Italian restaurants than Manhattan, making competition easier. In addition, we should keep in mind, that real estate prices in Brooklyn are much cheaper than in Manhattan.

Limitations and suggestions for future research

All the above analysis is depended on the accuracy of Four-Square data. Besides, during this project, we used a free Sandbox Tier Account of Foursquare API that goes with limitations as to the number of API calls and results returned. To get better results, future research work and more comprehensive analysis could consider using a paid account to bypass these limitations as well as incorporating data from other external databases.

