

# Italian Cuisine Restaurants in New York City

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## 1. Introduction

### 1.1 Background

New York is a major central city for diversity since many people from different cultural atmospheres have brought their families and dreams to New York City. The city has consistently seen people from around the world move to the city and call it home. It has been a center for trade and economic growth. New York is known worldwide as a cultural melting pot. While other states have had immigration surges, none have compared to the diversity and sheer number of immigrants that have made their way to the City. So these number of varies cultures combined to create a great diversity for itself. Since People from all over the world tend to come up here, we can see some many of their cultural aspects Transport, Food, Clothing, and so on...

### 1.2 Problem

The objective of this project is to find the best neighbourhood in New York to open a Italian restaurant using Foursquare location data. In this project we'll go through the solution for this problem for avoiding or considering low risk criteria and high success rate.

### 1.3 Interest

The main interest of the Business to be started as an Italian restaurant would be to know about the many criteria that leads to come to a data driven conclusion for selecting the best neighbourhood for opening one. But some of the criteria we are going to be focusing on in our project is as follows,

1. Best Neighbourhood for opening Italian Restaurant in New York.
2. Area which lack Italian Restaurants.
3. Areas with Potential Italian Restaurants.

### 1.4 Target Audience

1. Business personnel who wants to invest or open a restaurant.
2. The freelancer who loves to have their own restaurant as a side business.
3. Tourists who wants to eat Italian food.

# Data Description

## 2.1 Data Sources

Since we will be focusing on New York for opening our restaurant, we will be gathering the data for the same and the three main data we are going to use are the New York Neighbourhood data which we already used in the Neighbourhoods in New York and the data about the cuisines in New York and the Geo-spatial data of boundaries of the Neighbourhoods in New York.

### 2.1.1 Data 1:

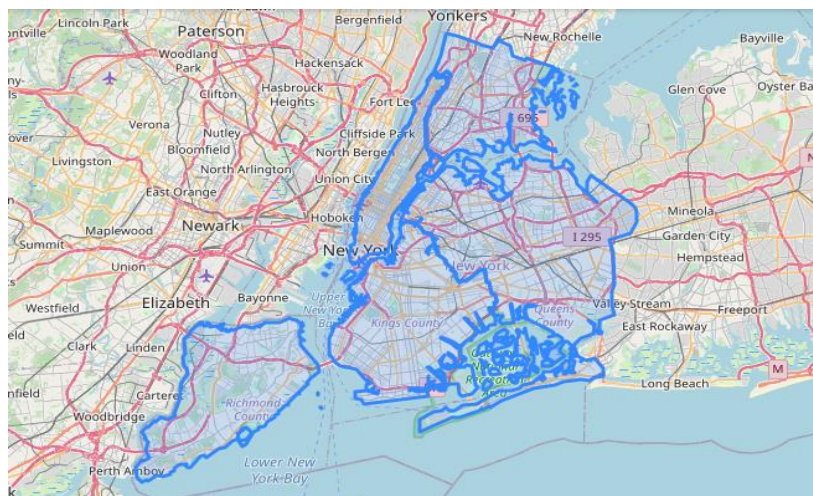
New York Neighbourhood Data which will be used to get to know about the various neighbourhoods which are going to take into consideration for our Project

	Borough	Neighborhood	Latitude	Longitude
301	Manhattan	Hudson Yards	40.756658	-74.000111
302	Queens	Hammels	40.587338	-73.805530
303	Queens	Bayswater	40.611322	-73.765968
304	Queens	Queensbridge	40.756091	-73.945631
305	Staten Island	Fox Hills	40.617311	-74.081740

SOURCE: [https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)

### 2.1.2 Data 2:

Geo-spatial data of the New York to get a better understanding of the neighbourhoods in it and their corresponding locations in the Folium map would make certain things clear for the Project. This will be achieved using the acquired data and visualize the same using Choropleth maps.



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

### 2.1.3 Data 3:

Finally the data going to be collected/acquired from the Foursquare API about the various restaurants in each neighbourhood of New York city especially Italian cuisine, which will be used for acquiring the information regarding same for all the venues of each neighbourhood.

## 2.2 Data Cleaning and approach

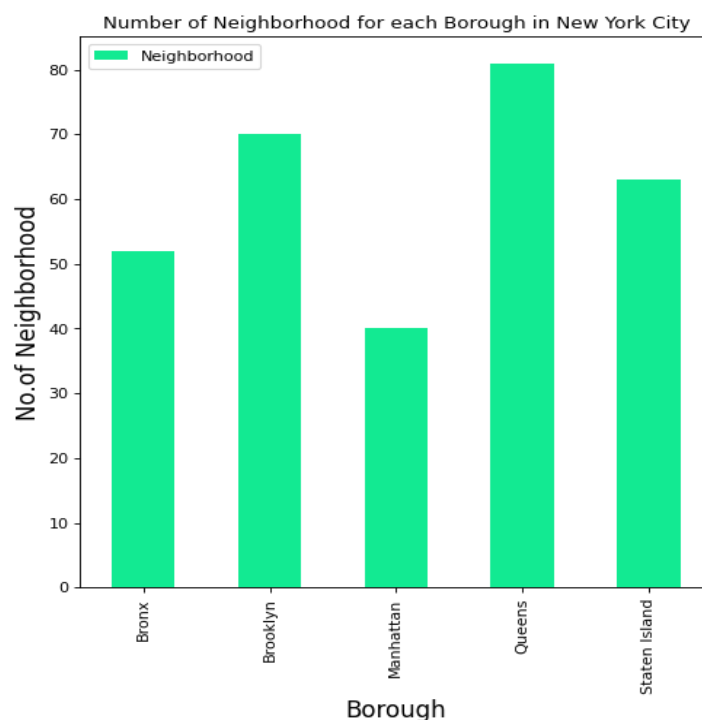
Acquire the data from the various sources as mentioned below,

- New York neighborhood data from [https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)
- Borough Boundaries data from <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm> \*Italian Cuisine related data from Foursquare

Filter the data for the required data acquired from Foursquare which is only about Italian Cuisine. Acquire the tips and from that get the rating of every restaurant in the neighborhood of New York. Visualize the findings using Matplotlib and Folium for better understanding.

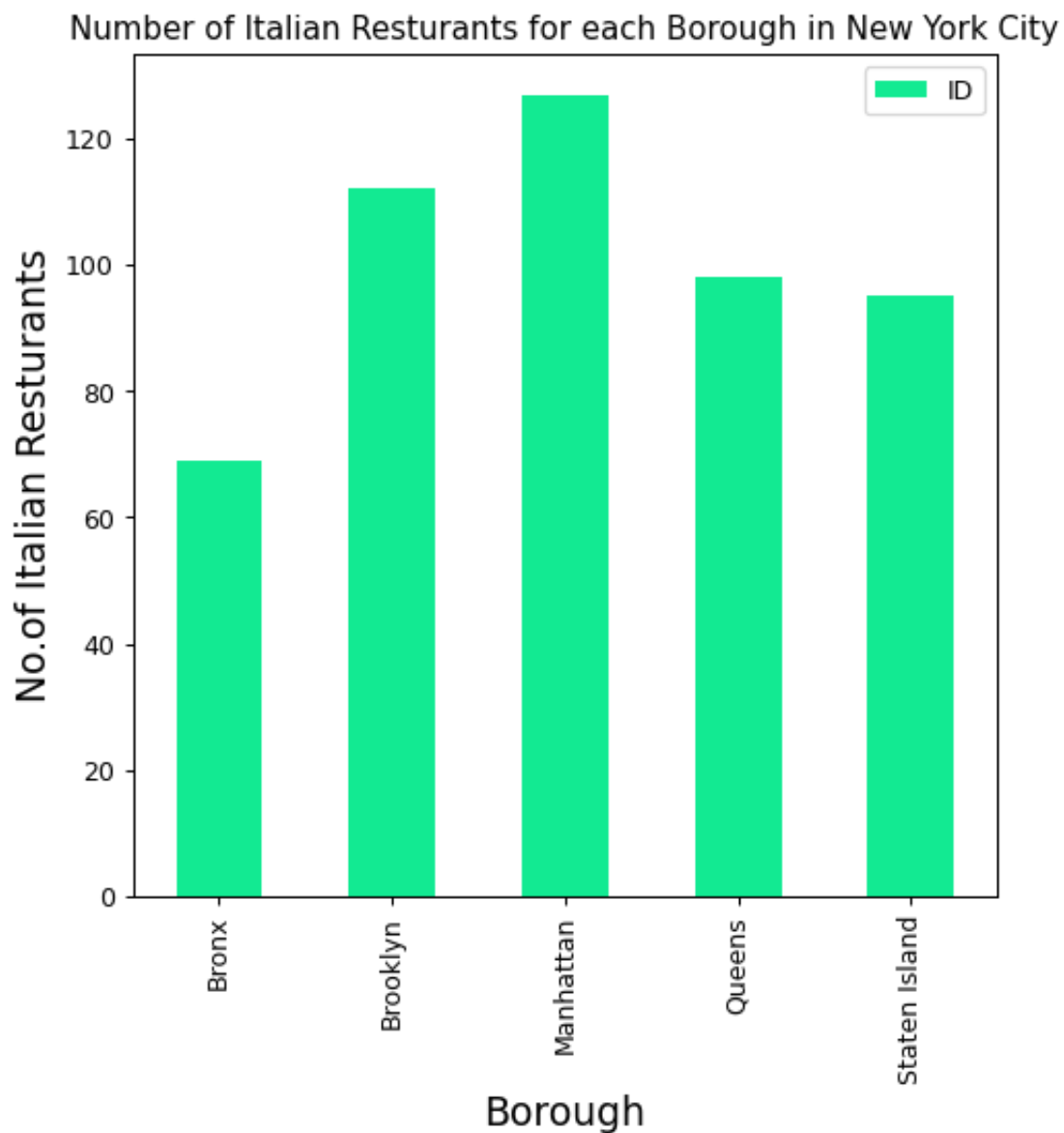
## 3. Data Analysis

### 3.1 Number of Neighbourhood for each Borough in New York City



This graph shows the number of neighbourhoods in each borough.

### 3.2 Number of Italian Restaurants for each Borough in New York City

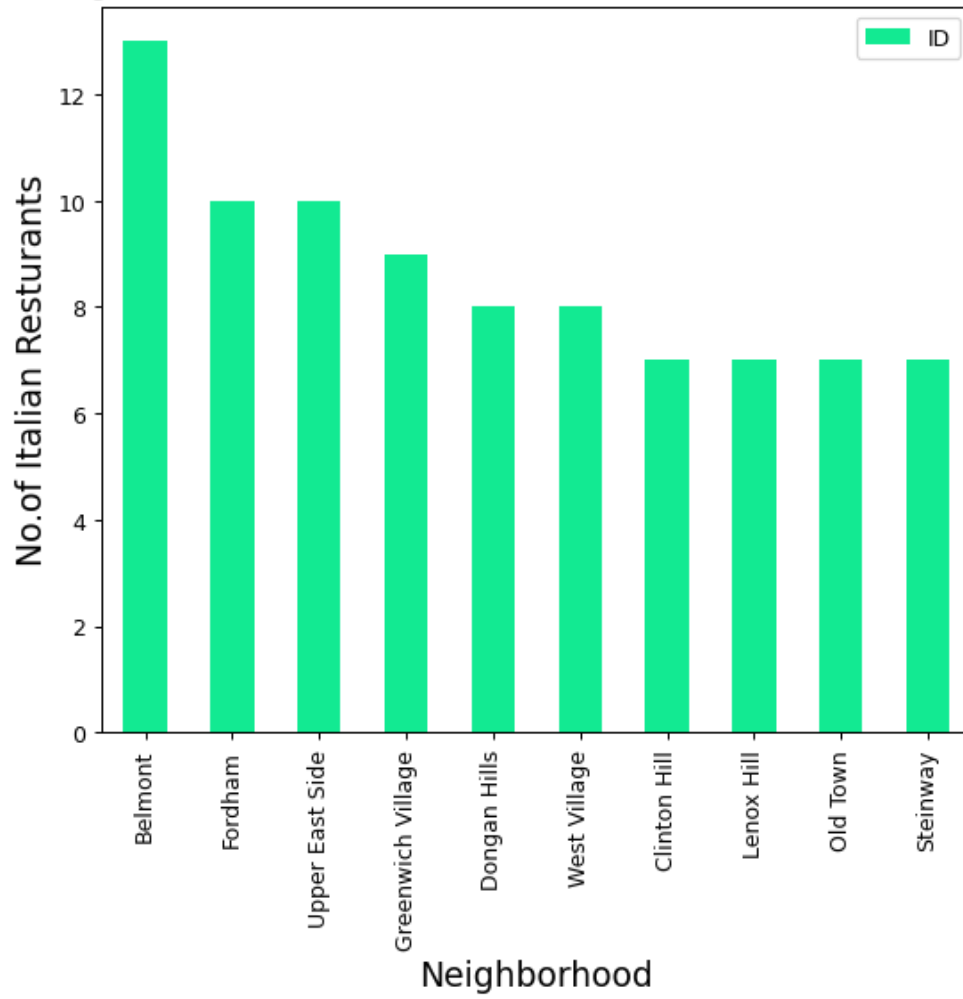


It shows Manhattan has the most Italian Restaurants in New York City and Bronx has the lowest number of Italian Restaurants

### 3.3 Top Neighborhoods based on the number of restaurants which serves Italian cuisine

The below graph shows the number of restaurants which serves Italian in Top neighborhoods. It shows Belmont has the most Italian restaurants.

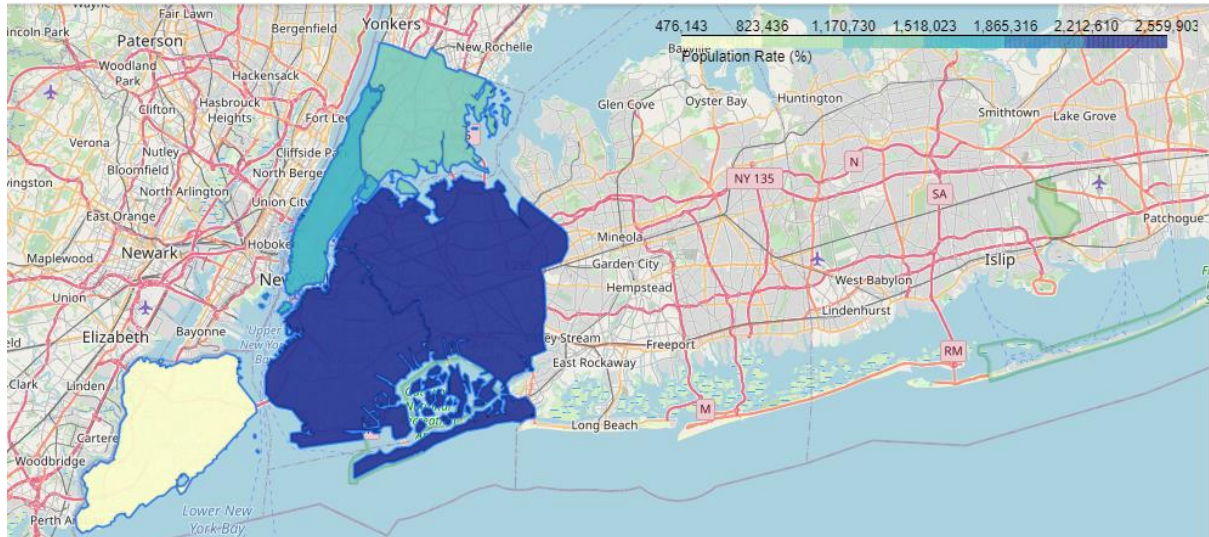
Top 10 Neighborhoods based on the number of restaurants which serves Italian cuisine



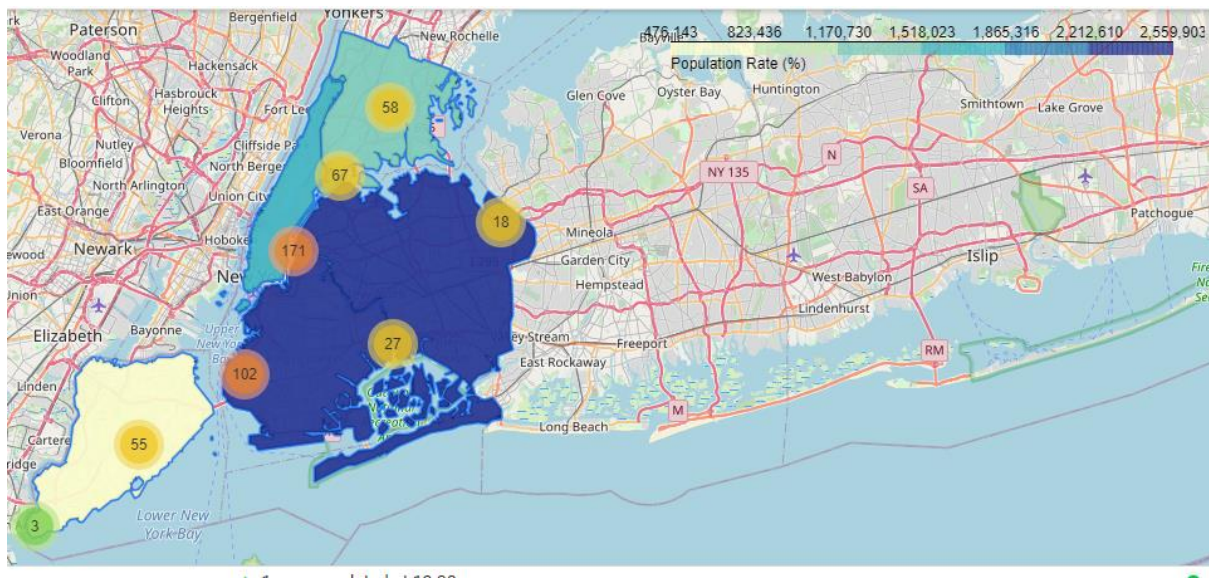
## 4. Data Visualization

### 4.1 Population Data of New York City

As below picture shows Brooklyn and Queens are the populous boroughs in New York and Staten Island has the lowest population.



### 4.2 Number of Italian Restaurants in New York City



As you can see Manhattan has the most Italian Restaurants and Bronx and Staten Island has the lowest number of Italian Restaurants.

## 5. Conclusion

Based on the Data Analysis and Visualization using Folium and Matplotlib we have rendered various bar charts and two maps from which we can come to a better understanding of the interests we had earlier to be discovered which are specified as follows.

1. We found Manhattan Borough has the most Italian Restaurant.
2. Belmont in Bronx has the most Italian Restaurant as a Neighbourhood.
3. According to Census 2020 population data Staten Island has the lowest population.
4. Bronx and Staten Island has the Lowest number of Italian Restaurants
5. Brooklyn is the most populated Borough in New York and Italian Restaurants in Brooklyn are low compared to Manhattan. So any Neighbourhood in Brooklyn is a good choice to open an Italian Restaurant.