

# CAPSTONE PROJECT

THE BATTLE OF NEIGHBORHOODS

## Introduction

This final project will reveal the best locations for Italian restaurants throughout New York City. Food trade is the most growing industry in New York. New York City is a major metropolitan area with more than 8.4 million people. During the late nineteenth and early twentieth centuries, most Italian immigration to the United States occurred. For the first time, Italian families settled in the Little Italy neighborhood around Mulberry Street, where they have continued to thrive ever since. The need to find and enjoy Italian cuisine is increasing as there are approximately 700,000 Manhattan residents reporting Italian origins. This report explores New York City's neighborhoods and neighborhoods with the best and best Italian restaurants. Additionally, I will try to answer the questions "Where can I open an Italian restaurant?" And "Where should I stay if I want great Italian food?"

## Data

In order to answer the above questions, data on New York City neighborhoods, boroughs to include boundaries, latitude, longitude, restaurants, and restaurant ratings and tips are required.

New York City data containing the neighborhoods and boroughs, latitudes, and longitudes will be obtained from the data source: [https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)

New York City data containing neighborhood boundaries will be obtained from the data source: <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>

All data related to locations and quality of Italian restaurants will be obtained via the FourSquare API utilized via the Request library in Python.

## Methodology

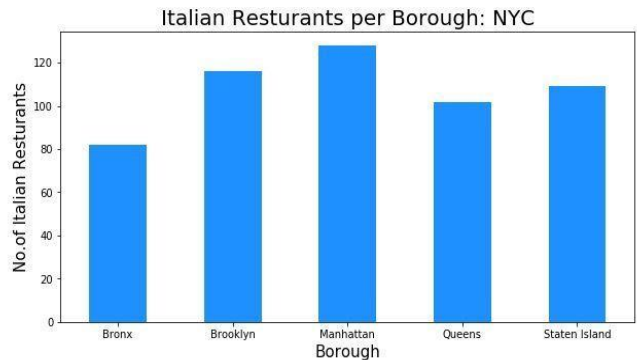
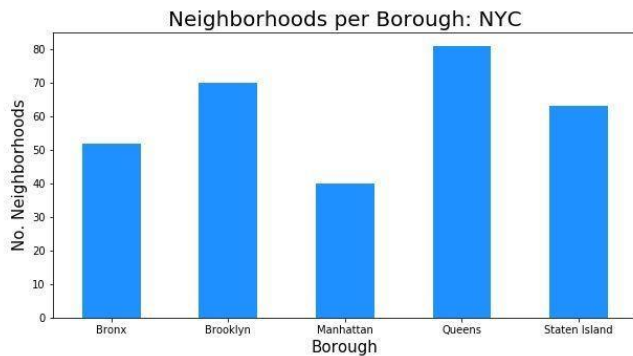
- collect the New York City data from [https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)
- Using FourSquare API we will find all venues for each neighborhood.
- Filter out all venues that are Italian Restaurants.
- Then, Find Rating , Tips and Likes count for each Italian Restaurants using FourSquare API.
- Using rating for each restaurant , we will sort that data.
- Finally, Visualize the Ranking of neighborhoods using folium library(python)

## Problem Statement

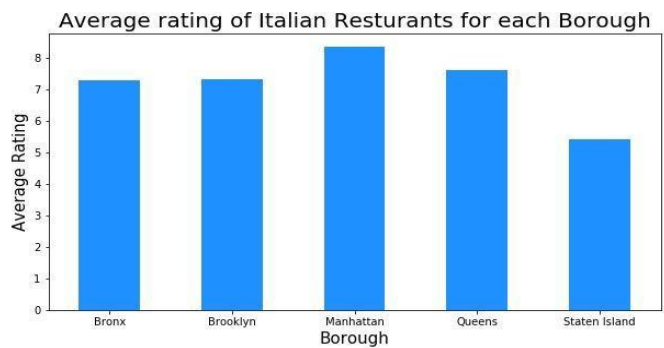
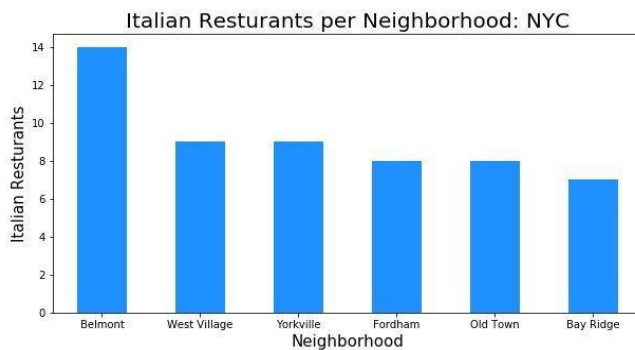
1. What is / are the best location(s) for Italian cuisine in New York City?
2. In what Neighborhood and/or borough should I open an Italian restaurant to have the best chance of being successful?
3. Where would I go in New York City to have the best Italian food?

## Results and Discussion

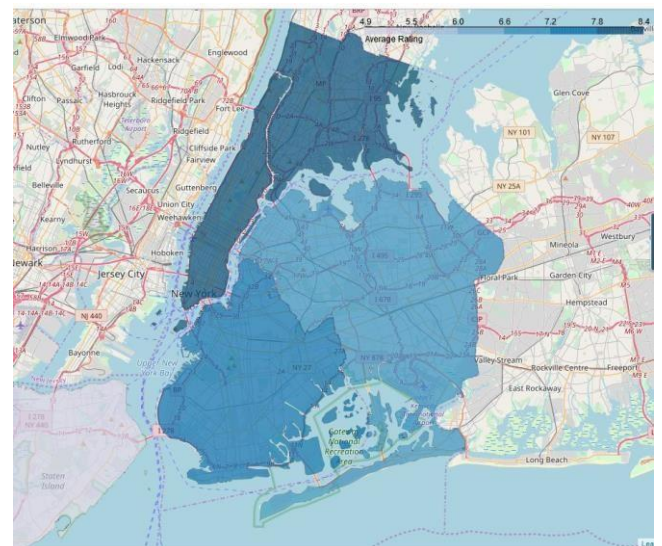
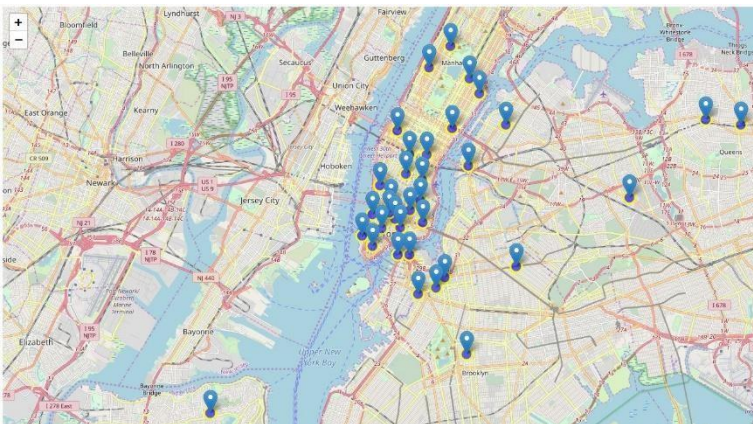
It is clear from the data obtained that although the borough of Manhattan has the least number of neighborhoods, it has the most Italian restaurants of all five boroughs. Additionally, the boroughs of Queens and The Bronx has the least number of Italian restaurants.



The top six neighborhoods in regards to number of Italian restaurants represent the three boroughs of The Bronx, Manhattan, and Brooklyn. The neighborhood of Belmont of the Bronx has the most at 14. Manhattan and Queens also have the highest average restaurant rating at 8.33 and 7.36, respectively.



Manhattan is clearly the densest borough in regards to Italian restaurants making competition high. Boroughs like Brooklyn and Queens provide less competition based on Italian restaurant density while maintaining high average ratings.



## Conclusion

Manhattan and Queens have the best rated Italian restaurants on average. Queens and The Bronx have the least number of Italian restaurants per borough. However, of note, Belmont of The Bronx is the neighborhood in all of NYC with the most Italian Restaurants. 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 cuisine in NYC. To have the best shot of success, I would open an Italian restaurant in Queens. 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. Finally, I would go to Gramercy in Manhattan for the best Italian food based on 131 likes. As a final note, all of the above analysis is depended on the adequacy and accuracy of Four Square data. A more comprehensive analysis and future work would need to incorporate data from other external databases.