

CAPSTONE: Battle of the Neighbourhoods

Best Italian Restaurants in New York Neighbourhood

Ashutosh Pandey

Jan 2020

1. Introduction

This final project explores the best locations for Italian restaurants throughout the city of New York. Food Business News stated that worldwide pasta sales were up for the second year in a row with the United States holding the largest market (Donley, 2018).

New York is a major metropolitan area with more than 8.4 million (Quick Facts, 2018) people living within city limits. Most of the Italian immigration into the United States occurred during the late 19th and early 20th century with over two million immigrants between 1900 and 1910. Italian families first settled in Little Italy's neighbourhood around Mulberry Street as has continued to thrive ever since. With almost 700,000 Manhattan inhabitants reporting Italian ancestry, the need to find and enjoy Italian cuisine is on the rise.

This report explores which neighbourhoods and boroughs of New York City have the most as well as the best Italian restaurants. Additionally, this report will attempt to answer the questions "Where should I open an Italian Restaurant?" and "Where should I stay if I want great Italian food?"

Problems to be addressed:

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

2. Data Acquisition and Cleaning

- In order to answer the above questions, data on New York City neighbourhoods, boroughs to include boundaries, latitude, longitude, restaurants, and restaurant ratings and tips are required.
- New York City data containing the neighbourhoods and boroughs, latitudes, and longitudes will be obtained from the data source:
https://cocl.us/new_york_dataset

- New York City data containing neighbourhood boundaries will be obtained from the data source: <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tgmj-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.

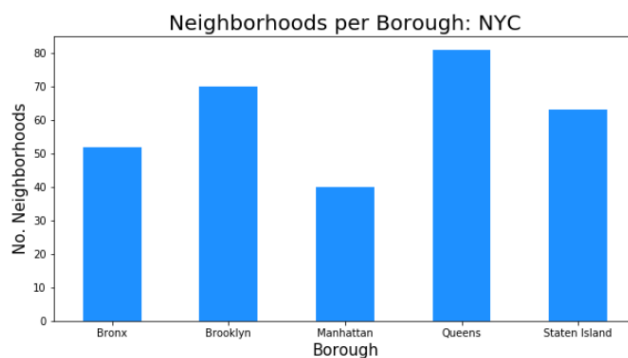
3. Methodology

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

4. Results:

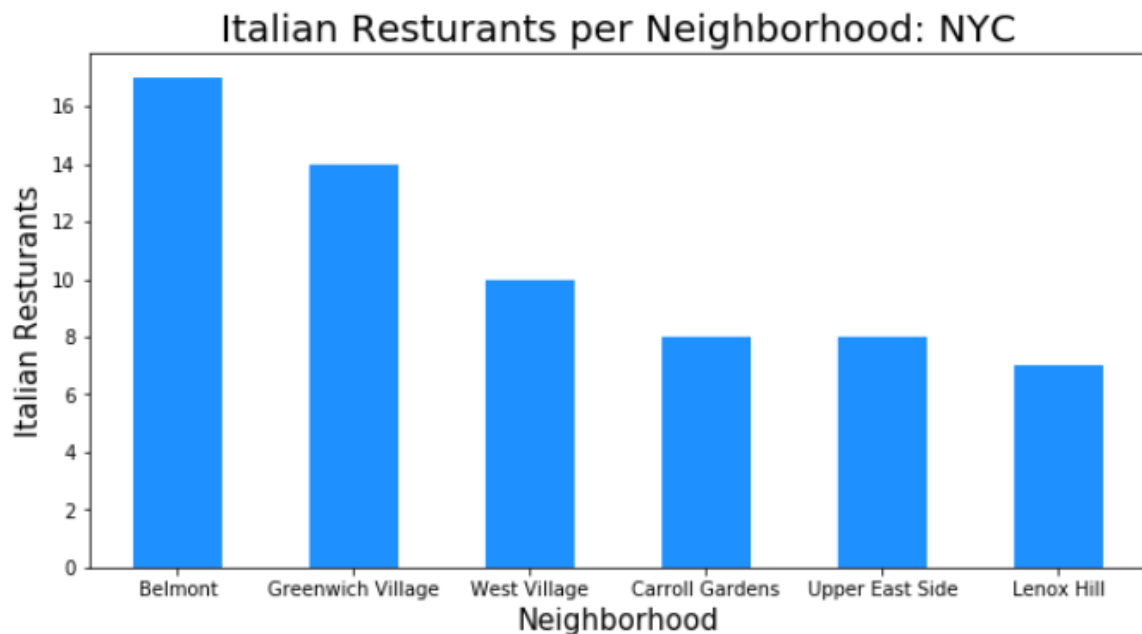
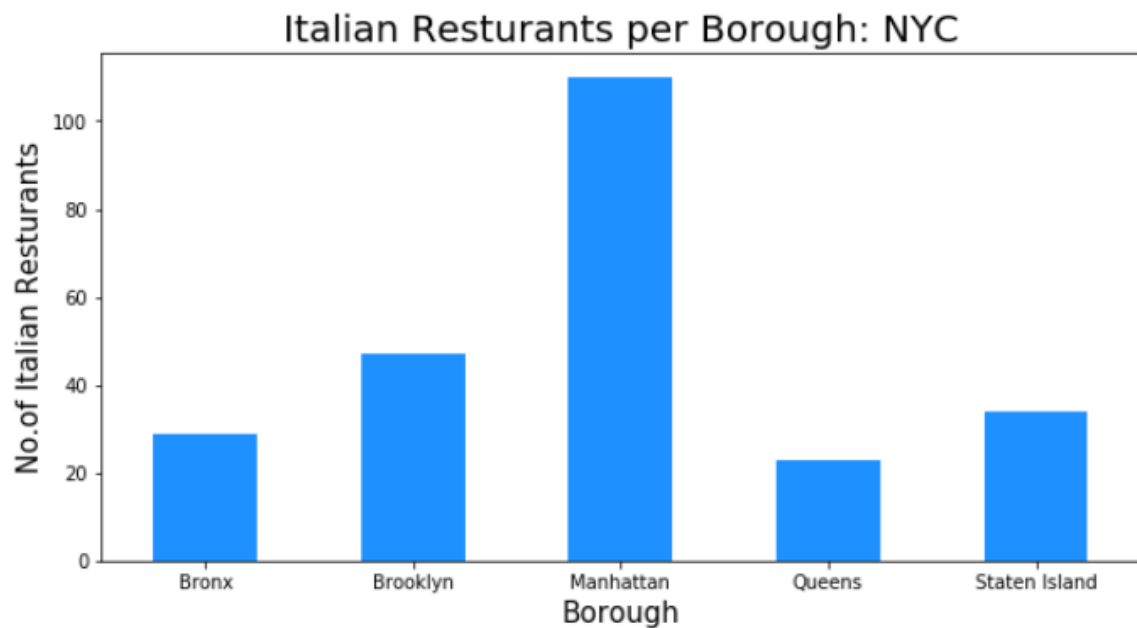
After getting the initial New York data, we analysed to understand that Manhattan has the least number of neighbourhoods in all five boroughs.

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585



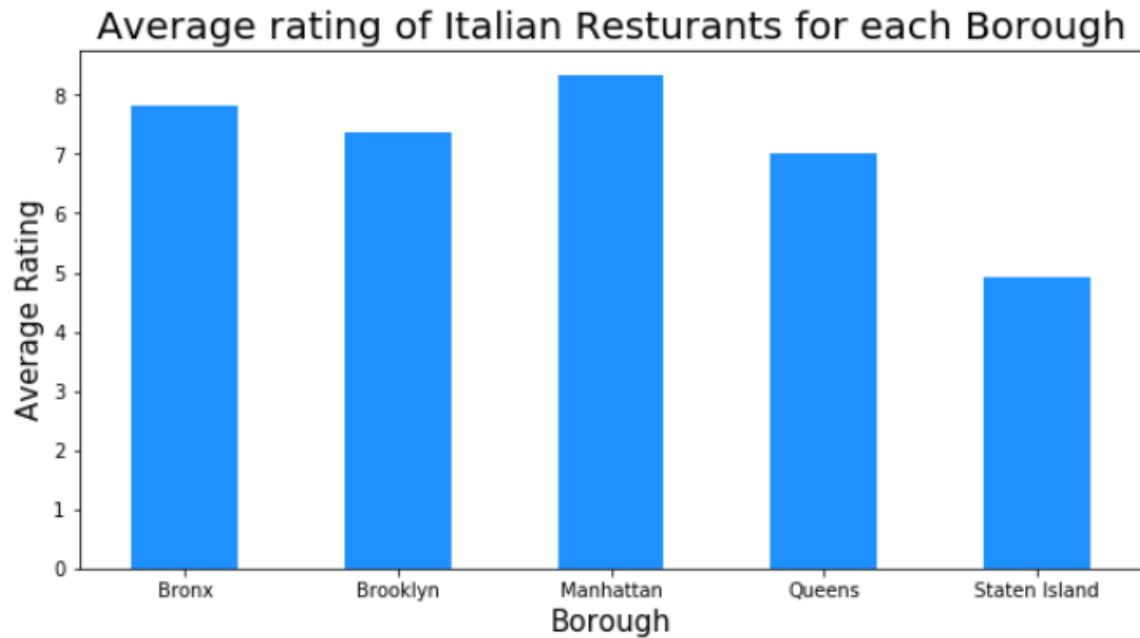
Let's analyse further and see how many Italian restaurants there are in each neighbourhood and borough and graph the results.

As we continue our analysis, we see below that although Manhattan had the least number of neighbourhoods, it does have the highest number of Italian restaurants. Additionally, we see how many restaurants the top 6 neighbourhoods have. The neighbourhood of Belmont has the highest number of Italian restaurants in all of NYC and is in the borough of Bronx vice Manhattan.



After analysing this we find out which are the restaurants who have maximum likes, maximum ratings, maximum tips, Average ratings of restaurants.

Also, we calculated a table with Average ratings for each borough as showcased in the graph below.



We mapped the neighbourhoods with an average rating greater than or equal to 8



5. 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, **Belmont of The Bronx** is the neighbourhood in all of NYC with the **most Italian Restaurants**. Despite Manhattan having the least number of neighbourhoods in all five boroughs, it has the most Italian restaurants.
- Based on this information, we infer that 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 neighbourhoods 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, one should head to **Gramercy in Manhattan for the best Italian food** based on 131 likes.
- A more comprehensive analysis and future work would need to incorporate data from other external databases.