

The Battle of Neighborhood

Final Capstone Project on Coursera

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PROJECT TITLE :

ITALIAN RESTAURANT in New York City



1. INTRODUCTION

1A. Background & Problem Description

New York City, the most populous city in the United States, one of the greatest metropolises over the world, is a dream place for gourmet to seek delicious cuisine. Its food culture includes an array of international cuisines influenced by the city's immigrant history. Central and Eastern European immigrants, especially Jewish immigrants from those regions, brought bagels, cheesecake, hot dogs, knishes, and delicatessens (or delis) to the city. Italian immigrants brought New York-style pizza and Italian cuisine into the city, while Jewish immigrants and Irish immigrants brought pastrami and corned beef, respectively. Chinese and other Asian restaurants, sandwich joints, trattorias,

diners, and coffeehouses are ubiquitous throughout the city. Some 4,000 mobile food vendors licensed by the city, many immigrant-owned, have made Middle Eastern foods such as falafel and kebabs examples of modern New York street food. The city is home to "nearly one thousand of the finest and most diverse haute cuisine restaurants in the world," according to Michelin. As of 2020, there were more than 27,000 restaurants in the city, up from 24,865 in 2017.

As the figures tell, New York City attracts many to start their business in the food industry. Before they take action, they need to find out where they would open it? What would they consider when selecting a location? By exploring the regional characteristics of these restaurants, I hope to figure out whether the neighborhood of restaurants is an essential factor for the success of a restaurant with sound analysis.

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

1B. 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

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.

2. Methodology

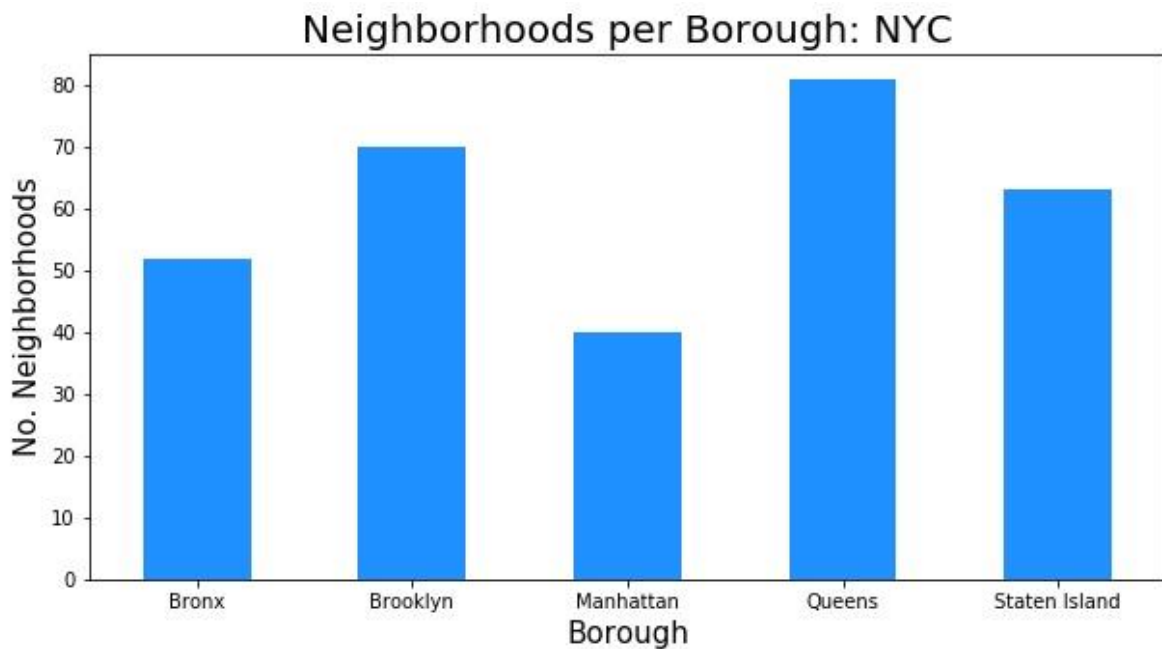
- Data will be collected from https://cocl.us/new_york_dataset and cleaned and processed into a dataframe.
- FourSquare be used to locate all venues and then filtered by Italian restaurants. Ratings, tips, and likes by users will be counted and added to the dataframe.
- Data will be sorted based on rankings.
- Geopy is used to get the geological location of each community board.
- BeautifulSoup is used to scrape boroughs and organize a table containing Community Board, Area, Pop.Census, Neighborhoods information of New York City.
- Finally, the data be will be visually assessed using graphing from various Python libraries.

3.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?

4.Analyzation & Visualization

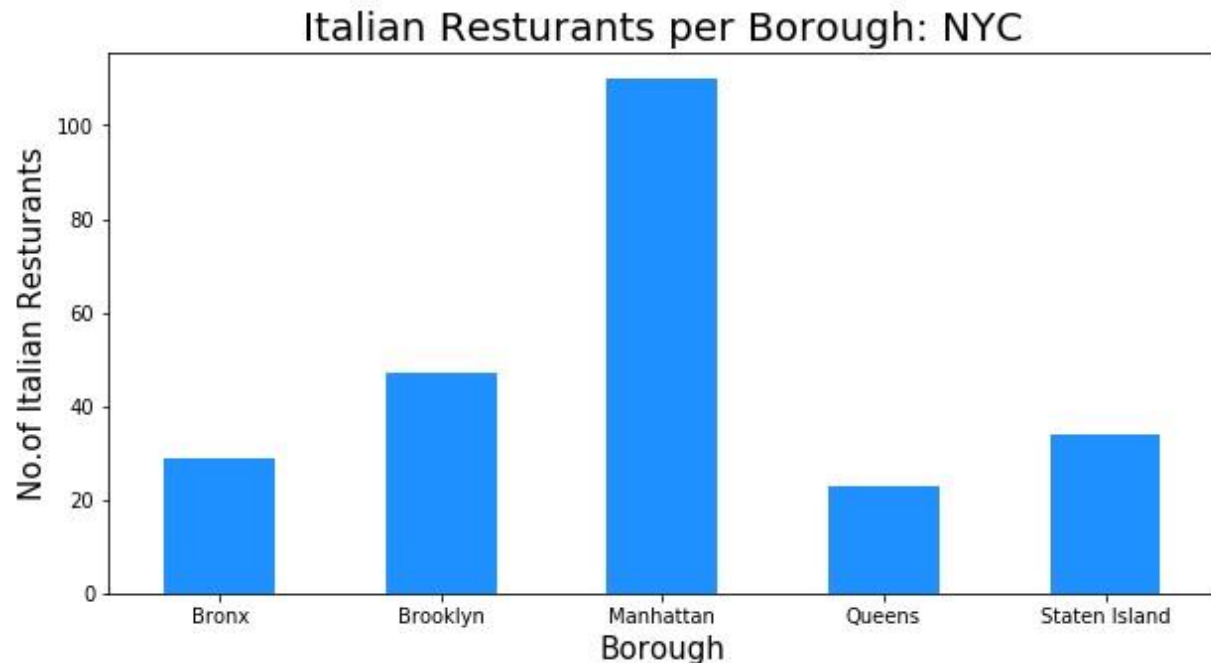
Now that we have our initial data, after analyzing it; We can see below that Manhattan has the least number of neighborhoods in all five boroughs



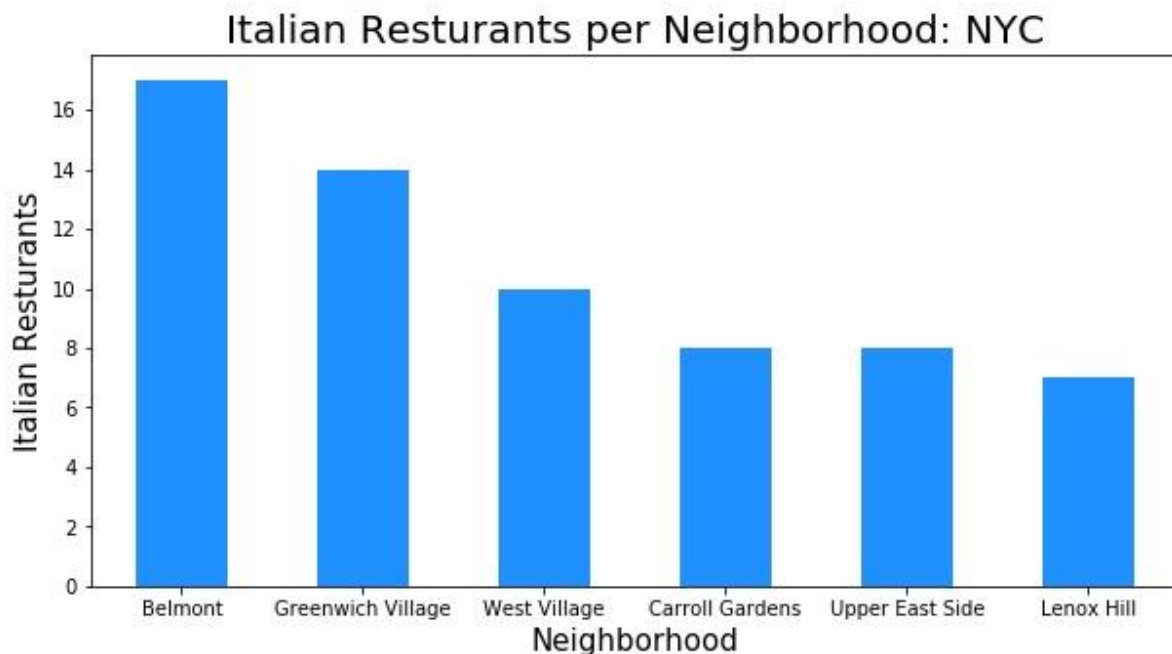
We already observed that although Manhattan had the least number of neighborhoods, it does have the highest number of Italian restaurants. Additionally, we observed how many restaurants the top six neighborhoods have. The neighborhood of Belmont has the highest number of Italian restaurants in all of NYC and is actually located in the borough of Bronx vice Manhattan.

Following are the further observations:-

It is clear from the following graph that Manhattan has maximum number of Italian Restaurants.



After further analyzation we found Belmont of Manhattan has maximum Restaurants.



5.Results and 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.

6.References:

a.New York City Wikipedia -https://en.wikipedia.org/wiki/New_York_City

b.Neighborhoods in Wikipedia -https://en.wikipedia.org/wiki/Neighborhoods_in_New_York_City

c.Four Square Api

d.Markdown Cheatsheet - <https://medium.com/ibm-data-science-experience/markdown-for-jupyter-notebooks-cheatsheet-386c05aeebed>

7.Gratitude:

I am truly thankful to Coursera team for giving us a Platform of doing certification while sitting at home. Thank you to all Teachers, Moderators & Volunteers & my peers who are always there to help me in Discussion Forum. Moreover, I am thankful to my family as well.