BATTLE OF THE NEIGHBORHOODS

Coursera Capstone

Abstract
In this Capstone project I analyze the opportunity of opening an Italian restaurant in New York.

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Introduction

This 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 Sates holding the largest market. New York is a major metropolitan area with nearly 10 million 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 neighborhood around Mulberry Street as has continued to thrive ever since. With almost 750,000 Manhattan inhabitants reporting Italian ancestry, the need to find and enjoy Italian cuisine is on the rise. 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 authentic 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

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

Data will be collected from https://cocl.us/new_york_dataset and cleaned and processed into a data frame.

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 data frame.

Data will be sorted based on different metrics

Finally, the data be will be visually assessed using graphing from various Python libraries.

Problem Statement

Which is / are the best location(s) for Italian cuisine in New York City?

In what Neighborhood and/or borough should I open an Italian restaurant to have the best chance of being successful?
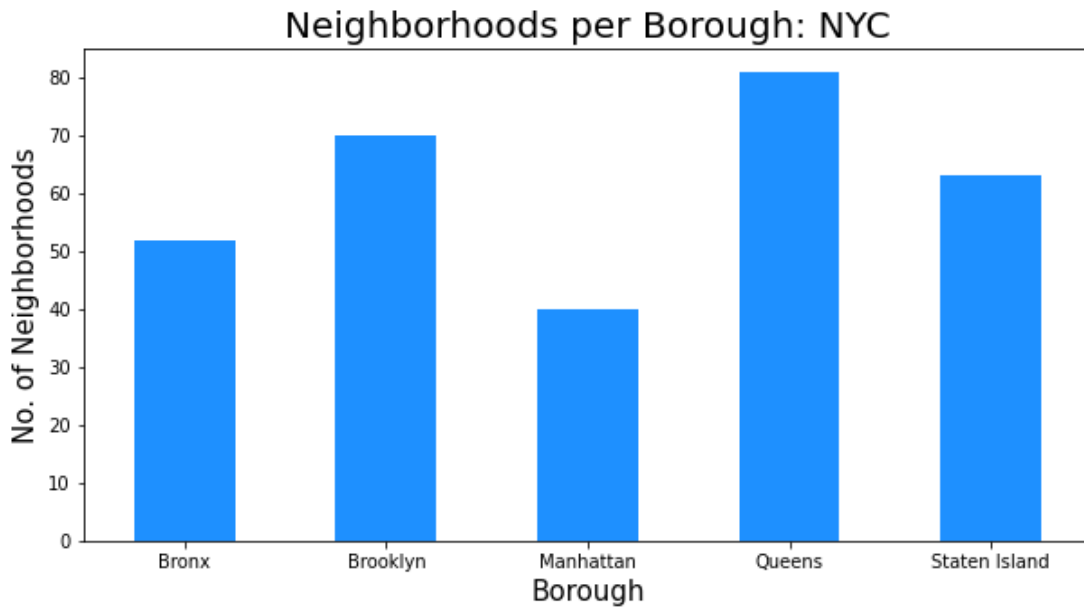
Where would I go in New York City to have the best Italian food?
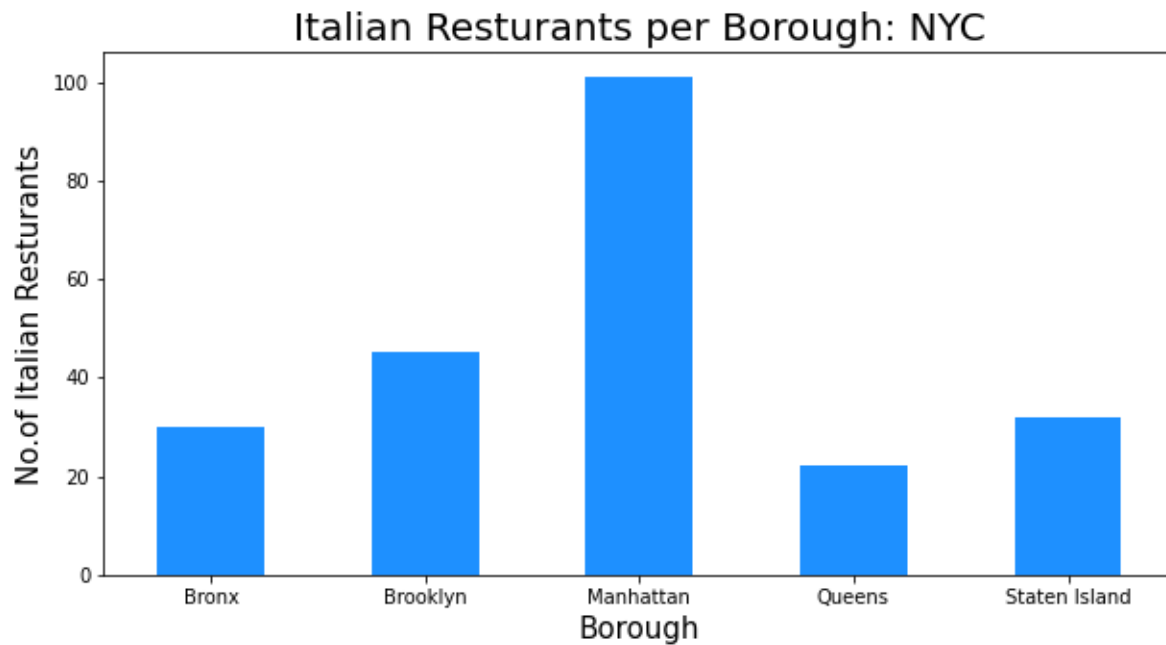
Code and Analysis

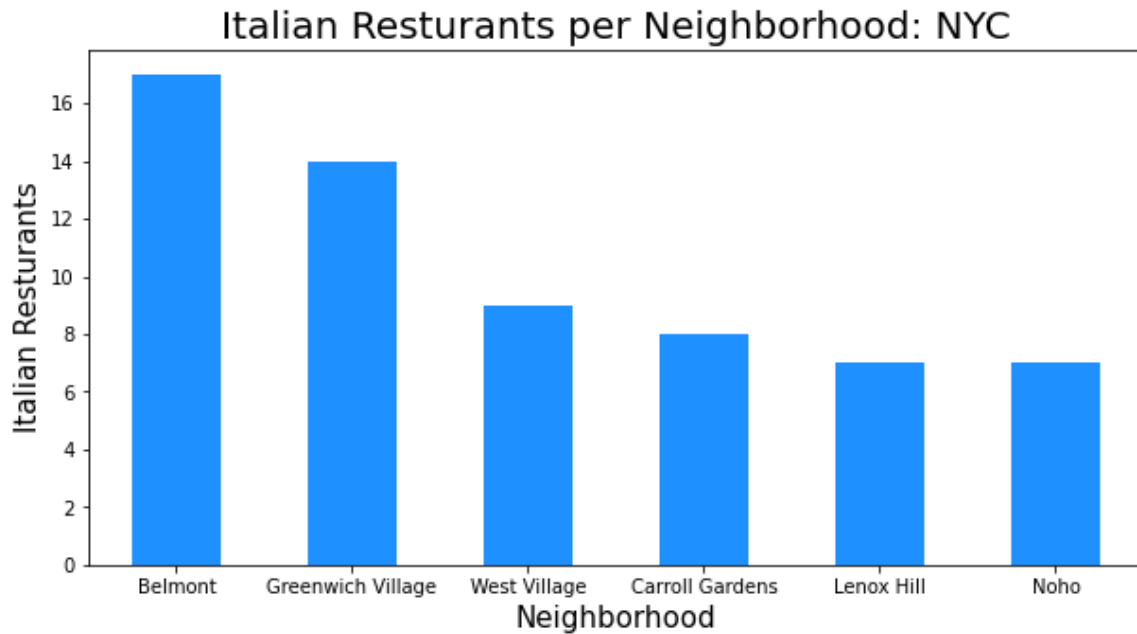The code is hosted in GitHub. Click here

Results

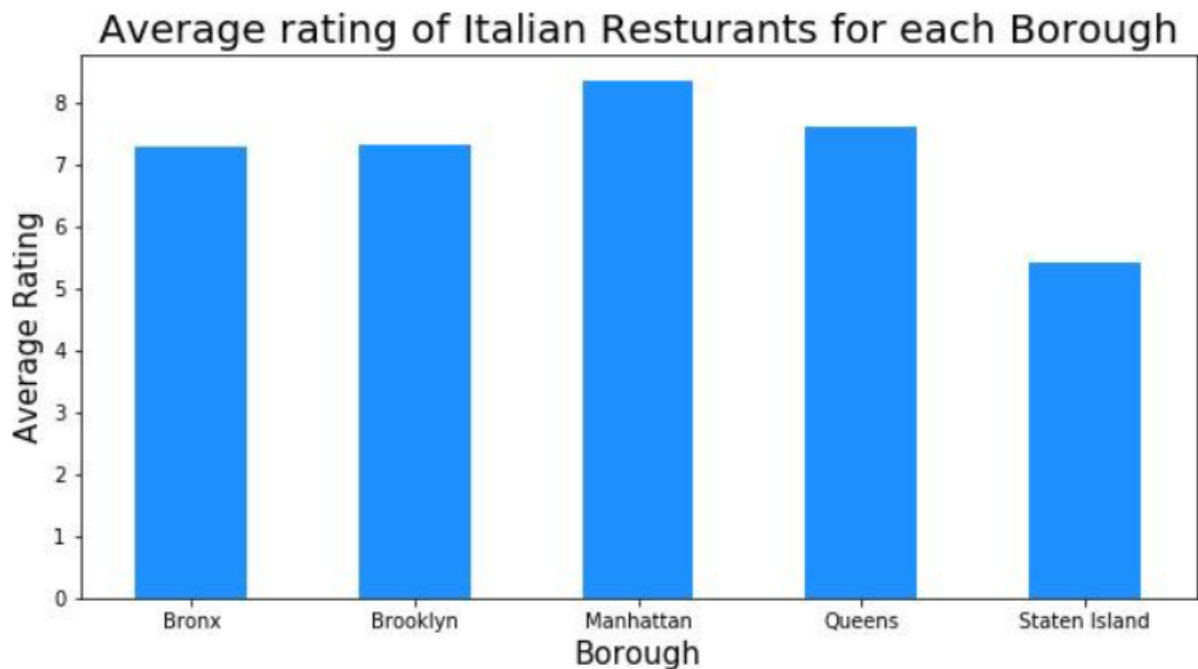1. Manhattan has the least number of neighborhoods per borough.

Neighborhoods per Borough: NYC

2. However, Manhattan has the most Italian restaurants.
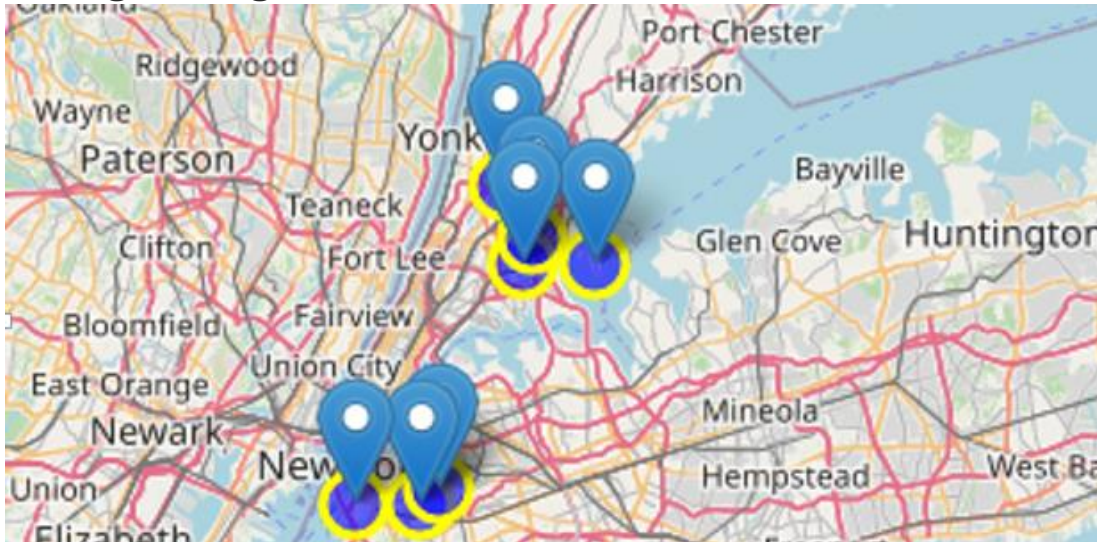
Italian Resturants per Borough: NYC

3. The top six neighborhoods represent The Bronx, Manhattan, and Brooklyn boroughs. Belmont of The Bronx holds the most Italian Restaurants at 17.

Italian Resturants per Neighborhood: NYC

4. Despite the above data, Manhattan still has the highest average rating (>8.0), with Queens be a close second.

Average rating of Italian Resturants for each Borough

5. Manhattan is clearly the densest borough in regards to Italian restaurants making competition high.

6. 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 amount 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 restaurants 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.