

Finding the Best Spot to Open an Italian Restaurant in New York City

By: Mitchell Gray

Introduction

New York City is the largest city in the United States of America with a population of nearly 8.5 million as of 2018. New York City is historically a melting pot of cultures, people, and food as it has been the biggest gateway of immigration into the United States over the history of the nation.

Having said that, this project explores where the best places to open an Italian restaurant in New York City are. Nearly 9% of New York City are Italian-Americans. Given this high number we expect the competition in this space to be high and carefully selecting location will be key.

We want to find the best space to open a new Italian restaurant that can have sustainable success. Factors such as the borough, neighborhood and nearby competition are all considered as we try to answer the question of where is the best place to open an Italian restaurant in New York City?

Business Problem

The objective of this project is to analyze and find the best areas of New York City to open a new Italian restaurant. I use Data Science methodology in addition to Data Analysis and Data Visualization to answer the question: Where is the best place to open a new Italian restaurant in New York City?

Target Audience

The target audience of this project is real estate developers and investors who might be interested in opening an Italian restaurant in the largest and one of the most diverse cities in the US. Obviously, restaurants and the food market in general in New York is crowded so I want to help pinpoint the best opportunities for potential developers/investors.

Data Used

To solve our problem, we need this data:

- NYC data containing both neighborhoods and boroughs.
- Latitude and longitude data of neighborhoods so we can plot them.

- Venue and restaurant data to perform analysis of opportunity and competition in specific neighborhoods.

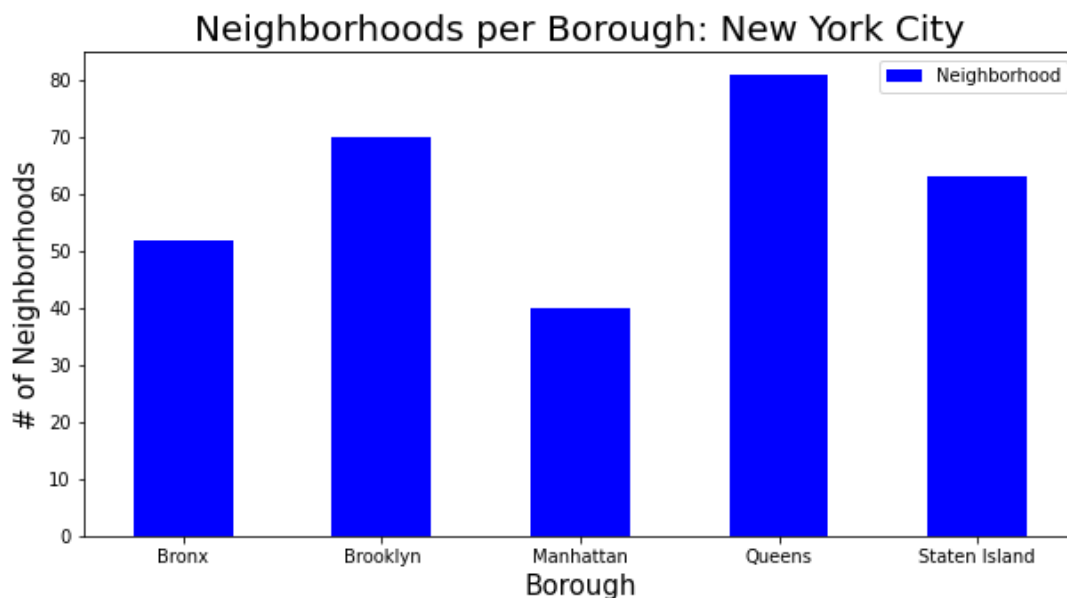
This project will use several Data Science skills including web scraping an open source dataset, data cleaning, working with an API from Foursquare, and map visualization.

Methodology

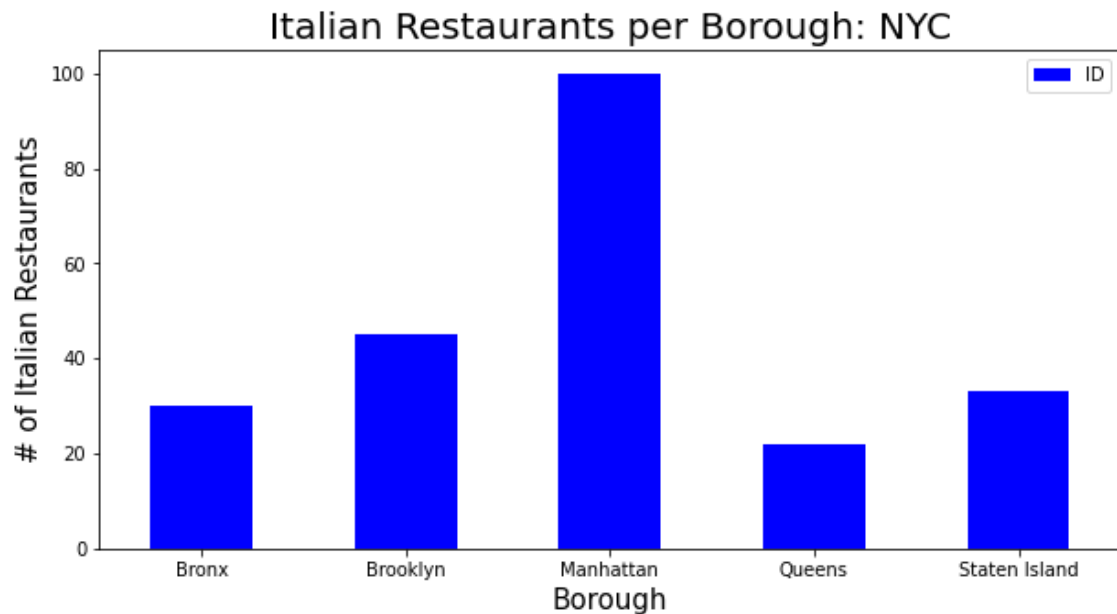
- We use the open data source https://cocl.us/new_york_dataset for the neighborhoods and boroughs data needed for this project. We'll use the Python Geocoder package to obtain the latitude and longitude of the neighborhoods.
- We will then use the Foursquare API to get the venue data for the neighborhoods. With over 105 million places, the Foursquare API has one of the largest databases on the internet. Foursquare has many categories of venue data but we are particularly interested in the restaurant data as it will be key to solving our problem.
- We will sort the data based on the rankings in Foursquare.
- We will then use Folium for data visualization.

Results

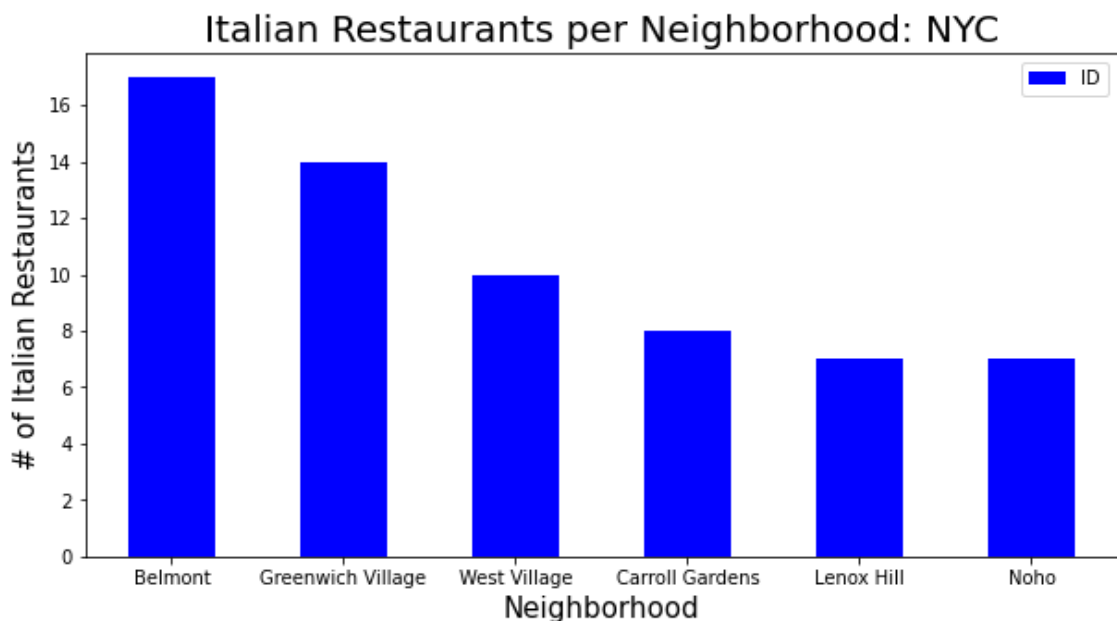
1. We find that Queens has the highest number of neighborhoods of any of the five boroughs of New York City



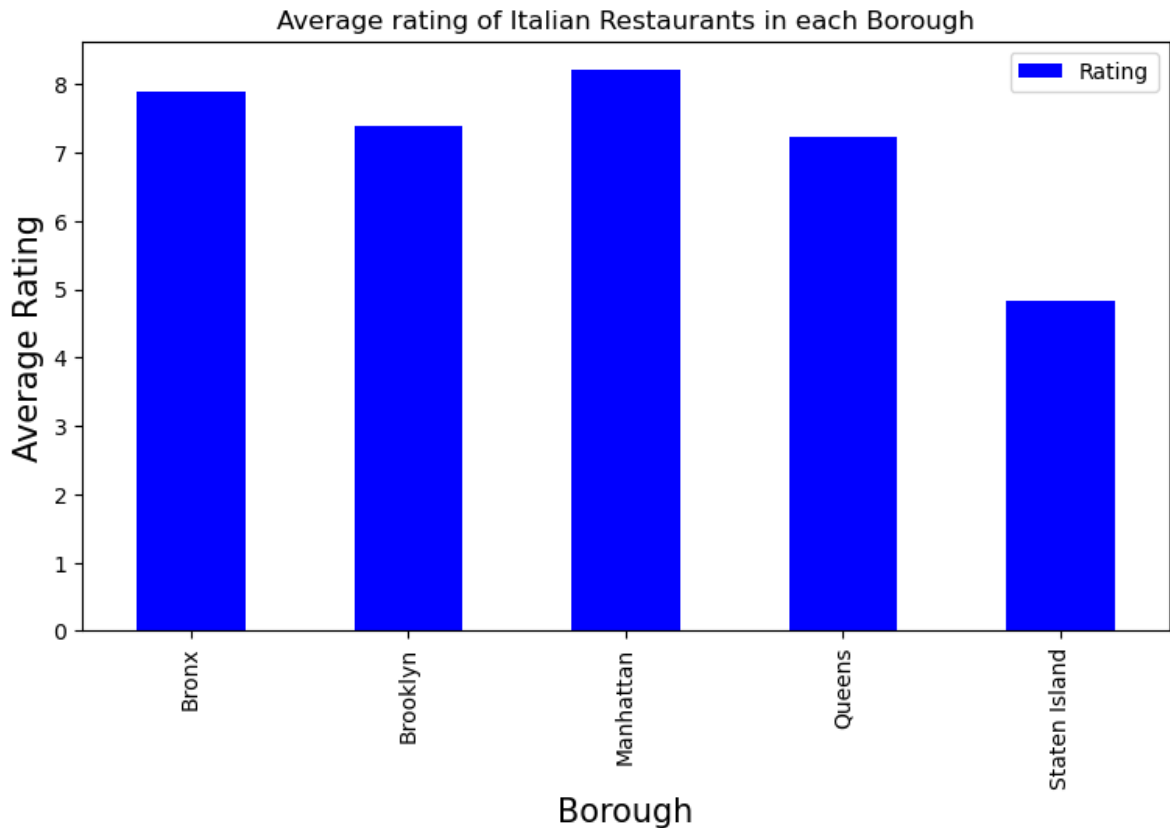
- Although Manhattan has the fewest neighborhoods of any of the five boroughs, it has the highest number of Italian restaurants. This makes sense on some level as Manhattan is the most densely populated borough.



- Despite Manhattan having the largest number of Italian restaurants of the five boroughs, the neighborhood with the single highest number of restaurants is Belmont in the Bronx with 17. Belmont lives up to its reputation as the Bronx's Little Italy.



- Manhattan and the Bronx have the two highest average ratings for Italian restaurants of any of the five boroughs. Queens and Staten Island have the two lowest average ratings with Staten Island far lower than any other borough.



Discussion Section

On average, Manhattan and Brooklyn have the best rated Italian restaurants of the five boroughs. Queens has by far the least number of Italian restaurants of any borough with just over 20. For reference, Manhattan has nearly 100. Given the high average rating and competition in Manhattan, we can rule out Manhattan as the best place for opening a new Italian restaurant. Based on all of the info, I think opening a new Italian restaurant in Queens is the best move. Queens has the 2nd lowest average rating of any of the five boroughs while also having the least number of Italian restaurants. This presents the unique opportunity of less competition and a lower bar to clear to be the best Italian restaurant in the borough whereas the competitive landscape in the Bronx or Manhattan would be much more difficult. All of this analysis is reliant on data from Foursquare. During this project, we used a free tier of account of the Foursquare API that limited the number of calls and results returned. Working with a paid account with no limitations on calls or results could provide even better analysis.

Conclusions

In this project we have gone through the process of identifying a business problem, determining the necessary data to help solve the problem, reading and preparing the data for analysis, analyzing the data and drawing recommendations for developers and/or investors. We used a myriad of data science

methods to answer our business problem of “Where is the best place in New York City to open a new Italian Restaurant?” The findings of our project will help prospective developers and investors understand the pros and cons of opening an Italian restaurant in different boroughs and neighborhoods of New York City.