

Applied Data Science Capstone

Report

The Battle of Neighborhoods: Where to Open an Italian Restaurant in NYC?

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Introduction

New York City is commonly known as one of the most popular multicultural centers of the Earth. Moreover, its economic growth and perspectives attract businesses, families and individuals from all over the world, therefore, the city's diversity is not only being supported but also achieving new heights. 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 neighborhoods and boroughs of New York City have the most as well as the best Italian restaurants to answer the main question: **Where should I open an Italian restaurant in New York City?**

Data Section

In order to determine the possible options for opening a new restaurant, the data on New York City neighborhoods and boroughs **to include boundaries, latitudes, longitudes, restaurants, 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;
- 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 Section

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

Problem Statement

- What are the best locations for Italian cuisine in New York City?
- In which neighborhood and/or borough should I open an Italian restaurant to have the best chance of being successful?

Results and Conclusion Section

Let us sum up all ideas from this research:

- **The highest** number of **neighborhoods** is in **Queens** and **the lowest** is in **Manhattan**;
- **The highest** number of **Italian restaurants** is in **Manhattan** and **the lowest** is in **Queens**;
- **The highest** number of **Italian restaurants** is in **Belmont** which is a neighborhood of **Bronx**;
- The number of **Italian restaurants** in **Belmont** is **17**;
- **The mean rating** of all **Italian restaurants in NYC** is about **7.4 out of 10**;
- **The mean number of likes** is about **141**;
- **The mean number of tips** is about **55**;
- The restaurant with **maximum Likes** is **Rubirosa Ristorante in Little Italy, Manhattan (2491 likes)**;
- The restaurant with **maximum Rating** is **Carmenta's in Bushwick, Brooklyn (9.5)**;
- The restaurant with **maximum Tips** is **Panini Grill in West Brighton, Staten Island (1136 tips)**;
- **Manhattan** has **the highest average rating** and **Staten Island** has **the lowest**;
- **Overall average rating**, excluding Staten Island, is fluctuating **from 7 to 8**;
- **The highest average rating** of Italian restaurants is in **Bushwick, Brooklyn** which is **9.5**.

Personally, I would state that **Manhattan** is **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 can consider **Rubirosa Ristorante, Carmenta's and Panini Grill** as **the most suitable places to try Italian cuisine**. All the above research is highly depended on the adequacy and accuracy of Foursquare Database, therefore, a more comprehensive analysis and future work would need to incorporate data from other external databases.