

IBM Applied Data Science Coursera Capstone

Battle of Neighborhood:

Opening a Filipino Restaurant in New York City

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Introduction

An entrepreneur is interested in opening a new Filipino restaurant in the most ethnically diverse city in the United States, New York City. He/She has reached out for help to identify the best borough and neighborhood with high interest in Filipino cuisine. It would also be beneficial to learn about the potential competitors and see where most New Yorkers go to satisfy their Filipino food cravings. The main objective of the project is to learn more about the characteristics of the different boroughs and neighborhoods of New York city, and to figure out the best neighborhood to open a Filipino restaurant that can provide the best chance for success.

Problem Statements

This project explores the competitive landscape of New York City. For best chance of success, the entrepreneur must have the answers to the following questions based on available data.

1. What location(s) in New York City best serve Filipino cuisines?
2. Where do most New Yorkers go to have the best Filipino food in the city?
3. In what borough and neighborhood should the entrepreneur open his/her Filipino restaurant for best chance of success?

Target Audience

This report is useful for potential new business owners looking to open a Filipino restaurant in New York City. New York is one of the most diverse cities in the world in culture, especially in the food category. Filipino food is a unique experience that many New Yorkers would appreciate.

Data Sources

New York City has a total of 5 boroughs and 306 neighborhoods. To address the problem statements, data on New York City boroughs and neighborhoods with boundaries, latitude, longitude, restaurants, and restaurant ratings and tips are required.

To address the problem statements, data will be collected from the following sources:

- NYC geographic information from a dataset in the NYC.gov website:
https://services5.arcgis.com/GfwWNkhOj9bNBqoJ/arcgis/rest/services/Places/FeatureServer/0/query?where=1=1&outFields=*&outSR=4326&f=pgeojson
- Data on existing Filipino restaurant locations, reviews, and quality will be obtained via Foursquare

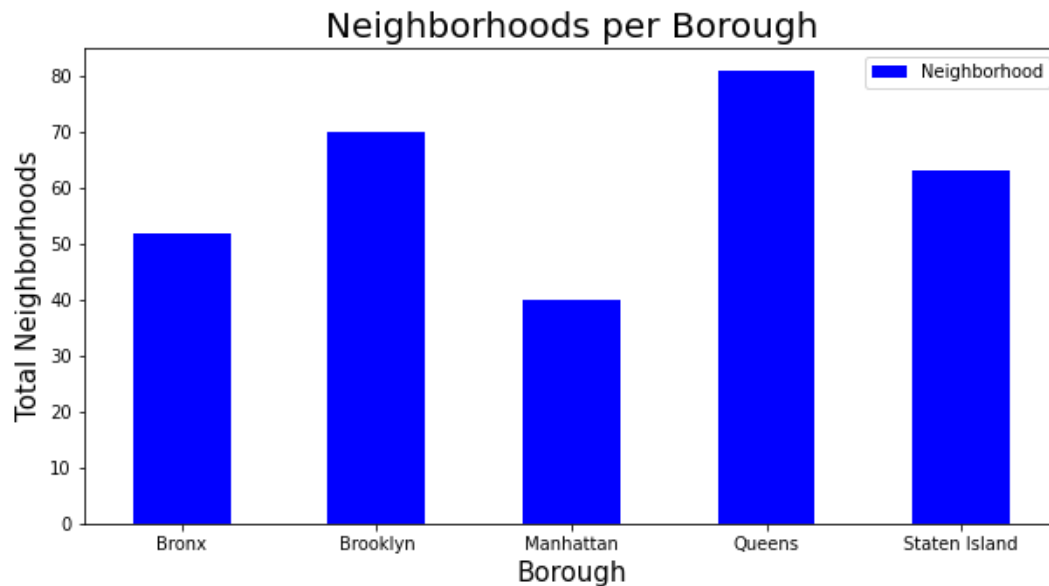
Methodology

Various data science skills will be utilized such as webscraping an open source dataset, Foursquare API, data wrangling, cleaning, and map visualization with Folium.

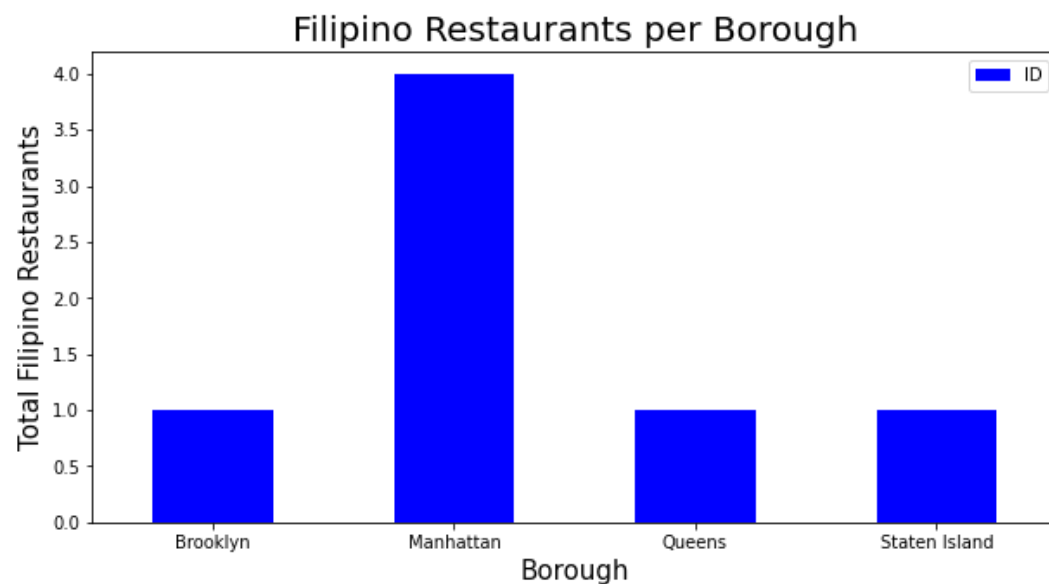
- New York City geographic data will be collected from
https://services5.arcgis.com/GfwWNkhOj9bNBqoJ/arcgis/rest/services/Places/FeatureServer/0/query?where=1=1&outFields=*&outSR=4326&f=pgeojson on the NYC.gov website.
- FourSquare API will be used to locate all Filipino restaurants with ratings, tips, and likes by users.
- All necessary data will be cleaned, sorted, and processed into a dataframe.
- The information will be visually mapped using graphing from Python libraries.

Results And Analysis (Total Neighborhoods and Filipino Restaurants)

1. Queens has the highest number of neighborhoods in NYC with 80 neighborhoods in total. According to the 2019 Census, Queens has over 2.2 million residents and holds the highest concentration of Filipinos (2.2%) in NY.

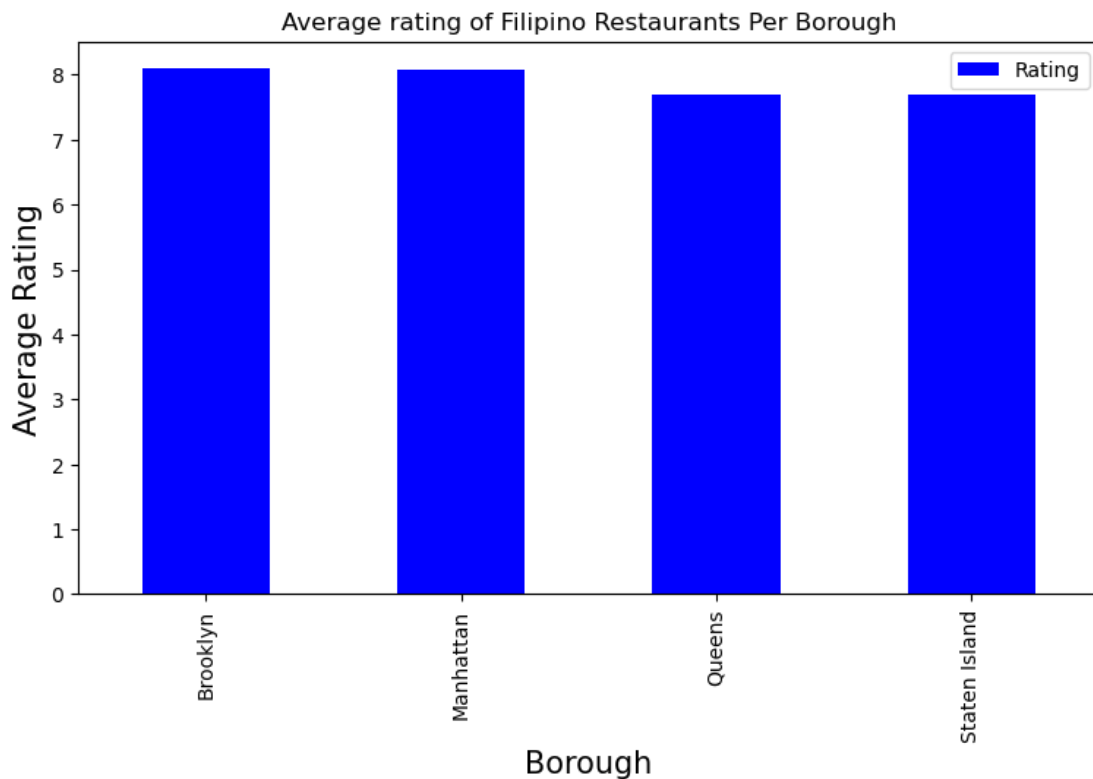


2. There are only 7 Filipino Restaurants in New York City, majority of which are in Manhattan despite having the least number of neighborhoods. The only borough that doesn't have a Filipino restaurant is the Bronx.



Results And Analysis (NYC Filipino Restaurants Ratings)

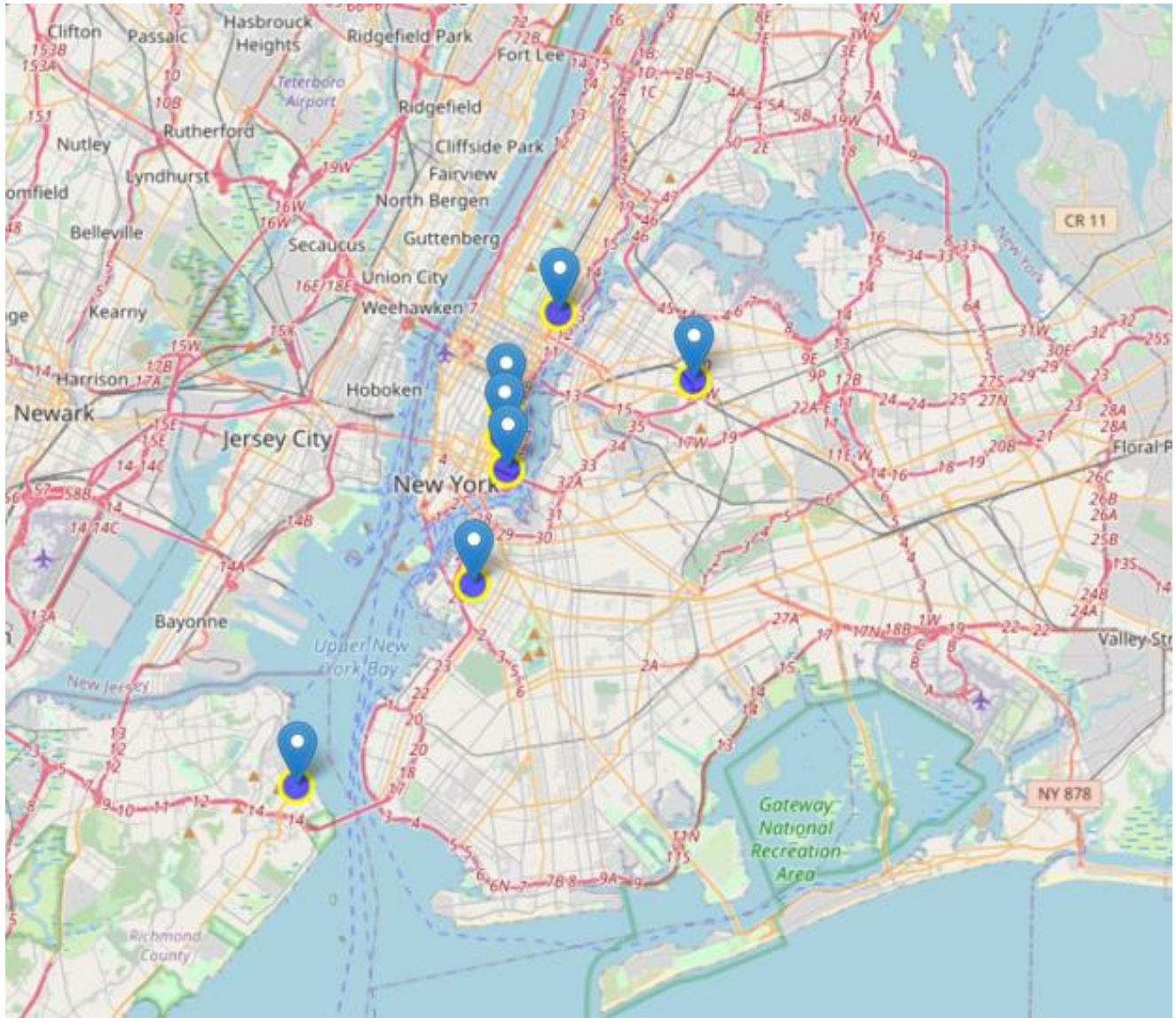
- Brooklyn and Manhattan are tied for the highest average rating for Filipino Restaurants. Meanwhile, Queens and Staten Island have the lowest avg rating.



- Pig and Khao in Manhattan has the highest average rating with the most likes and tips provided among Foursquare users.

	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Brooklyn	Carroll Gardens	591e55677247502fb9514269	Fob Restaurant	63	8.1	29
1	Manhattan	Lenox Hill	5f37249eae562379c5455e26	Bilao	6	7.5	1
2	Manhattan	East Village	5a73b1f49ef8ef531a1c08df	Mama Fina's	46	8.2	14
3	Manhattan	Lower East Side	50588bc6526260483ab2860e	Pig and Khao	1082	9.1	300
4	Manhattan	Gramercy	4acb6fbcf964a520bec320e3	Grill 21	103	7.5	83
5	Queens	Woodside	53040a6e498ef035406f9cbf	House of Inasal	48	7.7	13
6	Staten Island	Rosebank	54c43136498ee8c2a685861e	Phil-Am Kusina	17	7.7	10

New York City Map Visualization



Discussion And Recommendations

What location(s) in New York City best serve Filipino cuisines?

Based on the above information, Manhattan and Brooklyn are the best locations for Filipino cuisine in NYC. Manhattan and Brooklyn have the best rated Filipino restaurants on average. Meanwhile, Staten Island and Queens have the lowest rated Filipino restaurants. Manhattan has variety with a total of 4 Filipino restaurants which leads to more competition. Although Brooklyn only has one restaurant, Fob Restaurant, it is one of the highest rated Filipino restaurant according to the FourSquare data.

Where do most New Yorkers go to have the best Filipino food in the city?

It seems that majority of New Yorkers go to Pig and Khao in Manhattan for the best Filipino food. Pig and Khao received over 1,000 likes, 300 tips, and an average rating of 9.1 / 10.

In what Borough and Neighborhood should the entrepreneur open his/her Filipino restaurant for best chance of success?

It would be best to open a Filipino restaurant in Queens. The entrepreneur must consider the amount of competition in Manhattan and the high level of competition in Brooklyn with average ratings exceeding 8.0 out of 10.0. Given the lack of quality in Queens for Filipino food and having the largest concentration of Filipinos, it would be easier to garner success there where enthusiasts would benefit.

Conclusion

This project identified the business problem, specified the required data for analysis, extracted and prepared the dataset, performed the analysis and provided recommendations for any potential entrepreneurs interested in opening a Filipino restaurant in New York city.

Data science skills learned from the IBM Datascience course were utilized such as webscraping an open source dataset, Foursquare API, data wrangling, cleaning, and map visualization with Folium. These data science techniques were utilized to identify the best borough for opening a new Filipino restaurant.

The findings will help better understand the competitive landscape of New York city and the advantages/disadvantages of different NYC boroughs for opening a Filipino restaurant.