

# Coursera Capstone Project — The Battle of Neighborhoods

As part of the final project, also interested in Indian cousins, I have chosen to explore Indian restaurants in a location – this time the city of New York.

## Introduction

New York City's demographics show that it is a large and ethnically diverse metropolis. It is the largest city in the United States with a long history of international immigration. New York City was home to nearly 8.5 million people in 2014, accounting for over 40% of the population of New York State and a slightly lower percentage of the New York metropolitan area, home to approximately 23.6 million. Over the last decade the city has been growing faster than the region. The New York region continues to be by far the leading metropolitan gateway for legal immigrants admitted into the United States.

Throughout its history, New York City has been a major point of entry for immigrants; the term “melting pot” was coined to describe densely populated immigrant neighborhoods on the Lower East Side. As many as 800 languages are spoken in New York, making it the most linguistically diverse city in the world. English remains the most widely spoken language, although there are areas in the outer boroughs in which up to 25% of people speak English as an alternate language, and/or have limited or no English language fluency. English is least spoken in neighborhoods such as Flushing, Sunset Park, and Corona.

With its diverse culture, comes diverse food items. There are many restaurants in New York City, each belonging to different categories like Chinese, Indian, French etc. Interested to know how far consumers are willing to travel to satisfy their cravings. We call this people's *willingness to travel*. Understanding the complex interaction between someone's preference for pizza and the distance he/she willing to travel to get it can help retailers develop a nuanced understanding of a local population's food preferences

So as part of this project, we will list and visualize all major parts of New York City that has great Indian restaurants.

## Data

For this project we need the following data:

**New York City data that contains list Boroughs, Neighborhoods along with their latitude and longitude.**

Data source: [https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)

Description: This data set contains the required information. And we will use this data set to explore various neighborhoods of New York city.

## **Indian restaurants in each neighborhood of New York city.**

Data source: Foursquare API

Description: By using this api we will get all the venues in each neighborhood. We can filter these venues to get only Indian restaurants.

## **GeoSpace data**

Data source: <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>

Description: By using this geo space data we will get the New York Borough boundaries that will help us visualize choropleth map.

## **Approach**

- Collect the New York city data from [https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)
- Using FourSquare API, we will find all venues for each neighborhood.
- Filter out all venues that are Indian Restaurants.
- Find rating, tips and like count for each Indian Restaurants using FourSquare API.
- Using rating for each restaurant, we will sort that data.
- Visualize the Ranking of neighborhoods using folium library(python)

## **Questions that can be asked using the above-mentioned datasets**

- Where should a new restaurant be in and around New York City?
- What type of restaurant would be best in a given location?
- How will competition down the block or across town impact market share?
- What is best location in New York City for Indian Cuisine?
- Which areas have potential Indian Restaurant Market?
- Which all areas lack Indian Restaurants?
- Which is the best place to stay if I prefer Indian Cuisine?

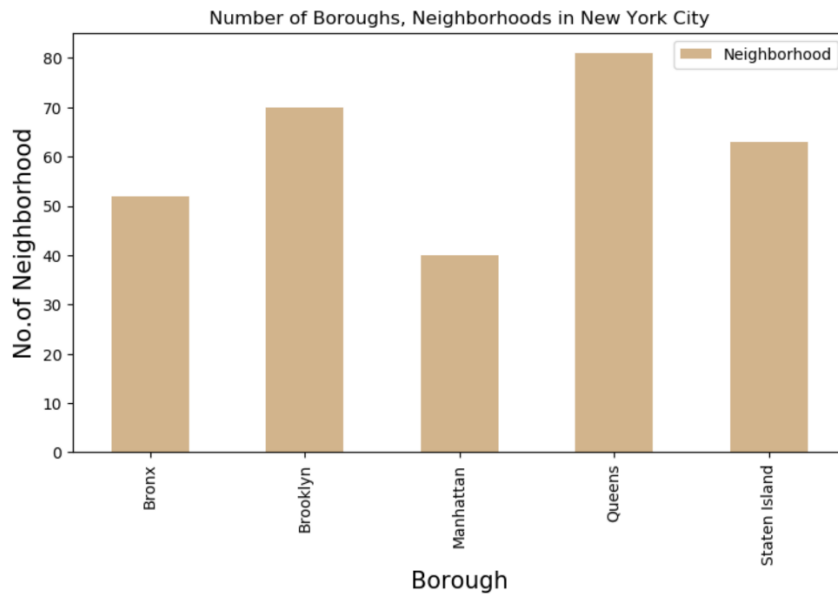
## **Analysis**

So, I did the analysis and got exciting results. To see full code:

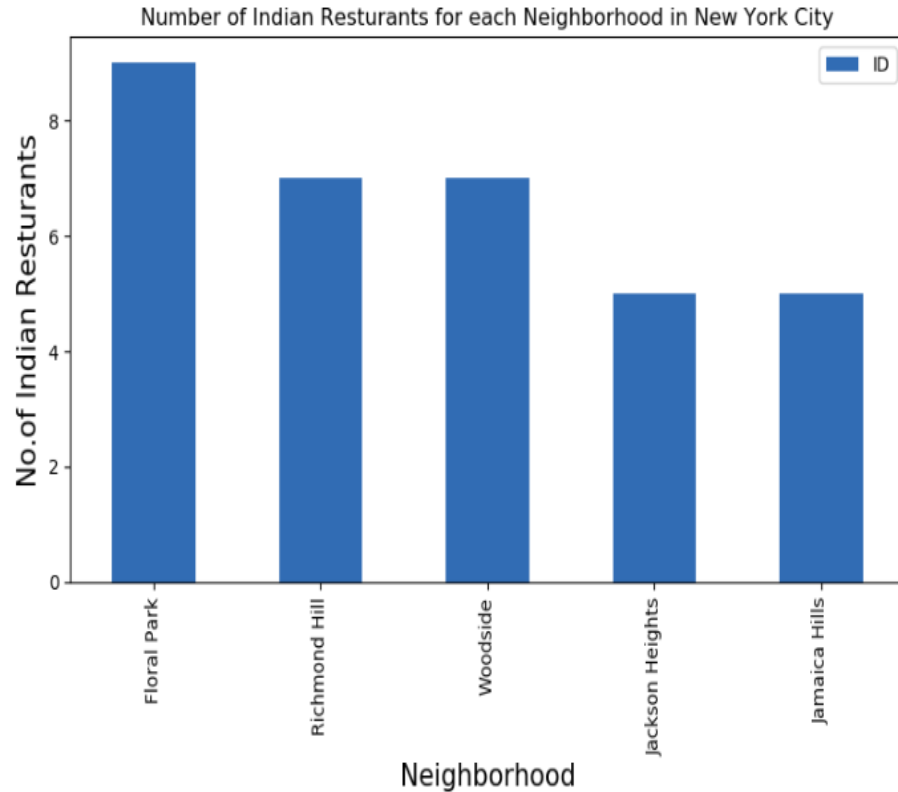
[https://github.com/hkumarg/Coursera\\_Capstone/blob/master/The\\_Battle\\_of\\_Neighborhoods.ipynb](https://github.com/hkumarg/Coursera_Capstone/blob/master/The_Battle_of_Neighborhoods.ipynb)

# Results

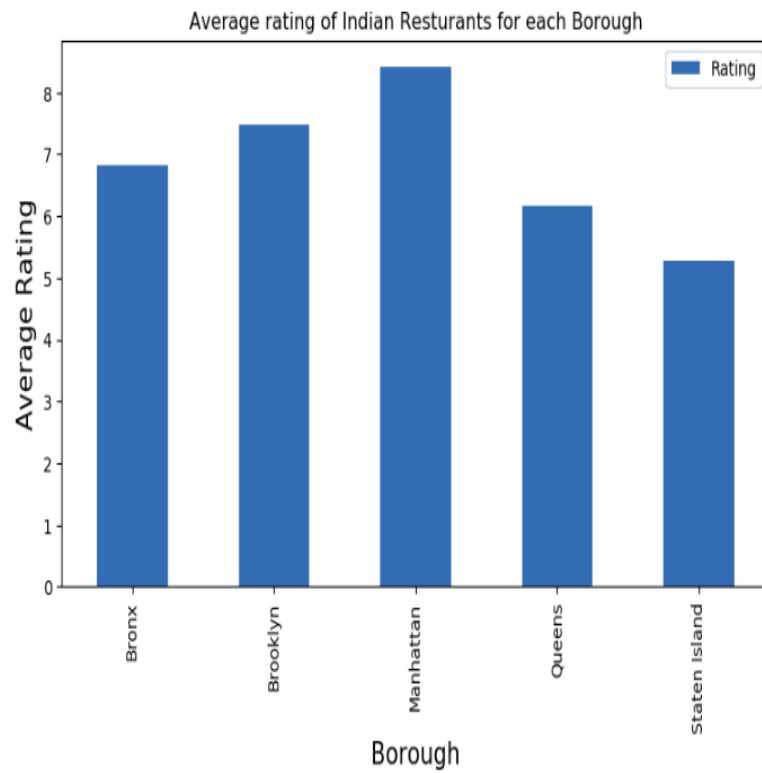
1. We see that Queens has the highest number of Neighborhoods and highest number of Indian Restaurants.



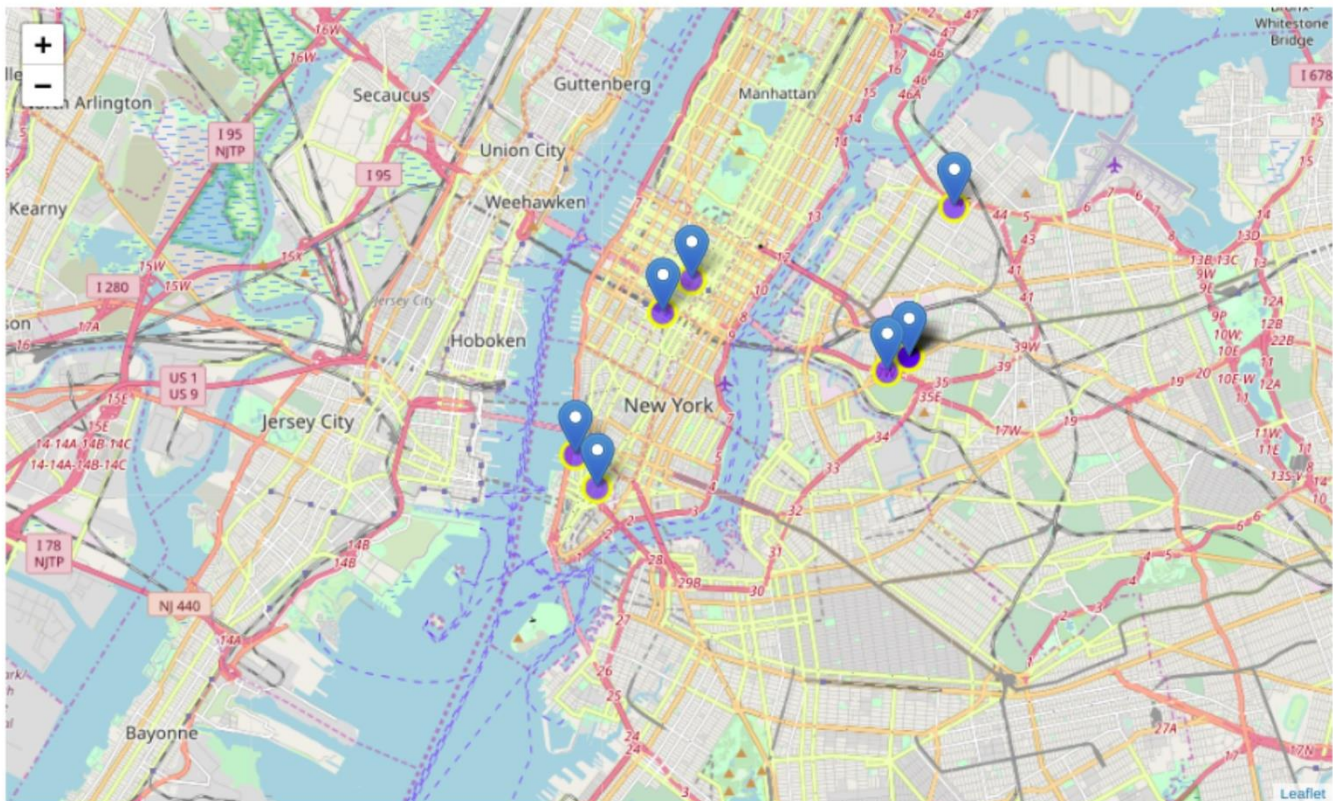
2. Floral Park in Queens has the highest number of Indian Restaurants with a total count of 9.



3. Manhattan has the highest average rating for Indian Restaurants.

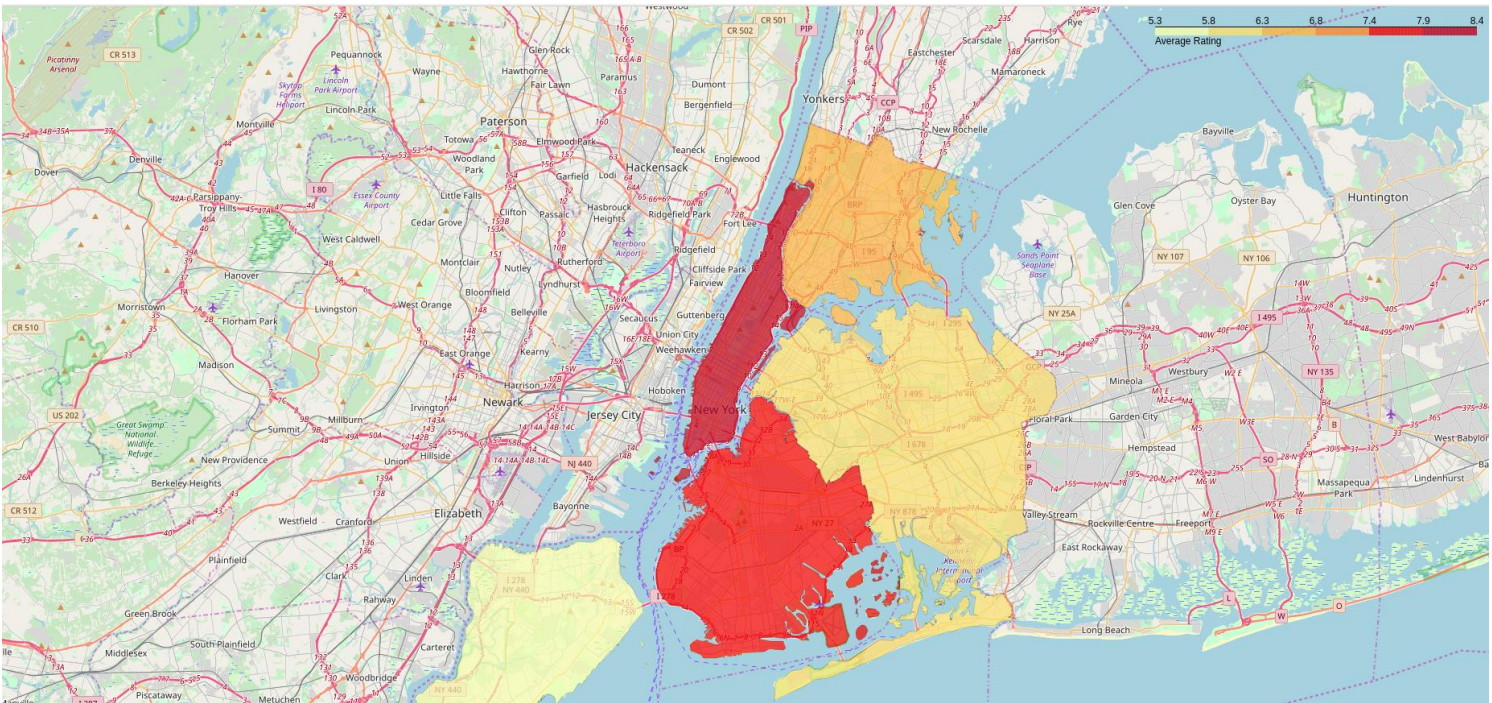


4. Best neighborhoods in New York that has highest average rating for Indian Restaurants.





## 5. Borough Choropleth map based on average rating of Indian Restaurants.



## Conclusion

- Astoria (Queens), Bliss Ville (Queens), Civic Center (Manhattan) are some of the best neighborhoods for Indian cuisine.
- Investors looking for a place for opening restaurant business with Indian Cuisine, Manhattan has the potential for Indian Restaurant Market.
- Staten Island ranks last in average rating of Indian Restaurants.
- If you prefer Indian Cuisine, Manhattan is the place to be in
- The location details and ratings are UpToDate as per the norms provided by FourSquare places API

## Limitations

- The ranking is purely on basis of rating of restaurants provided by API
- The accuracy of data depends purely depends on the data provided by FourSquare API
- The Quota exceeded error popped out many times during the evaluation and testing of the Notebook App.