Coursera Capstone Project

THE BATTLE OF THE NEIGHBOURHOODS

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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 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.

▶ 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.

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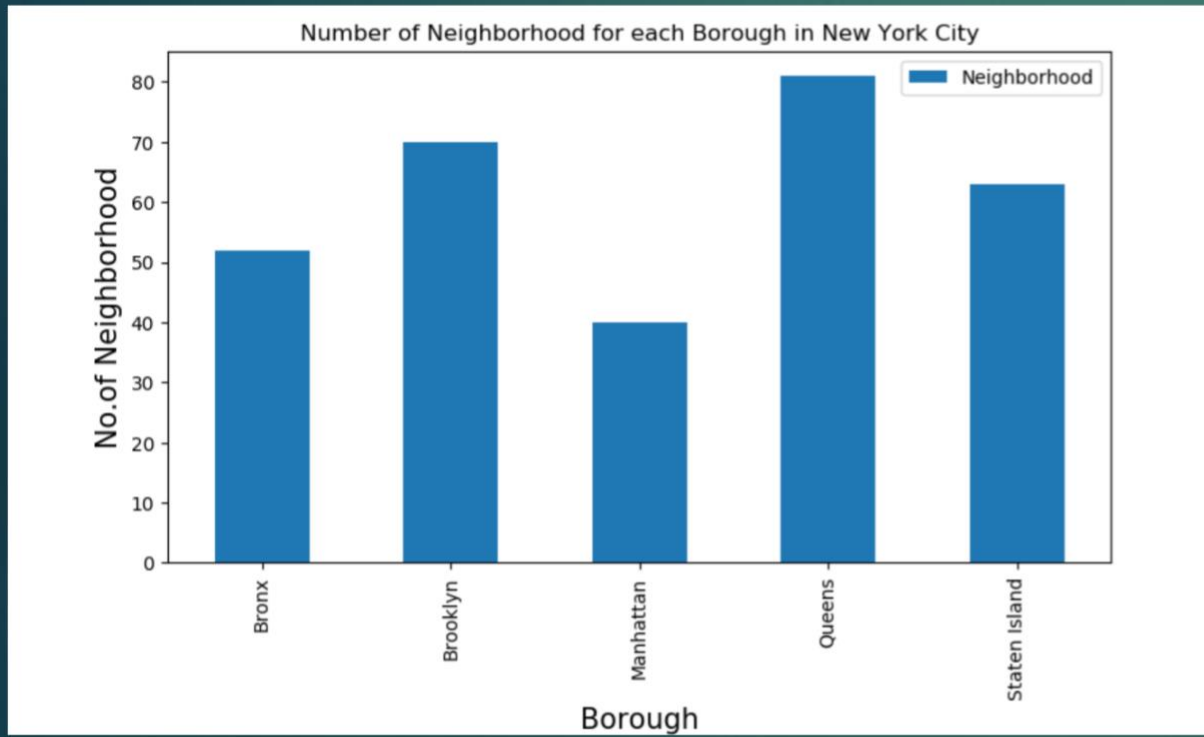
Data Acquisition

- For this project we need the following data:
- New York City data that contains list Boroughs, Neighbourhoods along with their latitude and longitude.
  - Data source: https://cocl.us/new_york_dataset
  - Description: This data set contains the required information. And we will use this data set to explore various neighbourhoods of New York city.
- Indian restaurants in each neighbourhood of new york city.
  - Data source: Foursquare API
  - Description: By using this api we will get all the venues in each neighbourhood. We can filter these venues to get only Indian restaurants.
- Geo Space 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.

Data Cleaning

- Now we define a function to get the geocodes i.e latitude and longitude of a given location using geopy.

- We define a function to interact with Four Square API and get top 100 venues within a radius of 1000 metres for a given latitude and longitude. Below function will return us the venue id, venue name and category.

- Now we will define a function to get venue details like like count , rating , tip counts for a given venue id. This will be used for ranking.

- Now we define a function to get the New York city data such as Boroughs, Neighbourhoods along with their latitude and longitude.

Exploratory Data Analysis

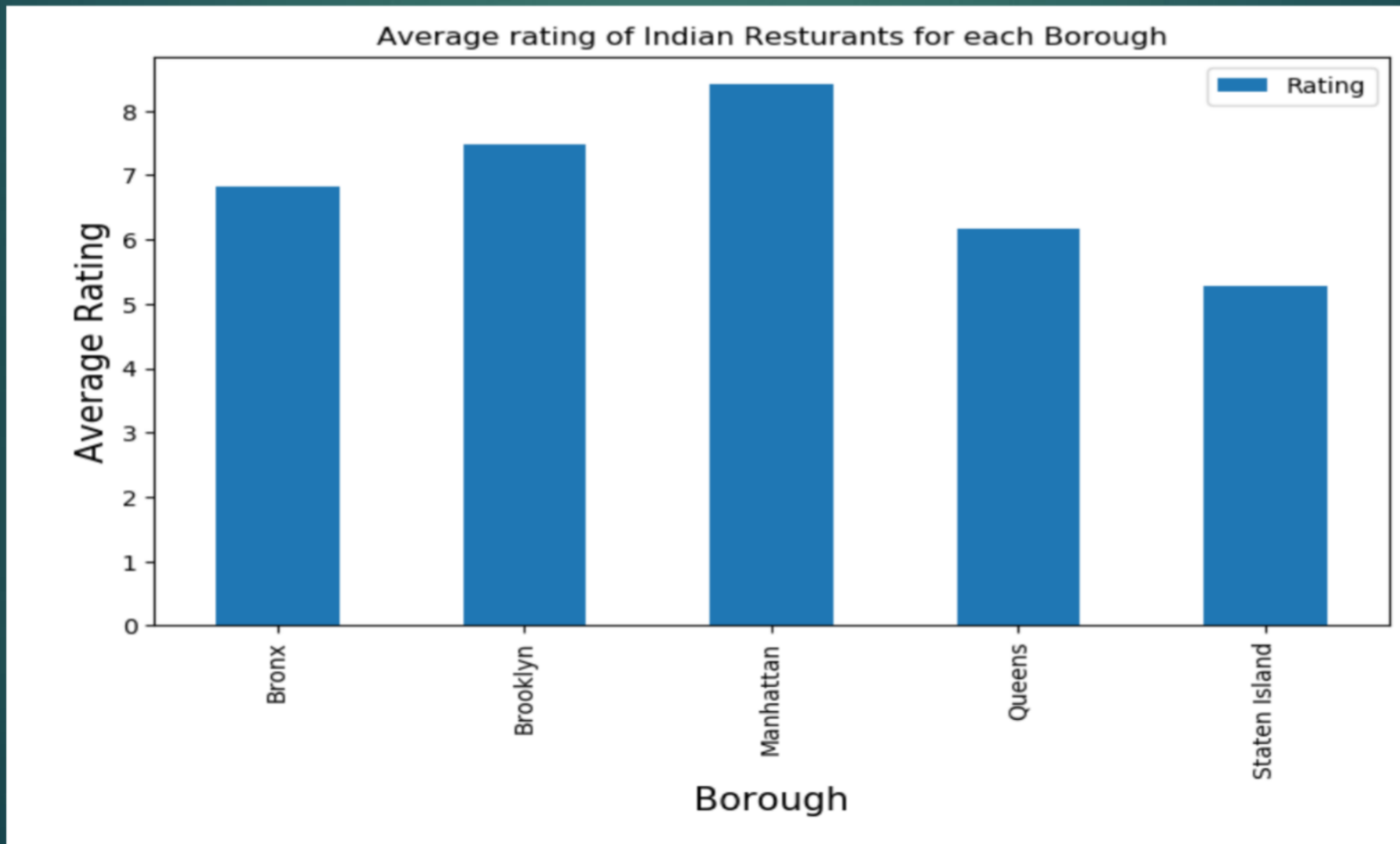So there are total of 306 different Neighbourhoods in New York

We see that Queens has highest number of neighbourhoods

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

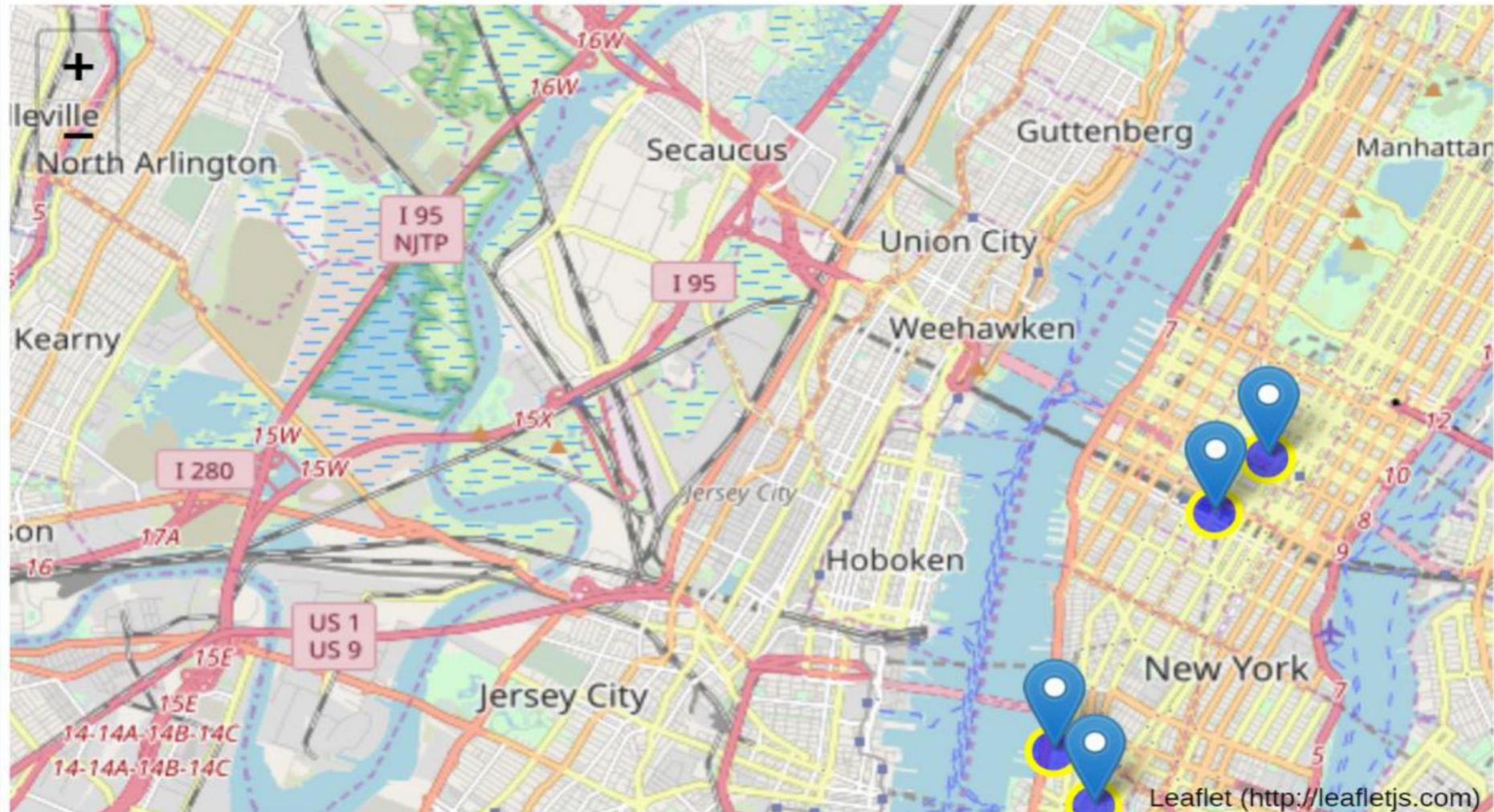# Average rating of Indian Restaurants for each Borough

Neighbourhoods with average rating greater or equal 9.0 to visualize on map

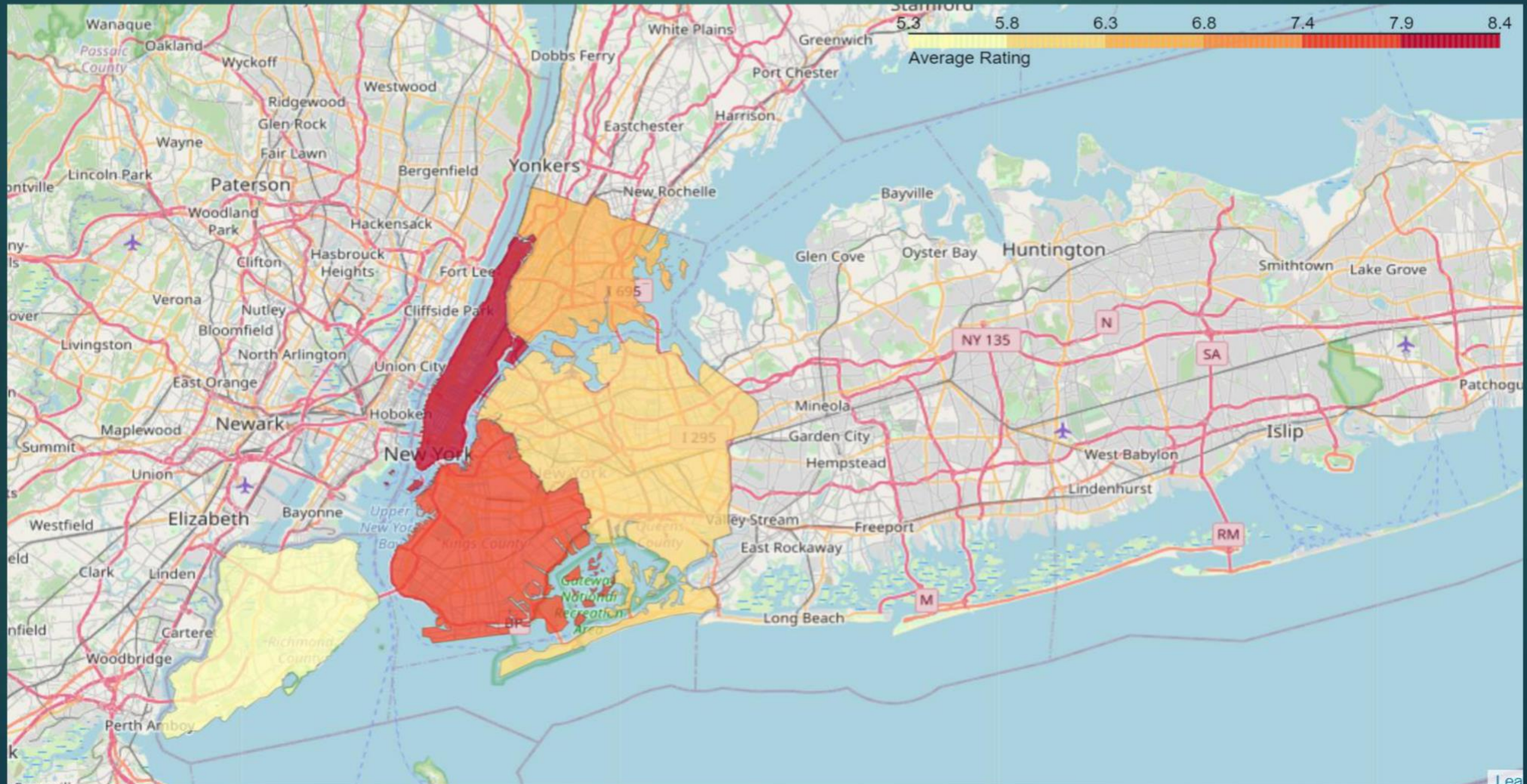|	Borough	Neighborhood	Latitude	Longitude	Average Rating
0	Queens	Astoria	40.768509	-73.915654	9.2
1	Queens	Blissville	40.737251	-73.932442	9.2
2	Manhattan	Civic Center	40.715229	-74.005415	9.2
3	Manhattan	Midtown	40.754691	-73.981669	9.0
4	Manhattan	Midtown South	40.748510	-73.988713	9.0
5	Queens	Sunnyside	40.740176	-73.926916	9.2
6	Staten Island	Sunnyside	40.612760	-74.097126	9.2
7	Queens	Sunnyside	40.740176	-73.926916	9.2
8	Staten Island	Sunnyside	40.612760	-74.097126	9.2
9	Queens	Sunnyside	40.740176	-73.926916	9.2
10	Staten Island	Sunnyside	40.612760	-74.097126	9.2
11	Queens	Sunnyside	40.740176	-73.926916	9.2
12	Staten Island	Sunnyside	40.612760	-74.097126	9.2
13	Manhattan	Tribeca	40.721522	-74.010683	9.2

Visualizing the Neighbourhoods

Visualizing Boroughs based on average Rating

Conclusion

- Astoria(Queens), Blissville(Queens), Civic Center(Manhattan) are some of the best neighbourhoods for Indian cuisine.

- Manhattan have potential Indian Restaurant Market/

- Staten Island ranks last in average rating of Indian Restaurants.

- Manhattan is the best place to stay if you prefer Indian Cuisine.

Limitations

▶ The ranking is purely on basis of rating of Restaurants

▶ The accuracy of data depends purely depends on the data provided by FourSquare

THANK YOU