

Capstone Project | Battle of the Neighborhoods

An Analysis on Indian Impact in New York

1. Introduction

New York is an incredibly diverse city. People come from all over the world for a plethora of reasons ranging from the fashion industry to the fast-paced life to almost anything you could think of. Calling New York a melting pot would be an understatement; one would be hard-pressed to find another city quite so ethnically diverse.

Some of the questions this project attempts to answer include:

- What is the best location in New York City for Indian cuisine?
- What areas have good potential for an Indian restaurant?
- Where should one absolutely avoid Indian cuisine?

2. Data

There's quite a bit of data required to produce an accurate representation.

1. A list of boroughs and neighborhoods in New York City, along with latitude and longitude. This will come from the cognitive class AI website.
2. A list of Indian restaurants in each neighborhood of New York City. Data for this will come from the Foursquare API.
3. GeoSpace data, for the purpose of getting the boundaries of the New York Borough. This data will come from the cityofnewyork website.

3. Methodology

Firstly, we collected New York City data and found all venues for each neighborhood using the Foursquare API.

```
In [6]: new_york_data=get_new_york_data()

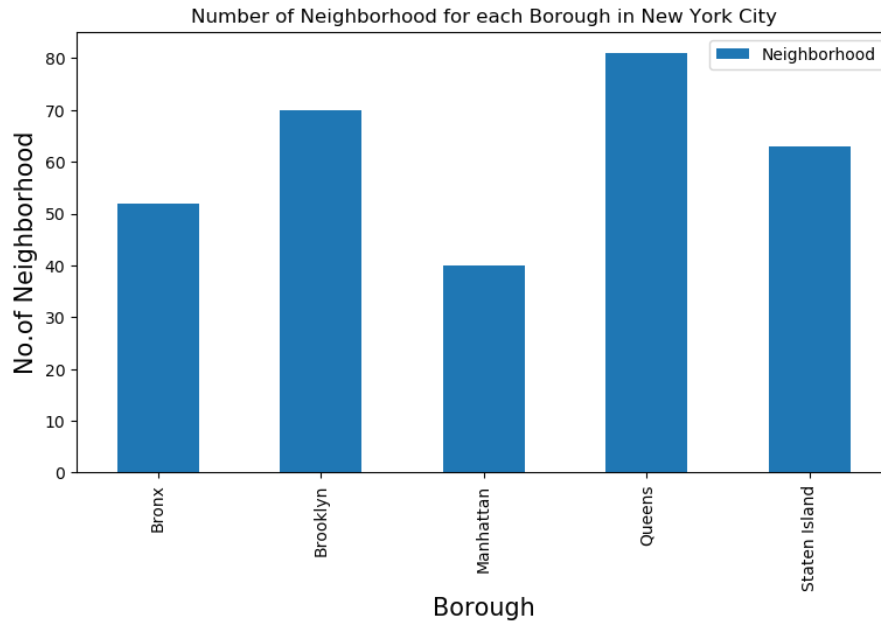
In [7]: new_york_data.head()

Out[7]:
```

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

```
In [8]: new_york_data.shape

Out[8]: (306, 4)
```



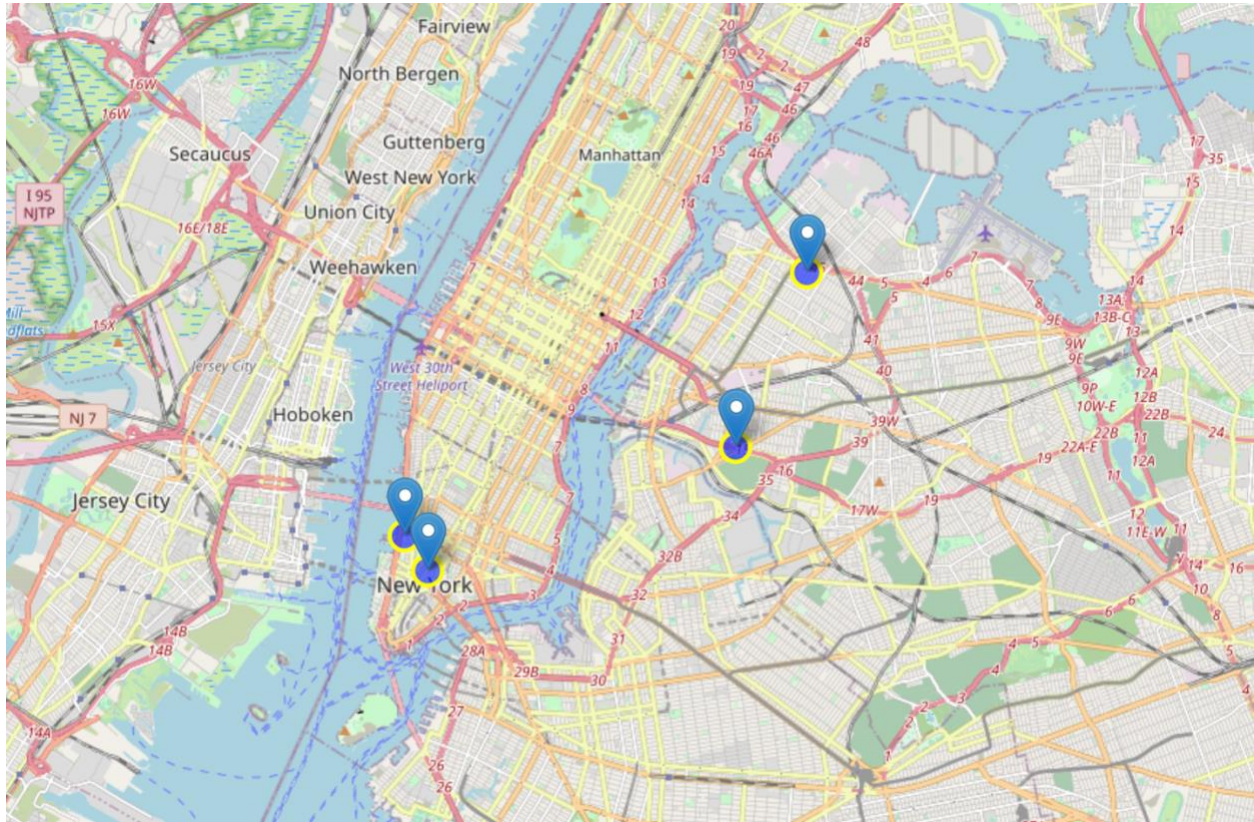
Then, we move to filter all venues with Indian restaurant(s).

```
( 1 / 306 ) Indian Resturants in Wakefield, Bronx:0
( 2 / 306 ) Indian Resturants in Co-op City, Bronx:0
( 3 / 306 ) Indian Resturants in Eastchester, Bronx:0
( 4 / 306 ) Indian Resturants in Fieldston, Bronx:0
( 5 / 306 ) Indian Resturants in Riverdale, Bronx:0
( 6 / 306 ) Indian Resturants in Kingsbridge, Bronx:0
( 7 / 306 ) Indian Resturants in Marble Hill, Manhattan:0
( 8 / 306 ) Indian Resturants in Woodlawn, Bronx:1
( 9 / 306 ) Indian Resturants in Norwood, Bronx:0
( 10 / 306 ) Indian Resturants in Williamsbridge, Bronx:0
( 11 / 306 ) Indian Resturants in Baychester, Bronx:0
( 12 / 306 ) Indian Resturants in Pelham Parkway, Bronx:0
( 13 / 306 ) Indian Resturants in City Island, Bronx:0
( 14 / 306 ) Indian Resturants in Bedford Park, Bronx:0
( 15 / 306 ) Indian Resturants in University Heights, Bronx:0
( 16 / 306 ) Indian Resturants in Morris Heights, Bronx:0
( 17 / 306 ) Indian Resturants in Fordham, Bronx:0
( 18 / 306 ) Indian Resturants in East Tremont, Bronx:0
( 19 / 306 ) Indian Resturants in West Farms, Bronx:0
```

Next, onto the Foursquare API where we will find ratings, tips, and likes for all the restaurants.

	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Bronx	Woodlawn	4c0448d9310fc9b6bf1dc761	Curry Spot	5	7.6	10
1	Bronx	Parkchester	4c194631838020a13e78e561	Melanies Roti Bar And Grill	3	5.8	2
2	Bronx	Spuyten Duyvil	4c04544df423a593ac83d116	Cumin Indian Cuisine	13	6.1	9
3	Bronx	Concourse	551b7f75498e86c00a0ed2e1	Hungry Bird	8	6.9	3
4	Bronx	Unionport	4c194631838020a13e78e561	Melanies Roti Bar And Grill	3	5.8	2

Now, using ratings to constrain the data, sort neighborhoods and borough. Limit the map visualization to neighborhoods only with an average rating greater than or equal to 9.0. Join the dataset and visualize using Folium.



4. Result

Finally, we can answer the questions proposed earlier.

- The best location for Indian food in New York City is Queens.
- Manhattan has potential for Indian restaurants.
- Avoid Staten Island's Indian cuisine!

5. Discussion

The recommendations I can make based on this data are well-outlined by the results. However, I do think that given more data it would be extraordinarily interesting now to see how this compares to that of perhaps Greek cuisine or Italian cuisine.

6. Conclusion

Thus concludes this report, as there is always room for improvement I do think with stronger data and more variables to test there could have been plenty more observations made. However, I asked a question and used data to answer it. That is a success in my book.