

The Battle of Neighborhoods | Understanding the Problem and all of its aspects .

1. Introduction

New York is a fantastic city to open your restaurant because a lot of people travel to it every day from around the world and from different cultures People love to try new things every day and get rid of their daily routine and because New York has a big diversity in people so that an Egyptian restaurant will be a very good option because it will provide them with the delicious Egyptian food.

2. Objective

Study and analyze N.Y neighborhoods to gather meaningful information for the aim of :

- Finding the neighborhood for the restaurant
- competition in that neighborhood
- Population in that neighborhood

Target Audience

- This information will be valuable for anyone who wants to open a restaurant in N.Y and wants to know the perfect place for that aim

3. Used Data

I will use this data to get the neighborhoods of the New York and their coordinates

Data Link: https://geo.nyu.edu/catalog/nyu_2451_3457

After that I will use foursquare api to get the venues of each neighborhood and their categories .

After that I will use them to make clusters which will clarify the difference between neighborhoods

And with a combination of some python libraries like : Pandas ,Numpy , Sk learn, Matplotlib,Request .

3.problem description

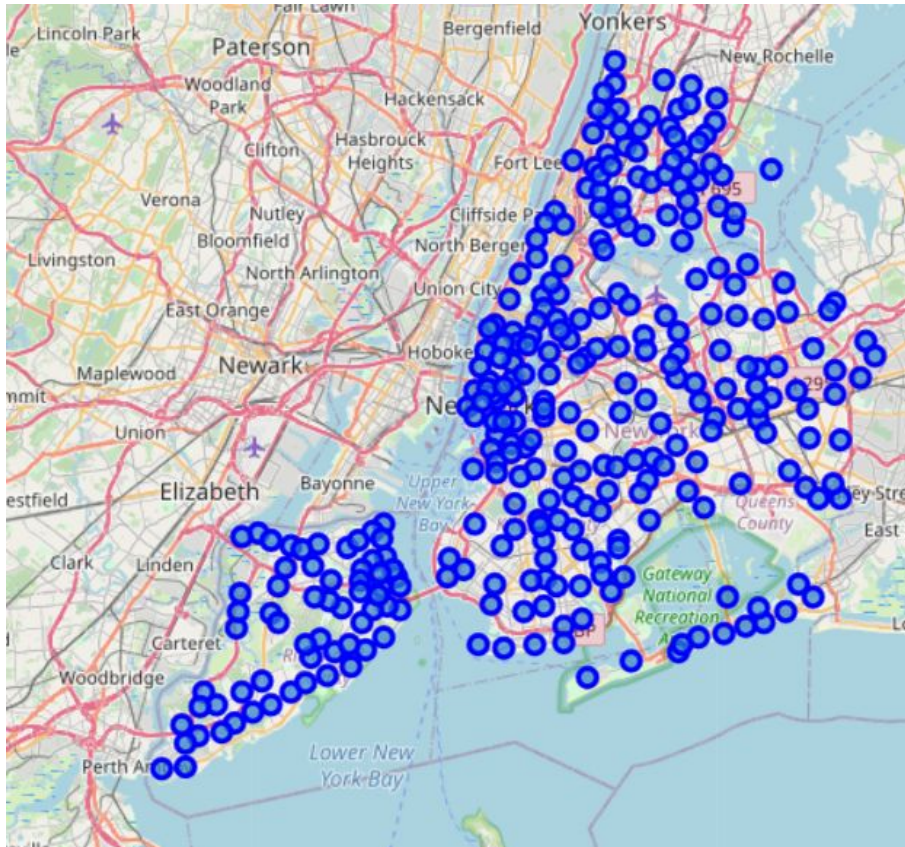
It would be very bad if someone who needed to open a restaurant didn't choose the correct place for his restaurant , it would cost him a lot of money , effort and resources.

4. Methodology

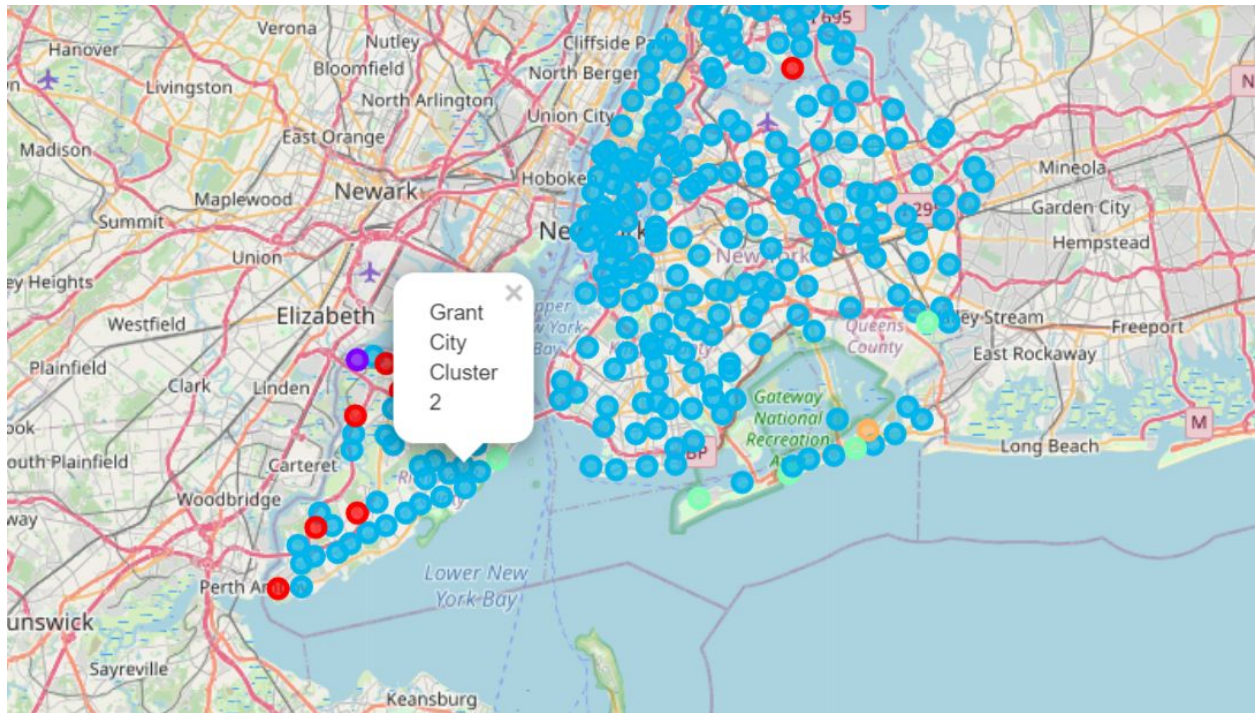
- 1) Creating a data frame using pandas with the names of neighborhoods and boroughs and their coordinates and here is the first 5 rows of this data frame

	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

- 2) then use the python **folium** library to visualize geographic details of N.Y and its boroughs. Using the coordinates .



- 3) Clustering the data to know the most popular neighborhoods according to the cluster score .



- 4) As we can see here the groups with similar properties are marked with the same color for instance all of the blue points are crowded areas with high population and high opportunity to make the restaurant successful .

5.Results

As we can see above after clustering the data and knowing which neighborhoods are good for us According to their popularity and population we can make a very good decision about the place of the restaurant .

6. Conclusions

In this study, I analyzed the neighborhoods and how they can affect the success of the restaurant which will open in the future by using maps and foursquare apis and a lot of other tools that will be very useful for any one who wants to open a new restaurant .