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

1. Background

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.problem description

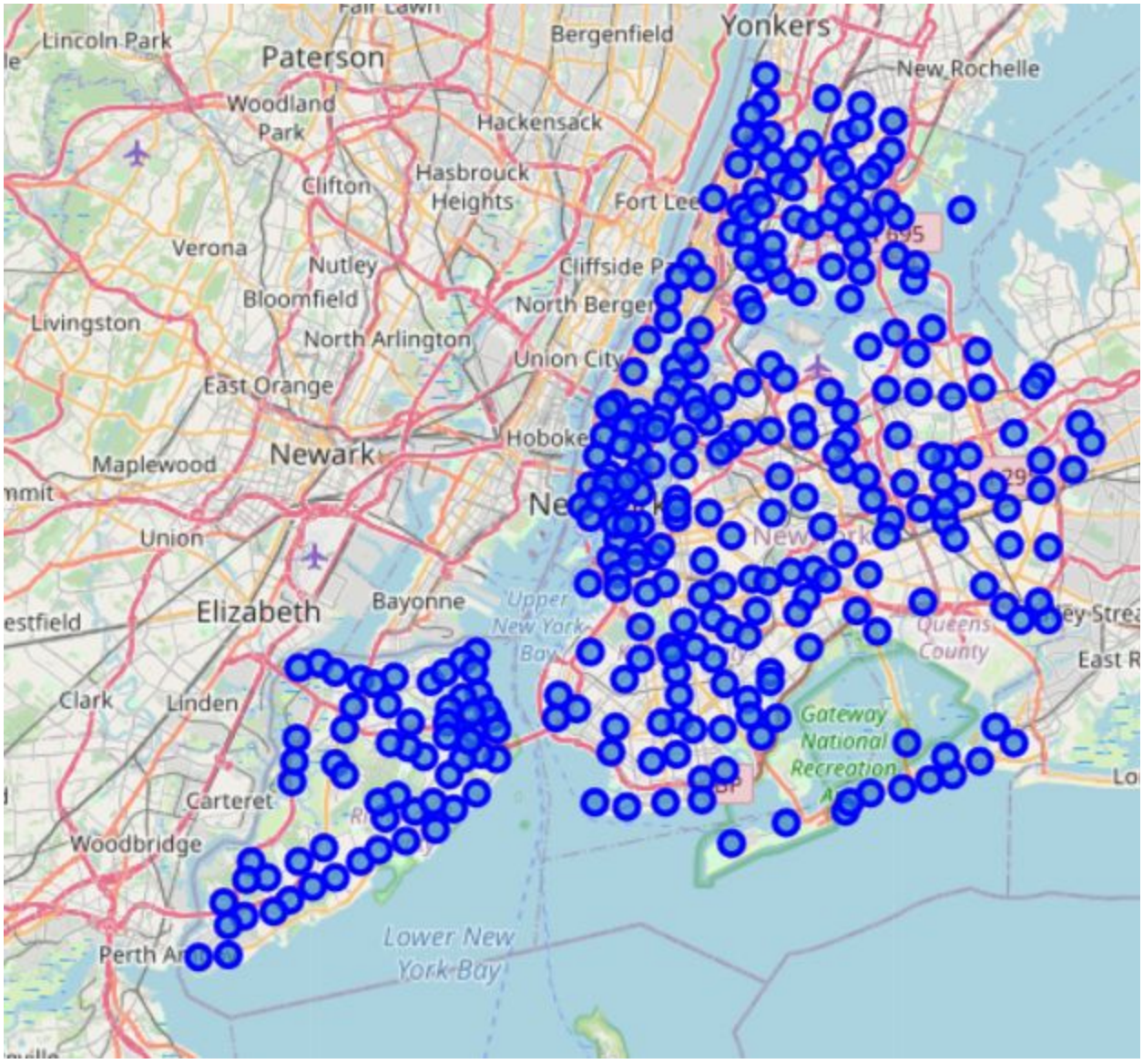
It would be very bad if someone who needed to open a restaurant didn't choose the correct place for his restaurant , it would cost him a lot of money , effort and resources.

4. Methodology

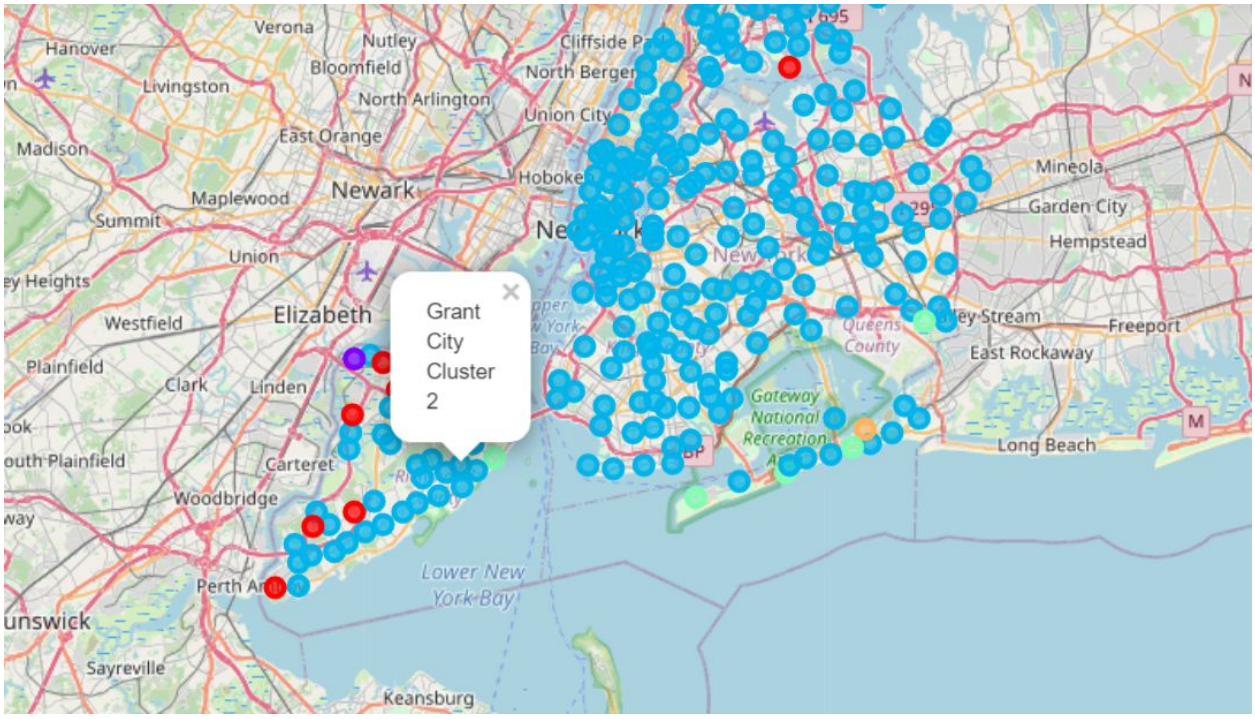
1) Creating a data frame using pandas with the names of neighborhoods and boroughs and their coordinates and here is the first 5 rows of this data frame

	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 the 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 succefful .