Restaurants in New York

Analysis and Implementation

New York City : Problem Background

Fully Crowded with several restaurants, venues and cuisines among several boroughs

Intercultural place, cuisines from all over the world.

Strong Competition in the business and restaurant market.

Aim and Target Audience

- Being able to analyze New York's neighborhoods and its venues in each borough
- Determine in which borough are more restaurants and venues than others
- Apply machine learning algorithms such as k-means clustering, so as to determine which place would be best to set up a restaurant
- This project would be suitable for anyone who wants to start their on business with a restaurant, or someone that wants to expand its actual business

Data

-**New York's Neighborhoods information:**

https://geo.nyu.edu/catalog/nyu-2451-34572

-**Farmer's Markets in New York:**
https://data.cityofnewyork.us/dataset/DOHMH-Farmers-Markets/8vwk-6iz2/data

-**New York City Information:**

https://en.wikipedia.org/wiki/New_York_City

https://en.wikipedia.org/wiki/Cuisine_of_New_York_City

-**Foursquare API: To gather venues information based on geographical coordinates.**

New York Geographical Coordinates Data

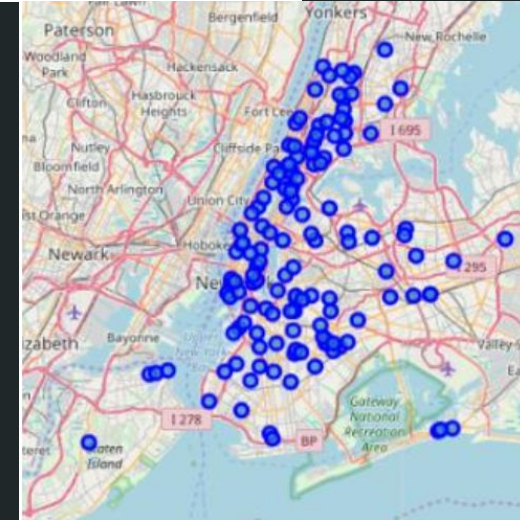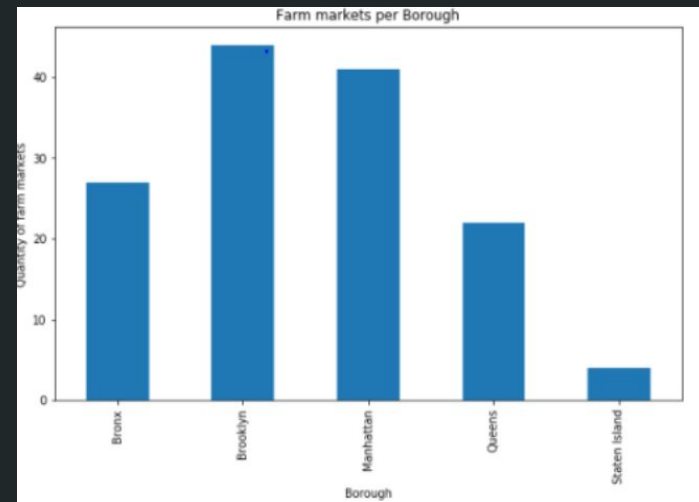5 Boroughs and 306 Neighborhoods

Two Clusters:
   -Manhattan and Brooklyn

   -Queens, Bronx and Staten Island

Map Generated with Folium and geopy

Farmer Markets

Quantity of Farmer Markets per Borough

Population and Demographics

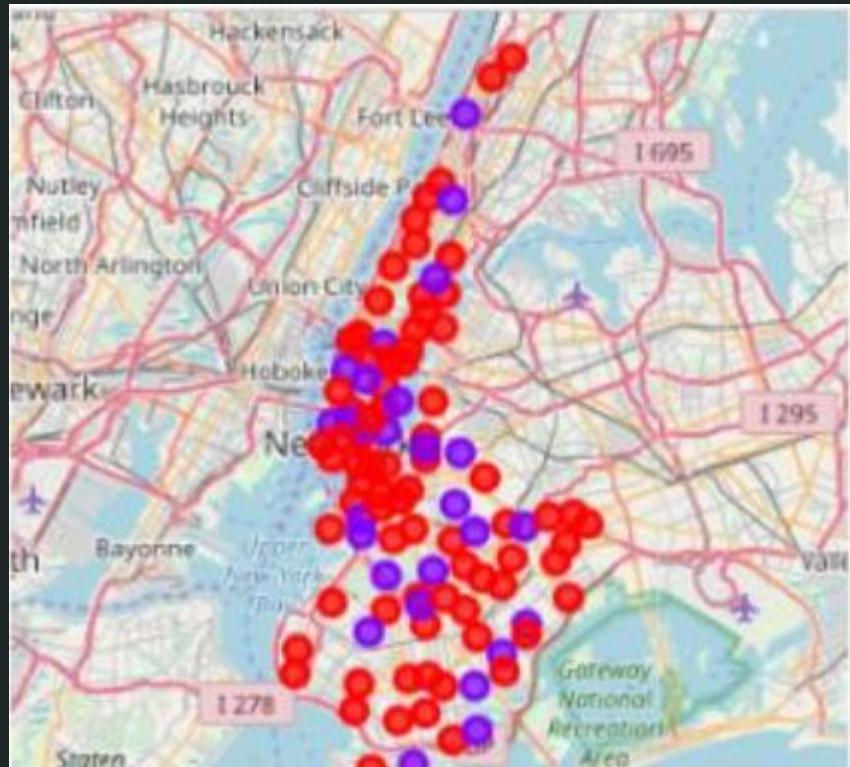|	Borough	County	Estimate_2017	billions	per capita	square_miles	suare_km	persons_sq_mi,	persons_km2
0	The Bronx	Bronx	1471160	42.695	29200	42.10	109.04	34653	13231
1	Brooklyn	Kings	2648771	91.559	34600	70.82	183.42	37137	14649
2	Manhattan	New York	1664727	600.244	360600	22.83	59.13	72033	27826
3	Queens	Queens	2358582	93.310	39600	108.53	281.09	21460	8354
4	Staten Island	Richmond	479458	14.514	30300	58.37	151.18	8112	3132
5	City of New York	City of New York	8622698	842.343	97700	302.64	783.83	28188	10947
6	State of New York	State of New York	19849399	1701.399	85700	47214	122284	416.4	159

New York's Cuisine Word Clouds

Clustering

Brooklyn and Manhattan

Cluster0(red): Greater Values. Market Saturated. Higher number of Restaurants

Cluster1(purple): Lower amount of values. Market is not saturated. Lower number of restaurants.

Clustering

Queens,Bronx and Staten Island

Cluster0(red): Greater Values. Market Saturated. Higher number of Restaurants

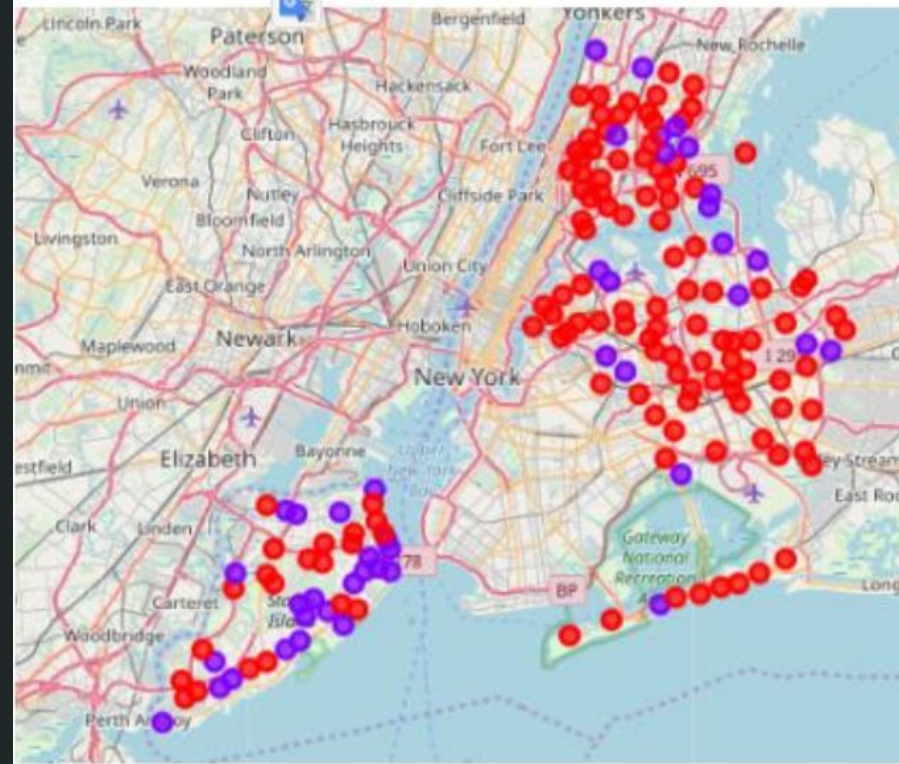Cluster1(purple): Lower amount of values. Market is not saturated. Lower number of restaurants.

Conclusions

- Possibility to increase Farmer markets in Bronx, Queens and Staten Island
- Explore and promove different kind of cuisines in this boroughs
- High quantity of restaurants and wide variety of cuisines in Brooklyn and Manhattan Great competition and rivalry in Brooklyn and Manhattan: implicates some risks, but it is still an option if planned well.
- High demand in Brooklyn and Manhattan. The remaining boroughs could set up more restaurants and venues.