

Capstone Project – Neighborhoods of New York – Queens

AGENDA

- **Background and Business Problem**
- **Data Acquisition**
- **Methodology**
- **Result**
- **Discussion & Conclusion**

Background & Business Problem

New York is one of the world most famous places to live and work. This attracts lot of people to move to the city. The increasing population attracts more options for new entrepreneurs to open business and provide services to the customers. The project elaborates on Data Science attempts to analyze the Queens neighborhood in the city and tries to understand the popular sites in the area.

The deciding factor for most would be how trending the venues are and what kinds of venues are available currently in the selected area. The business problem assumes that the target audiences for the project are the entrepreneur's who will like to review potential for opening a new business in the City of New York or its neighborhood.

Background

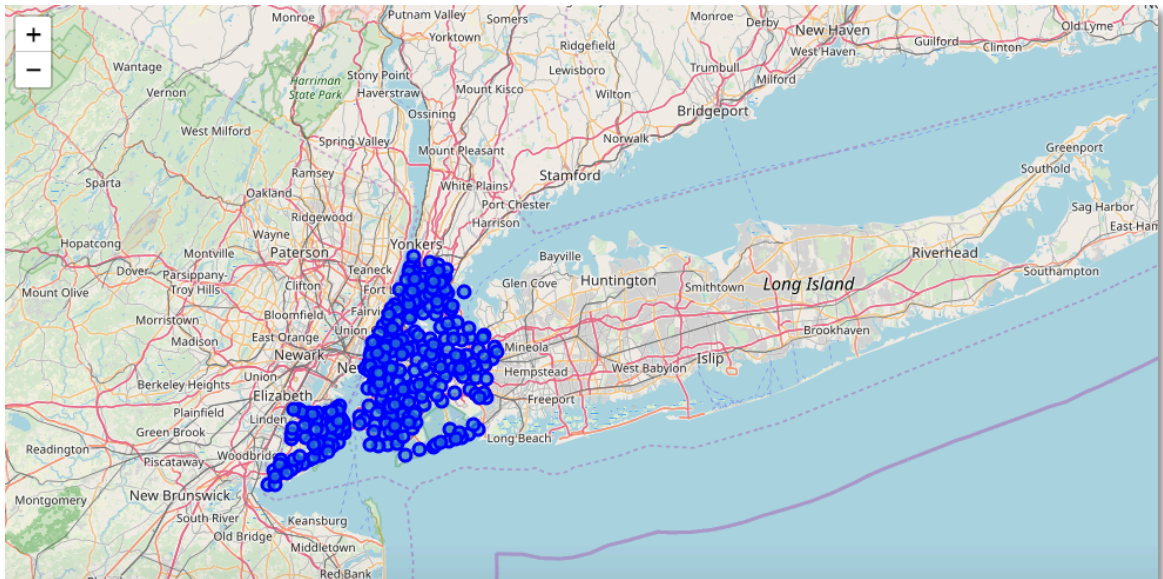
Analyze the data and cluster the data for the neighborhoods to draw a conclusion. The stakeholder will like to know which kinds of restaurant are currently available in the neighborhood. This information will help them on deciding on the new venture.

Data Acquisition

- We will require data for New York and its neighborhoods. The data was published by NYU and is available on the web.
- The data is available in JSON file. It will be read in to pandas Data frame and curate to required format.
- We shall then get Geographical information for the city and its neighborhoods.
- We will utilize Foursquare API to get the venues for the Neighborhood in Queens for which analysis is required.

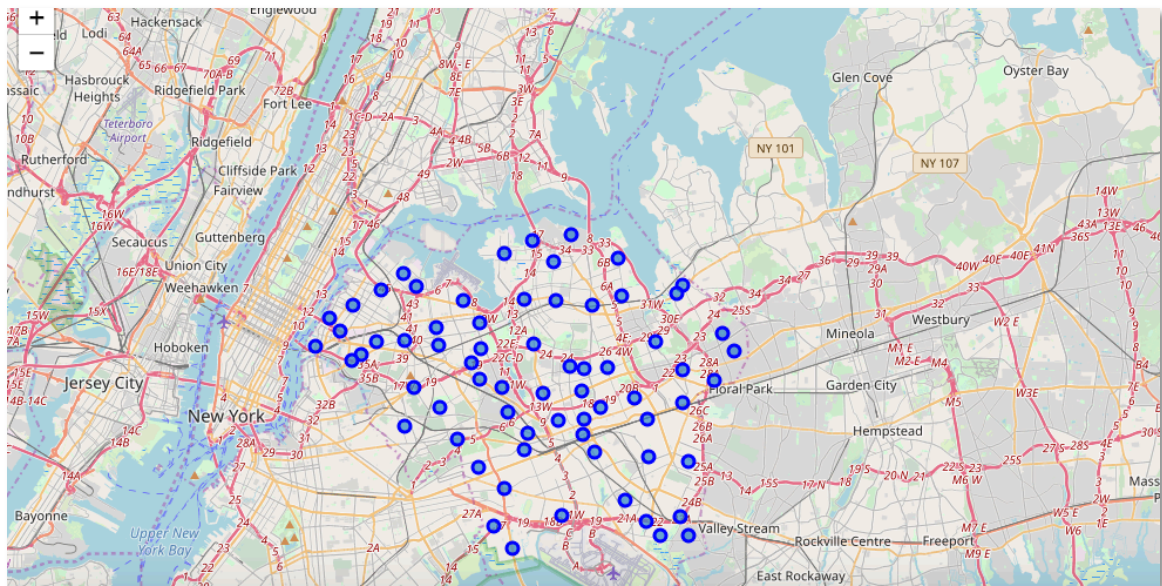
Methodology

- First New York data was imported and arranged in Data Frames. The data was further used to get Geographical latitude and longitude for New York and neighborhoods were plotted on the map.



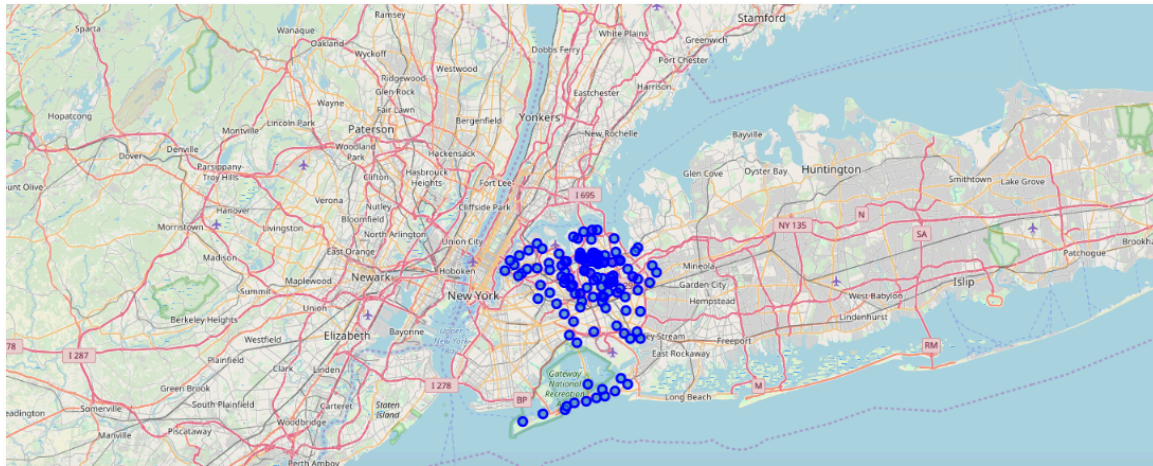
- We had then used the data to get Latitude and longitude for Queens and its neighborhoods as show in the map below.

	Borough	Neighborhood	Latitude	Longitude
0	Queens	Astoria	40.768509	-73.915654
1	Queens	Woodside	40.746349	-73.901842
2	Queens	Jackson Heights	40.751981	-73.882821
3	Queens	Elmhurst	40.744049	-73.881656
4	Queens	Howard Beach	40.654225	-73.838138



- We then utilized Foursquare API to get venues details for the selected neighborhood Woodside in Queens for kind of restaurants and plot them on the map.

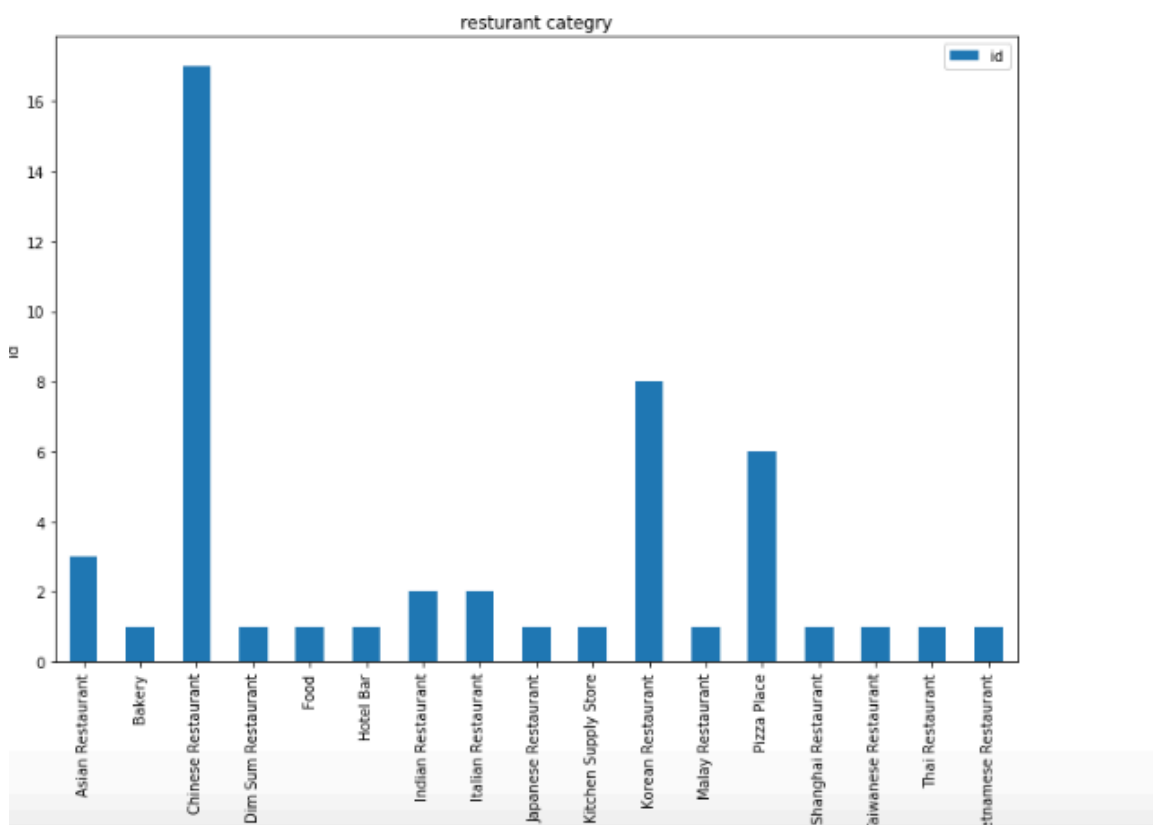
	name	categories	address	cc	city	country	crossStreet	distance	formattedAddress	labeledLatLngs	lat	lng	neighborhood	postalCode	state	id
0	Lake Pavilion Restaurant	Chinese Restaurant	60-15 Main St	US	Flushing	United States	at Horace Harding Expressway	2440	[60-15 Main St (at Horace Harding Expressway),...	[{"label": "display", "lat": 40.74262163933804...	40.742622	-73.824970	NaN	11355	NY	4f844c8fe4b0059705cb042c
1	East Manor Buffet & Restaurant	Chinese Restaurant	4207 Main St	US	Flushing	United States	at Maple Ave.	2525	[4207 Main St (at Maple Ave.), Flushing, NY 11...	[{"label": "display", "lat": 40.75611206171459...	40.756112	-73.826404	NaN	11355	NY	4a1175a1f964a52018771fe3
2	Punjabi Indian & American Restaurant	Indian Restaurant	160-20 46th Ave	US	Flushing	United States	160st and 46th ave	833	[160-20 46th Ave (160st and 46th ave), Flushin...	[{"label": "display", "lat": 40.75391568666028...	40.753916	-73.805918	NaN	11358	NY	4c60797a90b2c9b649e03c22
3	Asian Jewels Seafood Restaurant 傲城海鮮酒家	Chinese Restaurant	133-30 39th Ave	US	Flushing	United States	btw College Point Blvd & Janet Pl	3180	[133-30 39th Ave (btw College Point Blvd & Jan...	[{"label": "display", "lat": 40.7592096017922...	40.759210	-73.833253	NaN	11354	NY	4a1845c8f964a52092791fe3
4	New Mulan Seafood Restaurant	Dim Sum Restaurant	136-17 39th Ave	US	New York	United States	at Main St	2986	[136-17 39th Ave (at Main St), New York, NY 11...	[{"label": "display", "lat": 40.7602852871001...	40.760285	-73.830250	Downtown Flushing	11354	NY	59ecbd4ce97dfb5a1b7e2fd8
5	Tong Sam Gyup Goo Yi Restaurant	Korean Restaurant	16223 Depot Rd	US	Flushing	United States	NaN	1438	[16223 Depot Rd, Flushing, NY 11355, 1 Locked St	[{"label": "display", "lat": 40.76205897543733...	40.762059	-73.803123	NaN	11358	NY	4bd3578041b9ef3b05f0ff6



Results

In this project we were able to present the data for the type of restaurant available in Woodside –Queens neighborhood. We had also presented the data in bar chart for visualization, which clearly shows that Chinese, Korean and Pizza places are in abundance and offers competition for any restaurant due to the number of these existing currently. We had also provided Name and geographical data for these for stakeholders to review.

	name	categories	address	cc	city	country	crossStreet	distance	formattedAddress	labeledLatLngs	lat	lng	neighborhood	postalCode	state	id
0	Lake Pavilion Restaurant	Chinese Restaurant	60-15 Main St	US	Flushing	United States	at Horace Harding Expressway	2440	[60-15 Main St (at Horace Harding Expressway),...	[{"label": "display", "lat": 40.74262163933804...	40.742622	-73.824970	NaN	11355	NY	4f844c8fe4b0059705cb042c
1	East Manor Buffet & Restaurant	Chinese Restaurant	4207 Main St	US	Flushing	United States	at Maple Ave.	2525	[4207 Main St (at Maple Ave.), Flushing, NY 11...	[{"label": "display", "lat": 40.75611206171459...	40.756112	-73.826404	NaN	11355	NY	4a1175a1f964a52018771fe3
2	Punjabi Indian & American Restaurant	Indian Restaurant	160-20 46th Ave	US	Flushing	United States	160st and 46th ave	833	[160-20 46th Ave (160st and 46th ave), Flushin...	[{"label": "display", "lat": 40.75391568666028...	40.753916	-73.806918	NaN	11358	NY	4c60797a90b2c9b649e03c22
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4	New Mulan Seafood Restaurant	Dim Sum Restaurant	136-17 39th Ave	US	New York	United States	at Main St	2986	[136-17 39th Ave (at Main St), New York, NY 11...	[{"label": "display", "lat": 40.7602852871001...	40.760285	-73.830250	Downtown Flushing	11354	NY	59ecbd4ce970fb5a1b7e2fd8
5	Tong Sam Gyup Goo Yi Restaurant	Korean Restaurant	16223 Depot Rd	US	Flushing	United States	NaN	1438	[16223 Depot Rd, Flushing, NY 11355, 162nd St	[{"label": "display", "lat": 40.76205697543733...	40.762059	-73.803123	NaN	11358	NY	4bd3578041b9ef3b05f0ffe6



Discussion and Conclusion

We had taken the data and cleansed to get to desired results. We had utilized Foursquare API to get the venues in selected Neighborhood of Woodside in Queens. We had accumulated information for the Venues –Restaurants in Woodside neighborhood that include information of Category of restaurant and address that includes Geographical information.

This information should help the stakeholders to make decision on type of restaurant, which can be started in this populated neighborhood for better returns and revenue.