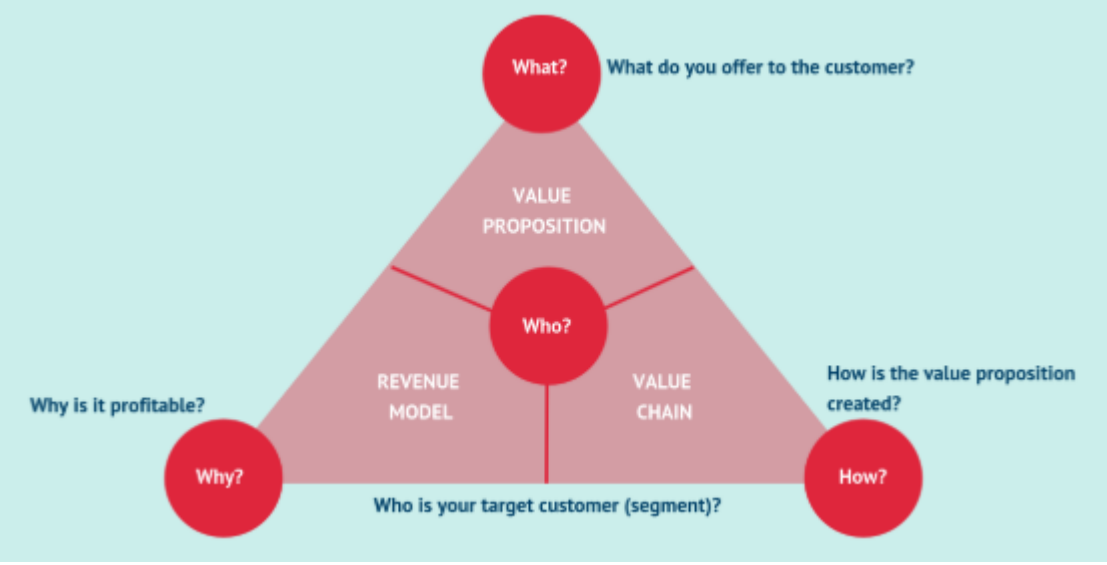
NAME: SUBHAN AHMED

1. INTRODUCTION

First I would like to give you a little detail about the project we are supposed to discuss here. In this project I will be designing a business friendly report help a client to make their decision thou this report will be purely based on the studies I make in the whole process of analyzing the open source data.

1.1. BUSINESS PROBLEM

In this project I will be lighting a specific area for the business startup gigs to make their business successful. In this project I would like to know the field of my client business and I will provide them statics prove that are required to make my report of this machine learning look authentic. In other words I will help make their decision and provide a business model just for the location at least in the starting of this deal.



2. DATA

The data is essential for any machine learning model. This is important that data is valuable because with wrong data the model predict wrong values so this is very important for us to take data from the good source.

2.1. ACCESS

For my project I have decided to use foursquare because it will be produce best result that for the type of my project and it would be beneficial for my client as well.

Foursquare developer portal

2.2. JSON FILE

My case study revolves around two cities Toronto and Tokyo. From foursquare developer portal I will collect a .json file for Toronto and Tokyo. The json file for Toronto,CA is shown below;

```
In [18]: results = requests.get(url).json()
         results
```

```
Out[18]: {'meta': {'code': 200, 'requestId': '5ebd2bfe006dce001c8504e1'},
          'response': {'venues': [{'id': '4f04779a02d5cce0cfc06151',
             'name': 'Chinese Visa Application Service Center',
             'location': {'address': '393 University Ave, Suite 1501',
              'crossStreet': 'in University Centre',
              'lat': 43.65402839343005,
              'lng': -79.38736458967021,
              'labeledLatLngs': [{'label': 'display',
                'lat': 43.65402839343005,
                'lng': -79.38736458967021}],
              'distance': 282,
              'cc': 'CA',
              'city': 'Toronto',
              'state': 'ON',
              'country': 'Canada',
              'formattedAddress': ['393 University Ave, Suite 1501 (in University Centre)',
               'Toronto ON',
               'Canada']],
```

2.3. DATA FRAME

From this json file I will exact the information about the Chinese restaurants and hotel because my client wants to open a Chinese venue in one of the cities. The data frame is shown below;

```
dataframe_filtered
```

Out[20]:

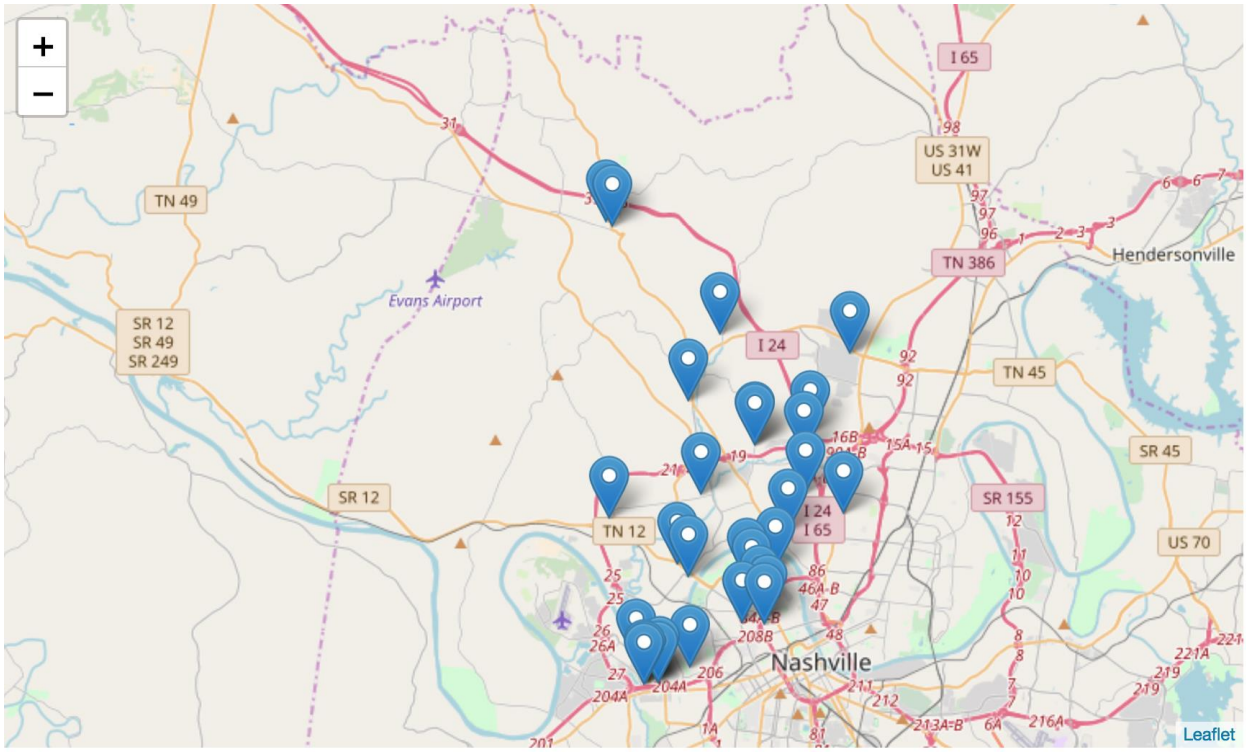
	name	categories	address	crossStreet	lat	lng	labeledLatLngs	distance	cc	city	state	country
0	Chinese Visa Application Service Center	Government Building	393 University Ave, Suite 1501	in University Centre	43.654028	-79.387365	[{'label': 'display', 'lat': 43.65402839343005...	282	CA	Toronto	ON	Canada
1	Toronto Chinese Academy	University	133 Richmond Street West	York Street	43.650140	-79.384857	[{'label': 'display', 'lat': 43.65014006138457...	379	CA	Toronto	ON	Canada
2	Yueh Tung Chinese Restaurant	Chinese Restaurant	126 Elizabeth St.	Dundas St.	43.655281	-79.385337	[{'label': 'display', 'lat': 43.65528126342919...	229	CA	Toronto	ON	Canada
3	Hong Shing Chinese Restaurant	Chinese Restaurant	195 Dundas St W	at University Ave	43.654925	-79.387089	[{'label': 'display', 'lat': 43.65492521335936...	300	CA	Toronto	ON	Canada
4	Tasty Chinese Food	Chinese Restaurant	Village by the Grange	NaN	43.653757	-79.390757	[{'label': 'display', 'lat': 43.65375663396815...	550	CA	Toronto	ON	Canada

3. METHODOLOGY

In this case study the client wants to open a restaurant. The client is certain about the cuisine which is Chinese and the owner is giving me the space of choosing between two cities Toronto and Tokyo. The client want me to use data science whether to determine which one of these places are good for Chinese food business.

3.1 APPROACH

The approach determined by me for this task is to use folium libraries and I will plot the location of all Chinese restaurants in the area of busy Toronto and Tokyo and predict a spot for the restaurant to do business good and avoid any loss by making any bad decision.



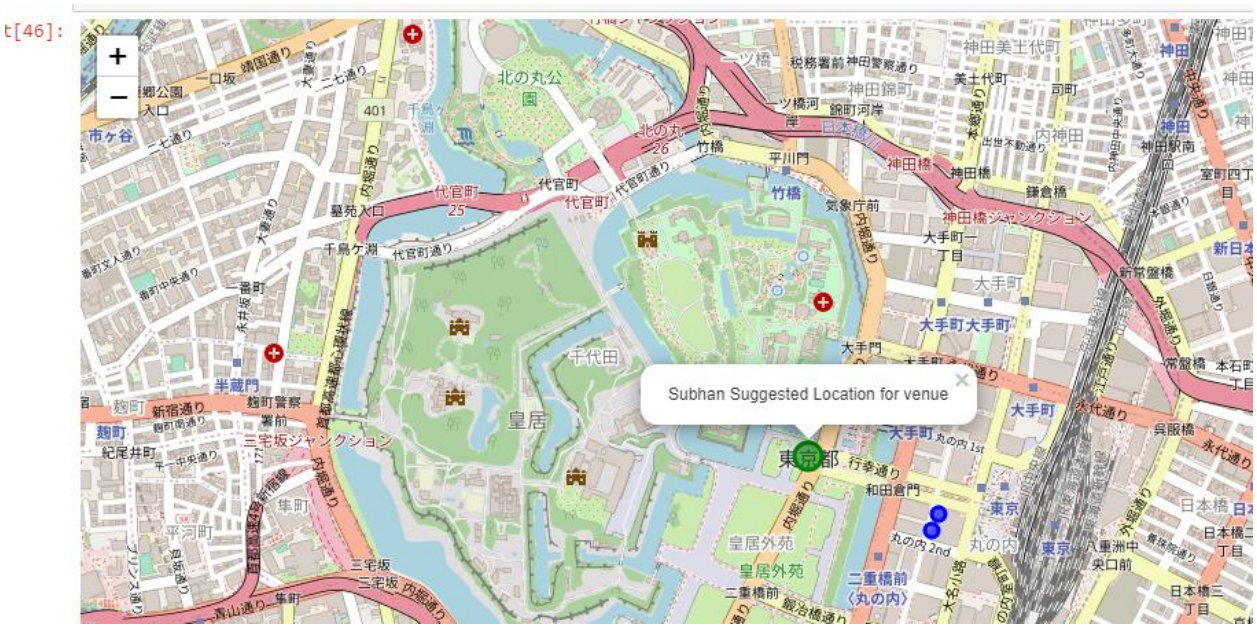
Example of mapping with folium

I will the median of all the locations and predict the location for the new business setup for my client.

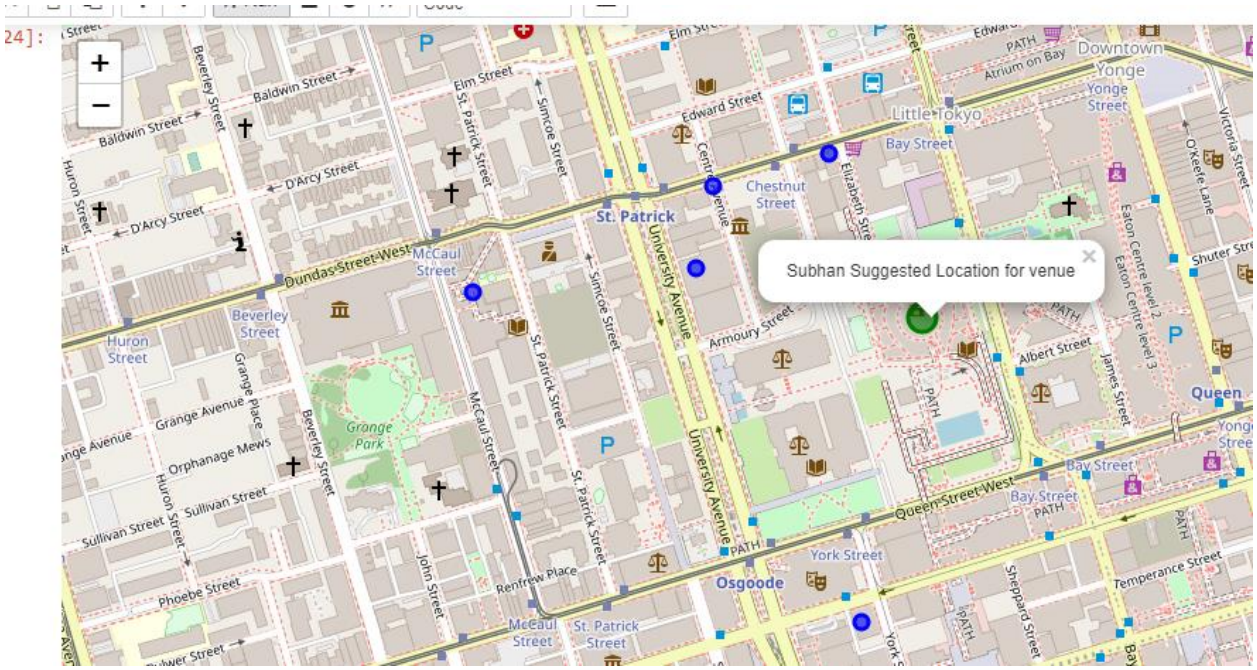
4. RESULTS

The output will show the result from the folium which will help us make the decision for the location.

Firstly I will display the result which was extracted from Tokyo;



Secondly I will display the result which was extracted from Toronto;



In the result from Tokyo there are fewer Chinese venues in the area represented in the blue spot which yields the fact of low demand of Chinese food in the area Thus, opening a restaurant on the green spot " Subhan Suggested Location for venue ". Where else in case of Toronto there are many more restaurant showing more demand for Chinese food in the area. Thus, it is more likely to get better business in Toronto green spotted location suggested by the machine learning algorithm.

5. DISCUSSION SECTION

I have made a lot of learning in this capstone project. There may be many more ways to comprehend the studies and use data to accomplish the model to predict the result to make better decision for your clients.

6. CONCLUSION

From the approach used in this project we are able to say that there is no better way in the future to make decision for your startups and for the big data and it analysis is something so big that will make this field of study from strong and comprehend for the future events that are going to come across the path in the near future.