Introduction

In this Project, I will be creating a Basic Level Restaurant Recommender which will give you the top Restaurants near your address. I'll explore the venues based on their Rating and Distance. Whenever a person wants to find a Particular Restaurants in the vicinity of his current address or any address then, this model will recommend the Best Restaurants nearby on Map with their ratings. Thus, our aim here is to fetch restaurants that someone can visit nearby.

Here, we'll get venues that are fit for the location specified based on the data collected from the Foursquare API and information retrieved from Data Science application.

Data Used

The data has been collected from Foursquare API. The first step will be to search for venues with given Query, Location and within a radius specified by the User from his given location. After extracting the venues using the Foursquare API, the latitude and longitude values will be used to fetch the venue details using Foursquare API.

After fetching the venue details, again Foursquare API will be used to fetch the details of all the venues and then add the relevant information and process the Data to get the Best and Top 6 Restaurants nearby.

Summarizing the Data Used:

1. Latitudes and Longitudes from geolocator.

2. Search Query Data like Restaurant Name, Address, Latitude, Longitude etc. (json) from Foursquare

3. Data Of Every Venue nearby like Restaurant Category, Ratings, Reviews, Tips etc. (json) from Fousquare

4. Data Wrangling and taking required Data

Methodology

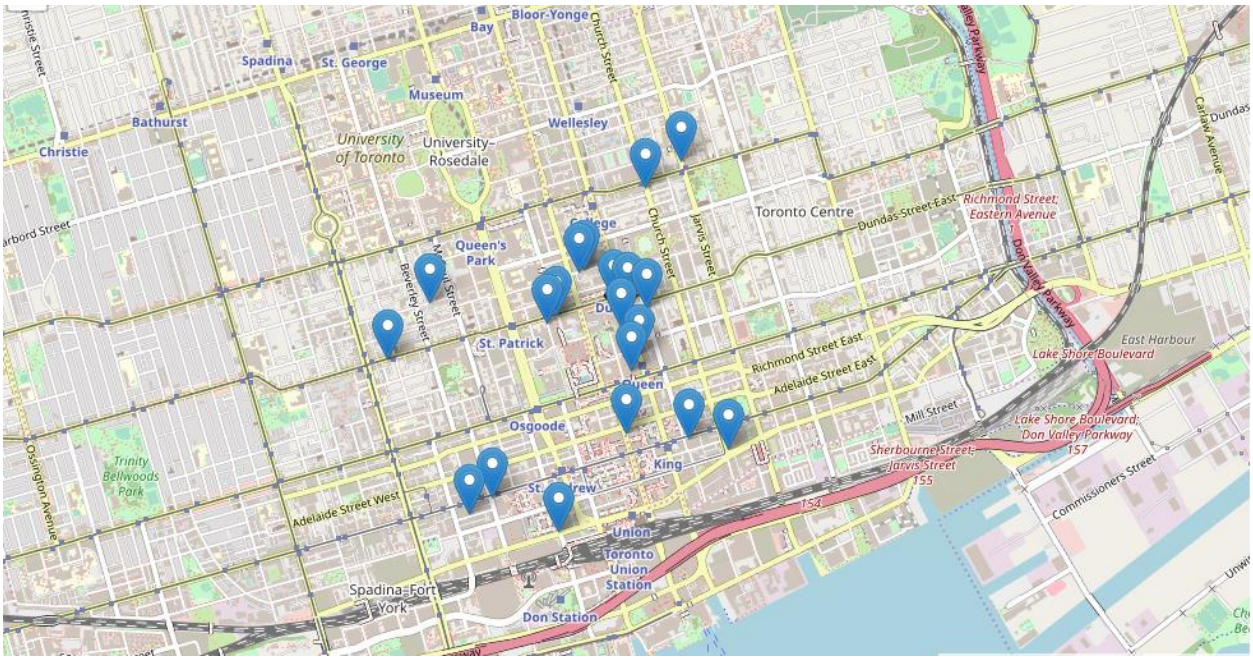
Aim is to recommend the Top restaurants nearby so firstly we need Data.

1. User will enter his current address/location, the radius of vicinity in which he wants to search the restaurants and the type of cuisine.
2. Geolocator will fetch the Latitude and Longitude coordinates of the Address

3. We will search all the Restaurants with given cuisine using Foursquare API and get the results converted into the Dataframe so that we can analyse them.

	id	name	categories	referralId	hasPerk	location.address	location.lat	location.lng	location.labeledLatl
0	4ad4c05ff964a52048f720e3	Hemispheres Restaurant & Bistro	[{'id': '4bf58dd8d48988d14e941735', 'name': 'A...	v-1577887695	False	110 Chestnut Street	43.654884	-79.385931	[{'label': 'display' 43.654884134204
1	4ad4c05cf964a52006f620e3	Victoria's Restaurant	[{'id': '4bf58dd8d48988d1c4941735', 'name': 'R...	v-1577887695	False	37 King Street East	43.649298	-79.376431	[{'label': 'display' 43.649298343963
2	4ada5d5bf964a520e92121e3	The Hot House Restaurant & Bar	[{'id': '4bf58dd8d48988d14e941735', 'name': 'A...	v-1577887695	False	35 Church St	43.648824	-79.373702	[{'label': 'display' 43.648823705297
3	4b223f5af964a520ba4424e3	Azure Restaurant & Bar	[{'id': '4bf58dd8d48988d1c4941735', 'name': 'R...	v-1577887695	False	225 Front St W	43.644749	-79.385113	[{'label': 'display' 43.644749195919
4	4bd47e6fcfa7b7139f2924da	Studio Restaurant	[{'id': '4bf58dd8d48988d143941735', 'name': 'B...	v-1577887695	False	389 Church St.	43.661500	-79.379319	[{'label': 'display' 43.661500159065

4. We will plot all the Locations with Markers describing their name, distance from user and category of restaurant.

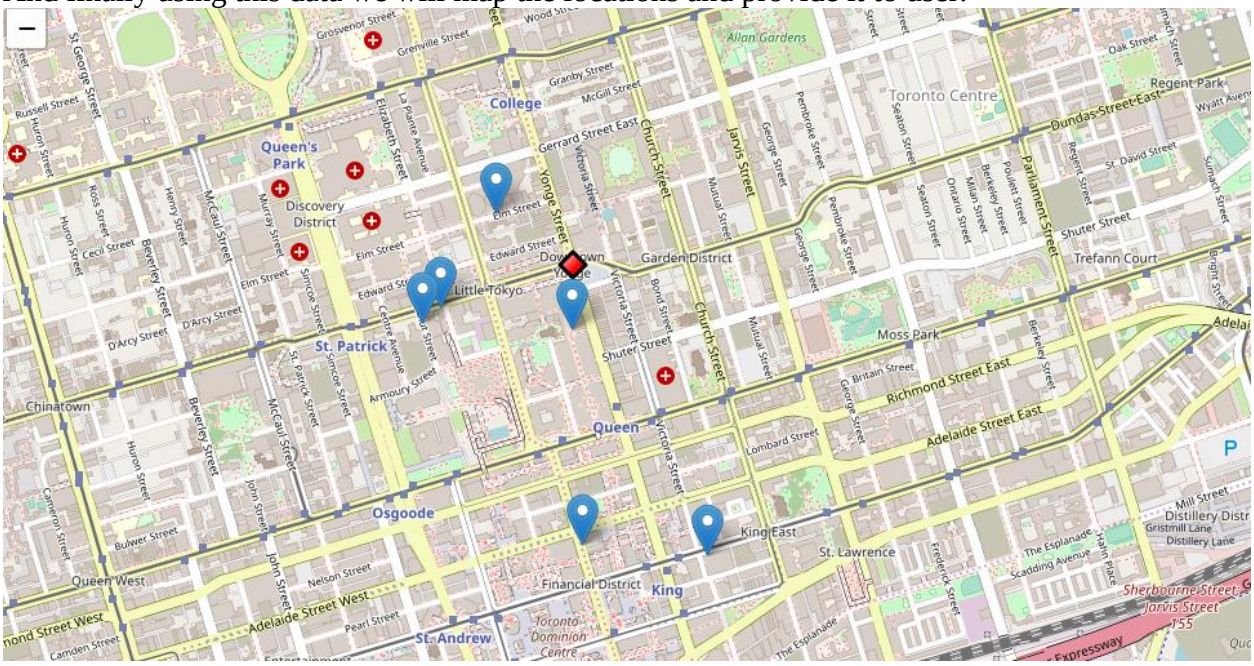


5. Now Taking every venues, We will fetch it's details using Foursquare API and get the data which is relevant and useful to us.

```
# Will recommend Top 6 places on Map
dataframe_filtered.reset_index(drop=True,inplace=True)
dataframe_final=dataframe_filtered.loc[:5,['name','categories','address','lat','lng','distance','rating']]
dataframe_final
```

	name	categories	address	lat	lng	distance	rating
0	Victoria's Restaurant	Restaurant	37 King Street East	43.649298	-79.376431	861	8.0
1	Aroma Fine Indian Restaurant	Indian Restaurant	287 King St. W	43.646463	-79.389644	1303	7.6
2	The Hot House Restaurant & Bar	American Restaurant	35 Church St	43.648824	-79.373702	1017	7.0
3	Hemispheres Restaurant & Bistro	American Restaurant	110 Chestnut Street	43.654884	-79.385931	434	6.7
4	North-East Chinese Restaurant 華北美食	Chinese Restaurant	476 Dundas St.	43.653185	-79.396677	1316	6.3
5	Akashiro Japanese Restaurant & Bar	Sushi Restaurant	220 Yonge St.	43.655965	-79.380541	49	5.9

6. And finally using this data we will map the locations and provide it to user.



Result

- The above Map is the result of our project.
- Firstly we showed the user all the nearby restaurants on the Map this was our first result.
- Then we converted those data and filtered it to The Top restaurants nearby
- Finally plotted all the restaurant which were top rated on the Map

Thus, The User got The Best Restaurants near his current location on the Map.

Discussion

- So we observed that the data can be framed to recommend the user based on a criteria.
- From the result above We Can Recommend The Markers on The Final Map as The Top Restaurants Nearby

Conclusion

- Thus, I can say that it is a basic recommender which can be used to Recommend a restaurant to a User based on distance and ratings of the nearby Restaurants.