Opening an Indian Restaurant in Toronto

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The problem

Owner needs

- Need to attract more customers
- Suitable location where people would visit their restaurant
- Owner is successful so no money constraints

Context

- Owner of a successful chain of Indian restaurants in India wants to open his first international restaurant in Toronto

Problem statement

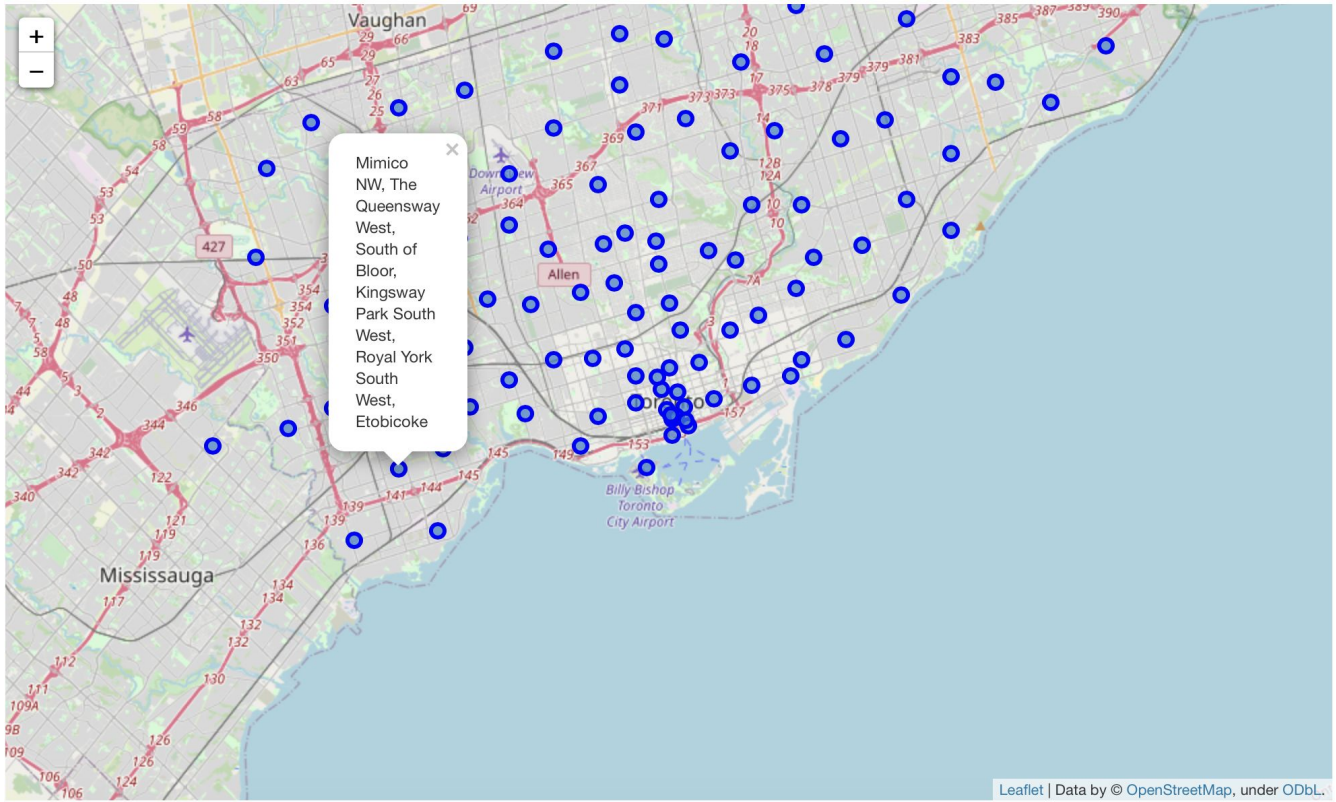
Finding the most suitable location for the owner to build his new restaurant in Toronto

Importing Toronto dataset and cleaning it

Final dataset:

	Postal Code	Borough	Neighborhood	Latitude	Longitude
0	M1B	Scarborough	Malvern, Rouge	43.806686	-79.194353
1	M1C	Scarborough	Rouge Hill, Port Union, Highland Creek	43.784535	-79.160497
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.763573	-79.188711
3	M1G	Scarborough	Woburn	43.770992	-79.216917
4	M1H	Scarborough	Cedarbrae	43.773136	-79.239476
...	...	...	...	...	...
98	M9N	York	Weston	43.706876	-79.518188
99	M9P	Etobicoke	Westmount	43.696319	-79.532242
100	M9R	Etobicoke	Kingsview Village, St. Phillips, Martin Grove ...	43.688905	-79.554724
101	M9V	Etobicoke	South Steeles, Silverstone, Humbergate, Jamest...	43.739416	-79.588437
102	M9W	Etobicoke	Northwest, West Humber - Clairville	43.706748	-79.594054

Plotting all neighborhoods on a map



The map shows the neighbourhood as a popup when clicked upon

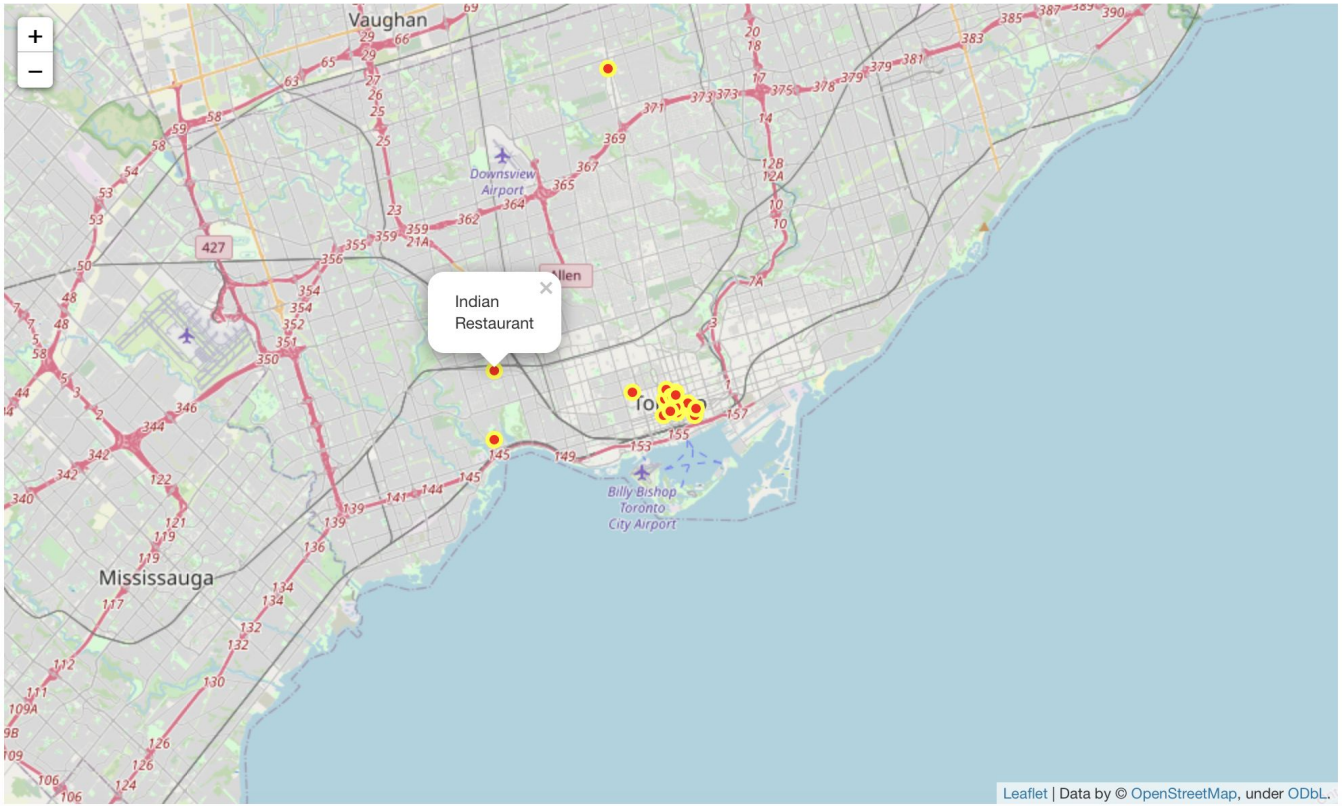
Importing restaurant data using FourSquare API

Sample row:

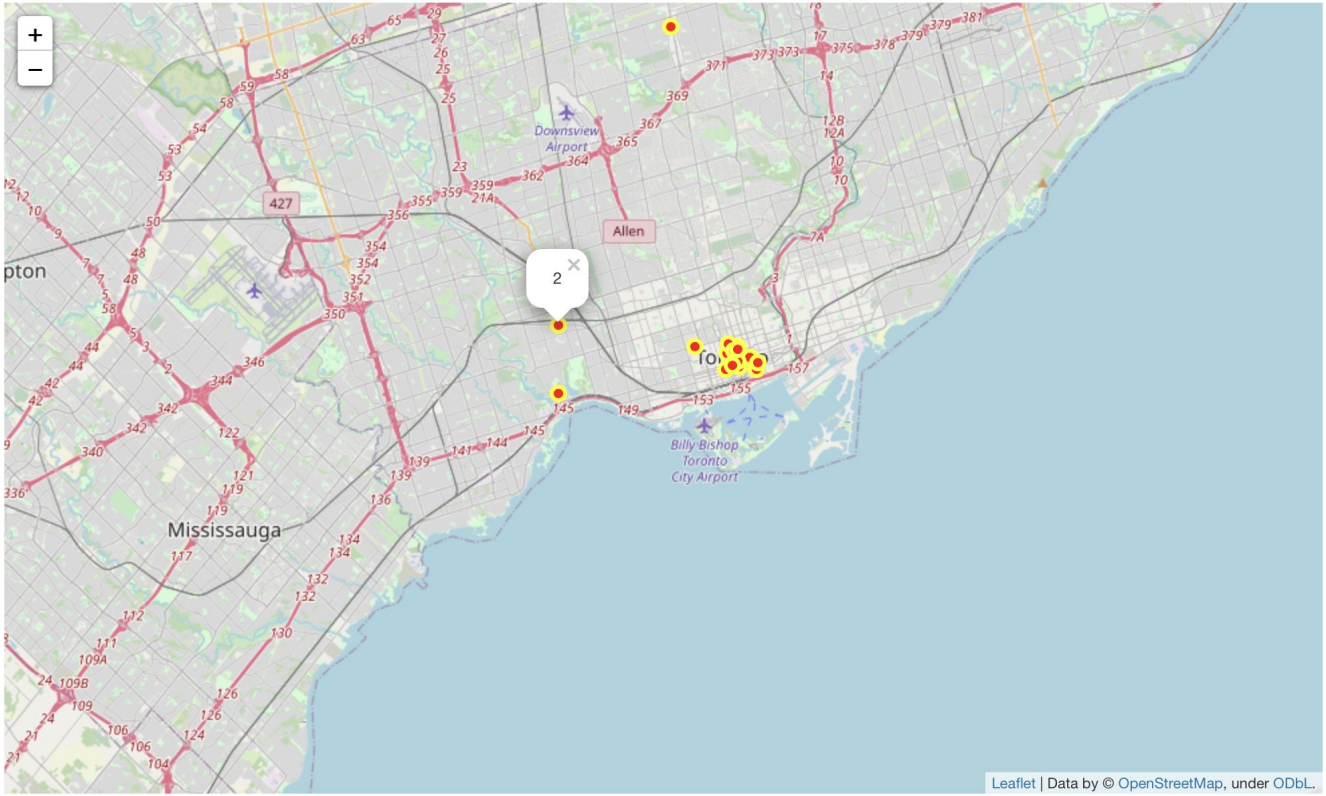
	name	categories	address	lat	lng	labeledLatLngs	distance	cc	city	state	country
0	Leela Indian Food Bar	Indian Restaurant	3108 Dundas St. West	43.665326	-79.473306	[{'label': 'display', 'lat': 43.66532602974136...	7381	CA	Toronto	ON	Canada

Table is too long horizontally and vertically to be shown here. This example row is one after cleaning of the imported database

Plotting a map of all restaurants



Clustering algorithm to cluster all restaurants



2 is the cluster number

Number of Indian restaurants per cluster

```
Clus_km
0     15
1      1
2      3
Name: Clus_km, dtype: int64
```

Cluster 0: Downtown Toronto
Cluster 1: North York
Cluster 2: West Toronto

Results and recommendations

As per the above results and the conditions set out by the restaurant chain owner in the beginning of the project, the best option for the owner would be **Cluster 2 (West Toronto).** This is because Downtown Toronto has 15 Indian restaurants already making the environment very competitive hence reducing the number of customers whereas the owner wants a maximum number of customers. Furthermore, North York only has 1 Indian restaurant so the owner can't be sure whether the local people do or do not like Indian cuisine in that area. Whereas for West Toronto, since there are 3 Indian restaurants, there is fairly less competition (meaning potentially high numbers of customers) and also the owner can be fairly sure that the existence of 3 Indian restaurants there means that locals do enjoy Indian cuisine and the owner's new restaurant would be quite successful compared to other locations in Toronto.


Thank
you