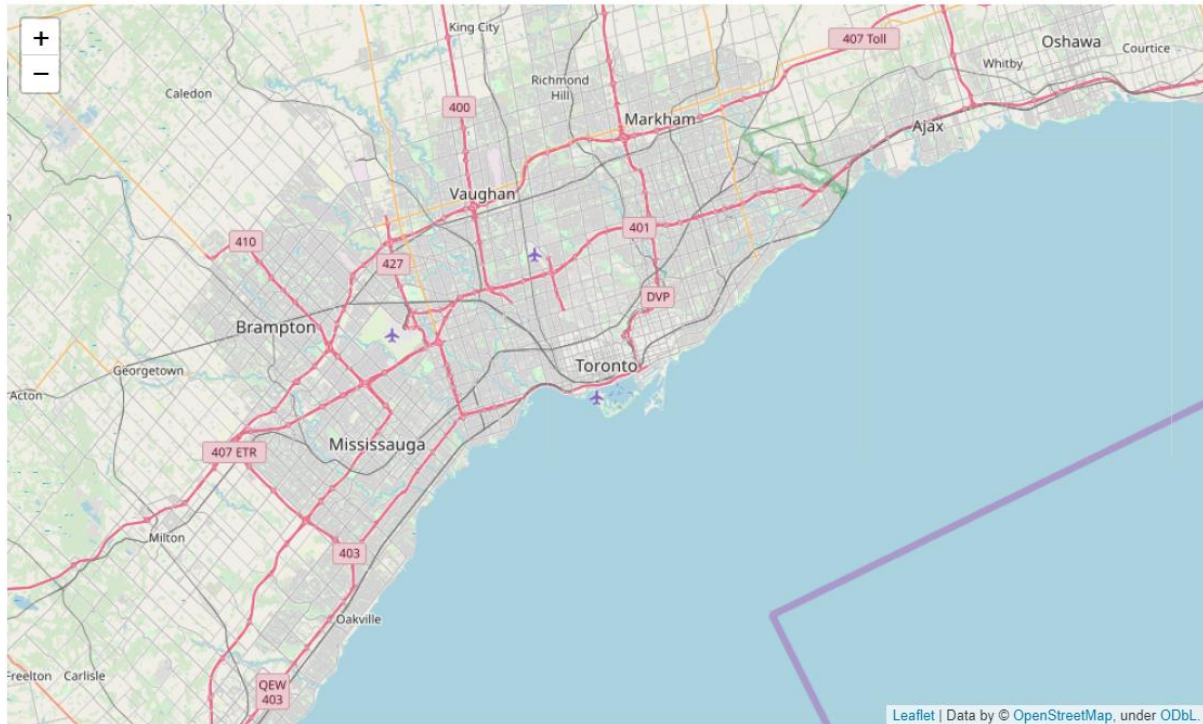


Capstone Project - The Battle of Neighborhoods

Introduction

My report is for those who are planning to start a new restaurant in the city of Toronto. I will provide a suggestion for the best venue to start a new restaurant in a highly visited city with already many good people.



Background of Toronto

Toronto, city, capital of the province of Ontario, southeastern Canada. It is the most populous city in Canada, a multicultural city, and the country's financial and commercial center. Its location on the northwestern shore of Lake Ontario, which forms part of the border between Canada and the United States, and its access to Atlantic shipping via the St. Lawrence Seaway and to major U.S. industrial centers via the Great Lakes have enabled Toronto to become an important international trading center. Moreover, the city is positioned on the edge of some of the best farmland in Canada, with a climate favorable to growing a wide range of crops, thereby making Toronto a transportation, distribution, and manufacturing center. Most importantly, its central location, along with a host of political policies favoring international trade, places this city with the greatest economic ties to, and influence from, the United States.

Since the second half of the 20th century, the city has grown phenomenally from a rather sedate provincial town—"Toronto the Good"—to a lively, thriving, cosmopolitan metropolitan area. Area 244 square miles (632 square km); metro. Area, 2,280 square miles (5,905 square km). Pop. (2011) 2,615,060; metro. area, 5,583,064; (2016) 2,731,571; metro. area, 5,928,040.

Toronto is a city with scores of neighborhoods, some of which have identities that have been imposed upon them by realtors, whereas others are of much longer standing and have a more distinctive character. West of the central business district, following Queen Street W, is West Queen West, once a trendy bohemian section, now a more mainstream shopping district. Northeast of this area is two of Toronto's best-known neighborhoods, Chinatown and Kensington Market, the latter of which features an eclectic mix of shops and restaurants that reflect the city's multicultural diversity. Still farther north, beyond the campus of the University of Toronto, is the Annex, a residential area that is home to many students and is the site of several attractive 19th-century homes. North of the Annex, on a hill overlooking Davenport Road, is Casa Loma, the turreted castlelike mansion built-in 1911–14 for \$3.5 million (Canadian) by Sir Henry Pellatt. East of the Annex is the fashionable Yorkville-Cumberland boutique shopping area, to the south of which are Queen's Park and the Ontario parliament building. Large expanses of grass and tall shade trees make this a pleasant area, complementing the ravines that form so important an element in the metropolitan parks system.

Business Problem

In this report, I will focus on the issue of where to open a new restaurant in a city like Toronto. At first, I will check the information, and the first important decision will be the location for its new restaurant.

1. What is the basis that can decide its new restaurant's location?
2. While selecting the place, there are key points to consider like they need to check out like where the most well-visited venues of the city are?
3. If incase there are already other luxury restaurants that have good ratings, will it be risky to open a new one near these restaurants?

Business Problem Solution

For my project, I will search the definition of a good neighborhood which one that has a significant commercial presence within a given community as well as:

1. Compare median housing prices.
2. Compare school ratings.
3. Compare the median salary.

Data Setup

Next step, I would use Foursquare API that as its prime data gathering as it has a database of place. The API can provide the ability to perform location search, location sharing, and information business details.

I would use HTTP request limitations, the number of places per neighborhood parameter would reasonably beset to 100, and the radius parameter set to 500.

Another step is to search the other restaurants, the neighborhood information, and the school rating for comparison to find a suitable location opening the new restaurant.

The data retrieved from Foursquare contained information of venues within a specified distance of the longitude and latitude of the postcodes. The information obtained per venue as follows:

1. Neighborhood
2. Neighborhood Latitude
3. Neighborhood Longitude
4. Venue
5. Name of the venue e.g. the name of a store or restaurant
6. Venue Latitude
7. Venue Longitude
8. Venue Category

I decided to explore the neighborhood location and adjust them into clusters to find similar neighborhoods, good places, and design clusters to matching for consideration.

I choose five top venues for consideration and use K-mean to divided the groups with k values = 6

Finally, the results from my assignment I selected “North York” because it is one of the most diverse in the Toronto Area, being home to various people groups and have many neighborhoods in which there is an important customer for the new restaurant.

Link Data:

[https://github.com/Komkit128/Coursera_Capstone/blob/master/The%20Battle%20of%20Neighborhoods%20\(Week%201\)%20-%20Data.ipynb](https://github.com/Komkit128/Coursera_Capstone/blob/master/The%20Battle%20of%20Neighborhoods%20(Week%201)%20-%20Data.ipynb)

```
In [43]: df_Toronto[df_Toronto['Borough'] == 'North York']
```

Out[43]:

	Postcode	Borough	Neighbourhood	Latitude	Longitude
0	M3A	North York	Parkwoods	43.753259	-79.329656
1	M4A	North York	Victoria Village	43.725882	-79.315572
3	M6A	North York	Lawrence Heights, Lawrence Manor	43.718518	-79.464763
7	M3B	North York	Don Mills North	43.745906	-79.352188
10	M6B	North York	Glencairn	43.709577	-79.445073
13	M3C	North York	Flemingdon Park, Don Mills South	43.725900	-79.340923
27	M2H	North York	Hillcrest Village	43.803762	-79.363452
28	M3H	North York	Bathurst Manor, Downsview North, Wilson Heights	43.754328	-79.442259
33	M2J	North York	Fairview, Henry Farm, Oriole	43.778517	-79.346556
34	M3J	North York	Northwood Park, York University	43.767980	-79.487262
39	M2K	North York	Bayview Village	43.786947	-79.385975
40	M3K	North York	CFB Toronto, Downsview East	43.737473	-79.464763
45	M2L	North York	Silver Hills, York Mills	43.757490	-79.374714
46	M3L	North York	Downsview West	43.739015	-79.506944
49	M6L	North York	Downsview, North Park, Upwood Park	43.713756	-79.490074
50	M9L	North York	Humber Summit	43.756303	-79.565963
52	M2M	North York	Newtonbrook, Willowdale	43.789053	-79.408493
53	M3M	North York	Downsview Central	43.728496	-79.495697
55	M5M	North York	Bedford Park, Lawrence Manor East	43.733283	-79.419750
57	M9M	North York	Emery, Humberlea	43.724766	-79.532242
59	M2N	North York	Willowdale South	43.770120	-79.408493
60	M3N	North York	Downsview Northwest	43.761631	-79.520999
66	M2P	North York	York Mills West	43.752758	-79.400049
72	M2R	North York	Willowdale West	43.782736	-79.442259