Selecting the Best Place for a Restaurant in Toronto

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1. Introduction

1.1 Background

The last complete census by Statistics Canada estimated there were 2,731,571 living in Toronto, making it the largest city in Canada and the fourth most populous municipality in North America.

A **restaurant** or an **eatery**, is a business that prepares and serves food and drinks to customers. Meals are generally served and eaten on the premises, but many restaurants also offer take-out and food delivery services. Restaurants vary greatly in appearance and offerings, including a wide variety of cuisines and service models ranging from inexpensive fast food restaurants and cafeterias, to mid-priced family restaurants, to high-priced luxury establishments.

1.2 Problem

Before opening a new restaurant it is important to detect where there is a demand for it. It is important to discover which are the neighborhoods that do have few restaurants but also a high amount of other types of venues that will ensure the flow of clients.

1.3 Interest

A particular client wants to find the best place for a new restaurant in Toronto. The restaurant is also going to provide delivery service on a radius of 3000 meters.

2. Methodology

All the data was explored, processed and cleaned using Watson Studio and Jupyter Notebooks.

2.1 Data sources

Location data of existent restaurants and other types of venues in Toronto is going to be gathered from Foursquare. Postcodes locations of Toronto are going to be used to search the amount of existent restaurants and other types of venues in a radio of 3000 meters that is the radio for delivery services.

The list of postcode locations is going to be scrapped from Wikipedia:

https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

We obtain the geographical coordinates of each postal code from:

http://cocl.us/Geospatial_data .

3. Results

For each neighborhood, I have calculated the number of non-restaurant venues per restaurant do we have if we open a new restaurant there. Then I ordered the neighborhood by the Rate+1 column in descending order and I took the top ten neighborhoods.
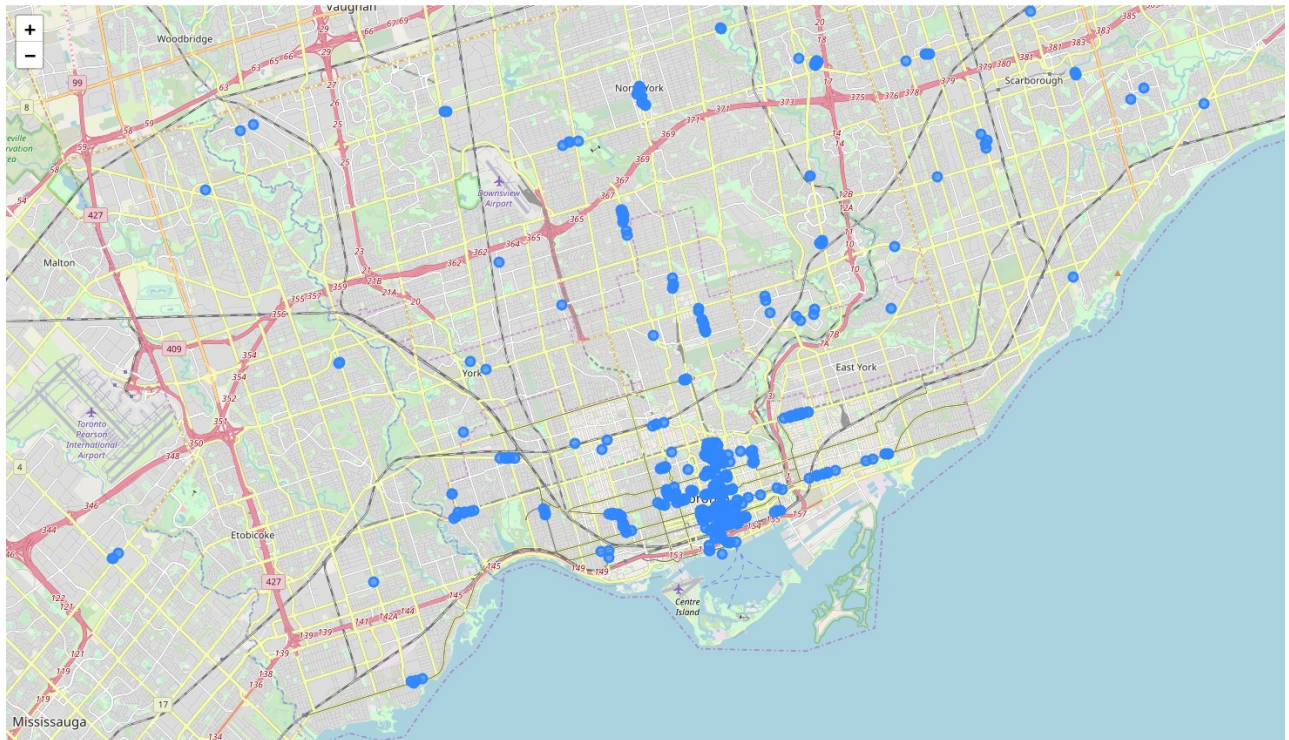
	Neighborhood	Restaurants	Other_Venues	Rate+1
70	CN Tower, Bathurst Quay, Island airport, Harbo...	0.0	17.0	17.00
66	Alderwood, Long Branch	0.0	10.0	10.00
72	Clairlea, Golden Mile, Oakridge	0.0	10.0	10.00
68	Bloordale Gardens, Eringate, Markland Wood, Ol...	0.0	8.0	8.00
25	Dovercourt Village, Dufferin	1.0	16.0	8.00
98	Woodbine Heights	0.0	8.0	8.00
42	Leaside	3.0	29.0	7.25
97	Willowdale West	0.0	7.0	7.00
74	Davisville North	0.0	7.0	7.00
39	Kingsway Park South West, Mimico NW, The Queen...	1.0	14.0	7.00

This way, we can see that if we open a new restaurant in any of these neighborhoods Clairlea, Golden Mile, or Oakridge there are going to be 10 venues non-restaurants per restaurant.
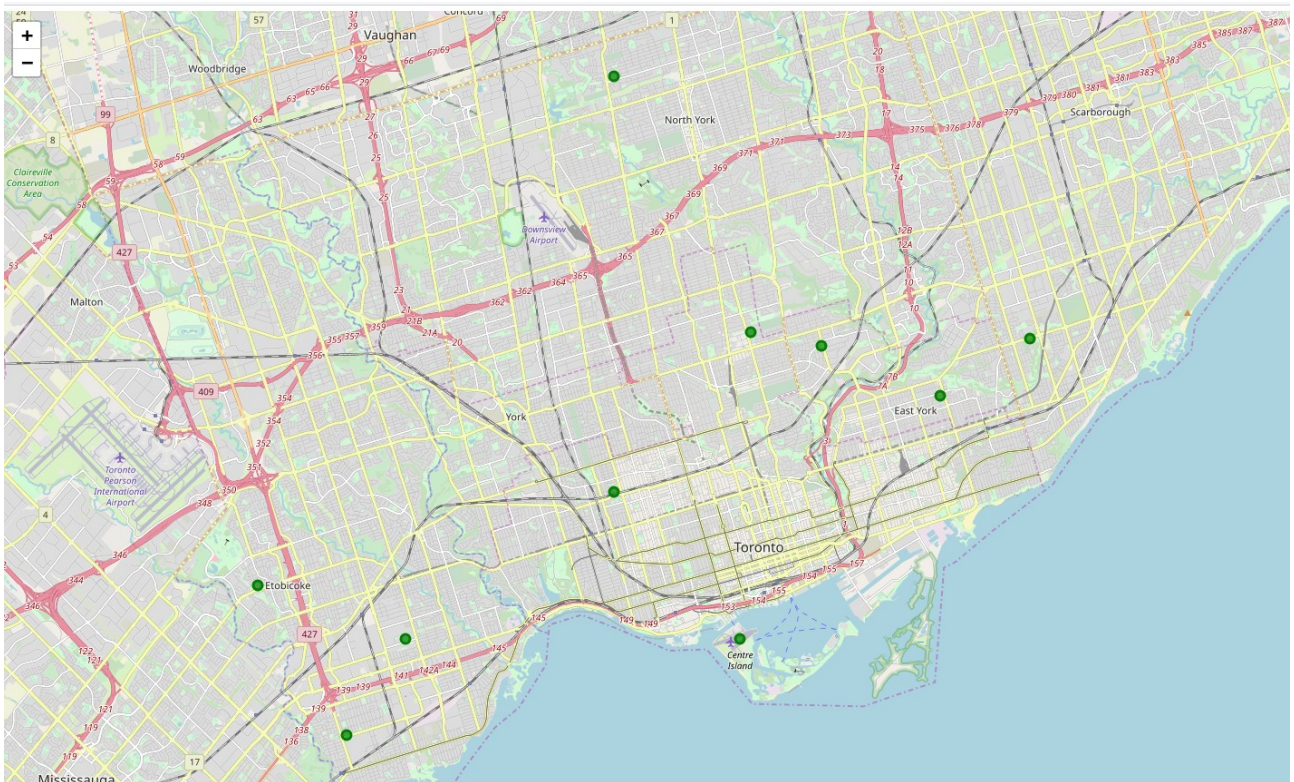
When looking for a correlation between restaurants and other kind of venues, I haven't found any strong correlation between restaurants and other kind of venues:

The blue circles represent the places where there are restaurants.

The green circles represent the top ten of best places found for a new restaurant. These are places where currently the are few or none restaurants but there are a high amount of other venues that ensure a flow of clients.

	Neighborhood	Restaurants	Other_Venues	Rate+1	Postcode	Borough	Latitude	Longitude
0	CN Tower, Bathurst Quay, Island airp...	0.0	17.0	17.00	M5V	Downtown Toronto	43.628947	-79.394420
1	Alderwood, Long Branch	0.0	10.0	10.00	M8W	Etobicoke	43.602414	-79.543484
2	Clairlea, Golden Mile, Oakridge	0.0	10.0	10.00	M1L	Scarborough	43.711112	-79.284577
3	Bloordale Gardens, Eringate, Marklan...	0.0	8.0	8.00	M9C	Etobicoke	43.643515	-79.577201
4	Dovercourt Village, Dufferin	1.0	16.0	8.00	M6H	West Toronto	43.669005	-79.442259
5	Woodbine Heights	0.0	8.0	8.00	M4C	East York	43.695344	-79.318389
6	Leaside	3.0	29.0	7.25	M4G	East York	43.709060	-79.363452
7	Willowdale West	0.0	7.0	7.00	M2R	North York	43.782736	-79.442259
8	Davisville North	0.0	7.0	7.00	M4P	Central Toronto	43.712751	-79.390197
9	Kingsway Park South West, Mimico NW,...	1.0	14.0	7.00	M8Z	Etobicoke	43.628841	-79.520999

4. Discussion

We can see that we can not rely on the location of other venues like Theaters or Stadiums in order to select a place for a new restaurant, since there is not evidence of strong correlation between restaurants and other venues. Hence the approach of selecting the location considering the places with few existent restaurants but high amount of other venues is the best method I found for this purpose.

5. Conclussion

This method can also be applied if we need to recommend best places for other kind of new venues. The final decision of the best place to open the restaurant is going to be taken by the client considering this list of these ten places found. All of these places represent a good opportunity from the point of view of high flow of clients and a demand to be satisfied.