

WHERE TO OPEN A BUBBLE TEA SHOP IN TORONTO?

A. Introduction

A.1. Description & Discussion of the Background

○ Toronto is a multicultural city with the most population in Canada. People from all over the world come to Toronto to live, work or travel. This project is aimed to help people who wants to open a bubble tea shop in West Toronto, East Toronto, Central Toronto or Downtown Toronto to choose the right location.

A.2. Data Description

- To consider the problem we can list the data as below:
- I found coordinates of each neighborhoods or districts in each borough from Wikipedia.
- I used Foursquare API to get the most common venues of given neighborhoods and districts.
- I used Google Map, 'Search Nearby' option to get the center coordinates of each neighborhood.

B. Methodology

- Data sources:

	PostalCode	Borough	Neighborhood	Latitude	Longitude
0	M1B	Scarborough	Rouge, Malvern	43.806686	-79.194353
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union	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

B. Methodology

- Add categories of each venue using Foursquare API

		name	categories	lat	lng
0		Glen Manor Ravine	Trail	43.676821	-79.293942
1		The Big Carrot Natural Food Market	Health Food Store	43.678879	-79.297734
2		Grover Pub and Grub	Pub	43.679181	-79.297215
3		Glen Stewart Ravine	Other Great Outdoors	43.676300	-79.294784
4		Upper Beaches	Neighborhood	43.680563	-79.292869

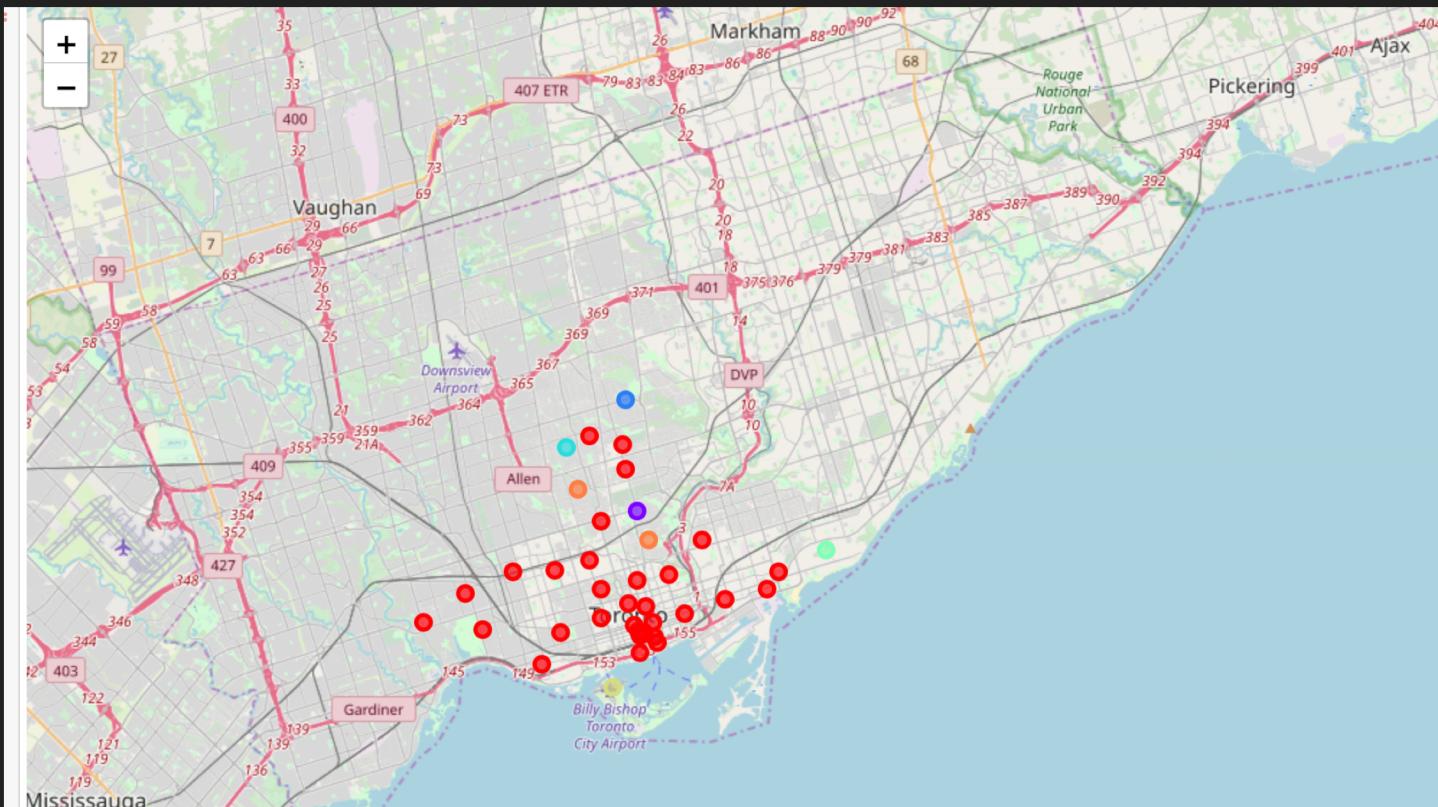
B. Methodology

- Extract info about Asian Restaurant and bubble tea shops

	Neighborhood	Asian Restaurant	Bubble Tea Shop
0	Adelaide, King, Richmond	0.020000	0.000000
1	Berczy Park	0.000000	0.000000
2	Brockton, Exhibition Place, Parkdale Village	0.000000	0.000000
3	Business Reply Mail Processing Centre 969 Eastern	0.000000	0.000000
4	CN Tower, Bathurst Quay, Island airport, Harbo...	0.000000	0.000000
5	Cabbagetown, St. James Town	0.000000	0.000000
6	Central Bay Street	0.000000	0.022727
7	Chinatown, Grange Park, Kensington Market	0.000000	0.010000
8	Christie	0.000000	0.000000
9	Church and Wellesley	0.000000	0.022989
10	Commerce Court, Victoria Hotel	0.010000	0.000000
11	Davisville	0.000000	0.000000
12	Davisville North	0.000000	0.000000
13	Deer Park, Forest Hill SE, Rathnelly, South Hi...	0.000000	0.000000
14	Design Exchange, Toronto Dominion Centre	0.010000	0.000000

B. Methodology

- Using python Folium library to visualize the map



C. Results

- Based on the analysis above, the result is that neighborhoods Little Portugal and Trinity have the most Asian Restaurants and least bubble tea shops. They are both located in West Toronto which has a high density of population. They all belong to the clustering labeled as commercial centers.

22	Lawrence Park	0.000000	0.000000
23	Little Portugal, Trinity	0.048387	0.000000
24	Moore Park, Summerhill East	0.000000	0.000000

D. Discussion

- Based on the analysis above, the best neighborhoods to open new bubble tea shops are Little Portugal and Trinity.

E. Conclusion

- Using clustering to find the theme of different boroughs has a broad application. This project is just an example of it. To explore more on this business case, we can take more factors into consideration such as renting prices, distance to the center of Toronto, access to transportation, etc. With more factors, we can establish a more comprehensive model to evaluate each neighborhood and find out the best venue.