

Capstone Project - The Battle of Neighborhoods by Anagha Kulkarni

2. Data and Data Sources

For this project we will need the following data:

1. List of Postal Codes in Toronto area along with the Boroughs and Neighborhoods they belong to.

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

This data set contains list of Postal Codes and corresponding Boroughs and Neighborhoods in Toronto area.

Example of the data:

[Toronto - 103 FSAs](#) [edit]

Note: There are no rural FSAs in Toronto, hence no postal codes should start with M0. However, the postal code M0R 8T0 is assigned to an Amazon warehouse in Mississauga, suggesting that Canada Post may have reserved the M0 FSA for high volume addresses.

Postal Code	Borough	Neighbourhood
M1A	Not assigned	Not assigned
M2A	Not assigned	Not assigned
M3A	North York	Parkwoods
M4A	North York	Victoria Village
M5A	Downtown Toronto	Regent Park, Harbourfront
M6A	North York	Lawrence Manor, Lawrence Heights
M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government
M8A	Not assigned	Not assigned
M9A	Etobicoke	Islington Avenue, Humber Valley Village

Data will be used in the following way:

This dataset will be merged with other dataset that contains geospatial co-ordinates of various postal codes in Toronto to obtain Latitude & Longitude for each Neighborhood.

2. List of postal codes in Toronto area along with their latitude and longitude.

Link: http://cocl.us/Geospatial_data

This data set contains geospatial co-ordinates of various postal codes in Toronto.

Example of the data:

Postal Code	Latitude	Longitude
M1B	43.8066863	-79.1943534
M1C	43.7845351	-79.1604971
M1E	43.7635726	-79.1887115
M1G	43.7709921	-79.2169174

Data will be used in the following way:

This dataset will be merged with other dataset that contains list of Postal Codes and corresponding Boroughs and Neighborhoods in Toronto to obtain Latitude & Longitude for each Neighborhood.

3. Current footprint of Indian restaurants in each neighborhood of Toronto area.

Link: <https://developer.foursquare.com/docs/api-reference/venues/search/>

Data will be used in the following way:

This information will be gathered by marking a call to FourSquare API to fetch venues around each neighborhood within certain radius. We will then filter this dataset to get information about only Indian restaurants.

4. Recent Crime Data in Toronto neighborhoods.

This dataset contains Toronto Police Data for Years 2014 through 2019. It has provides information about what type of offenses were reported along with their location and type of premise where the crimes were committed.

Link: <https://www.kaggle.com/kapastor/toronto-police-data-crime-rates-by-neighbourhood>

Example of the data:

event_unique	premisetype	ucr_code	ucr_ext	offence	reported	reported	reported	reported	reported	reported	occurrence	occurrence	occurrence	occurrence	occurrence	occurrence	MCI	Division	Hood_ID	Neighbourhood	Borough	Long	Lat	ObjectID
GO-201910950	Apartment	1420	100	Assault W	2019	June	14	165	Friday	0	2019	June	14	165	Friday	0	Assault	D32	39	Bedford P	North Yor	-79.4159	43.72301	131005
GO-201912107	Commercial	1610	210	Robbery -	2019	January	3	3	Thursday	2	2019	January	3	3	Thursday	2	Robbery	D22	10	Princess-E	Etobicoke	-79.5555	43.67422	131024
GO-201923470	Apartment	1480	100	Assault - F	2019	January	4	4	Friday	20	2019	January	4	4	Friday	20	Assault	D11	86	Roncesval	West Torc	-79.4354	43.64421	131025
GO-201929353	Outside	1450	100	Discharge	2019	January	5	5	Saturday	20	2019	January	5	5	Saturday	20	Assault	D42	118	Tam O'Sha	Scarborou	-79.3222	43.77351	131026
GO-201916754	Commercial	2120	200	B&E	2019	January	27	27	Sunday	10	2019	January	27	27	Sunday	4	Break and	D22	19	Long Bran	Etobicoke	-79.5324	43.59474	131028
GO-201937476	Outside	1420	100	Assault W	2019	February	28	59	Thursday	13	2019	February	28	59	Thursday	13	Assault	D51	75	Church-Y	Downtow	-79.3842	43.66391	131029
GO-201912011	Commercial	2120	200	B&E	2019	June	28	179	Friday	12	2019	June	18	169	Tuesday	8	Break and	D31	26	Downsvie	North Yor	-79.5266	43.71693	131033
GO-201912010	Apartment	1420	110	Assault B	2019	June	28	179	Friday	14	2019	June	27	178	Thursday	9	Assault	D13	109	Caledonia	York	-79.4528	43.68694	131034
GO-201919840	Commercial	2120	200	B&E	2019	October	14	287	Monday	18	2019	October	11	284	Friday	20	Break and	D55	70	South Riv	East Toror	-79.3476	43.6565	131035

Data will be used in the following way:

This data will be filtered for Commercial Premises and will be grouped by neighborhood & boroughs identify the boroughs & neighborhoods that have least crime rate in commercial premises.

3. Approach for how above data will be used to solve business problem

1. Build a dataset of boroughs & neighborhoods in Toronto area along with their geospatial coordinates.
2. Using FourSquare Venue API, get list of all venues within half a mile radius for each neighborhood.
3. Filter this list to build a dataset of only the Indian Restaurants in each neighborhood.
4. Analyze above dataset to find boroughs & neighborhoods with the greatest number of Indian Restaurants & least number of Indian Restaurants.
5. Using FourSquare Venue Details API, get details for each restaurant such as rating, tips and number of likes.
6. Sort the list of restaurants by ratings and identify the boroughs & neighborhoods that have the best Indian Restaurants.
7. Build a dataset of crimes committed in Toronto area in year 2019 with details such as Borough, Neighborhood, type of offence and type of premise.
8. Filter this dataset to get information about crimes committed only in Commercial premises.
9. Analyze the above dataset and identify the boroughs & neighborhoods that have least crime rate in commercial premises.
10. Considering the above data holistically, recommended a location to setup a new Indian Restaurant in Toronto.