

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.

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

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

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

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

Link : http://cocl.us/Geospatial_data

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

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.

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

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>

3. Problems to be solved with the help of above data

Which boroughs & neighborhoods in Toronto have ample of Indian Restaurants and which areas they are scarce?

- Based on the ratings, which boroughs & neighborhoods have the best Indian Restaurants in Toronto?
- In order to find a safer location for a new restaurant, which boroughs & neighborhoods have least crime rate in commercial premises?
- Considering above factors, what is the recommended location to setup a new Indian Restaurant in Toronto?

4. Approach

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. Create a map of Toronto area to visualize the neighborhoods that have the best Indian Restaurants.
8. 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.
9. Filter this dataset to get information about crimes committed only in Commercial premises.
10. Analyze the above dataset and identify the boroughs & neighborhoods that have least crime rate in commercial premises.
11. Considering the above data holistically, recommended a location to setup a new Indian Restaurant in Toronto.