

THE BATTLE  
OF  
**NEIGHBOURHOODS**

# Introduction

- This project is intended to help in exploring facilities around the neighborhood, to make efficient decision on selecting a particular region out from the neighborhood of Scarborough, Toronto.
- This project is for people looking for better neighborhoods. For ease of access to amenities such as Cafe, School, Supermarket, medical shops, grocery shop, theatre, hospital, ethnics, etc.
- This project aims to create an analysis of features for a people migrating to Scarborough to search a best neighborhood as a comparative analysis between neighborhoods.



# Data Section

- Scarborough is a region for new immigrants in Canada to live. Scarborough is one of the most diverse and multicultural areas in the Greater Toronto Area, being home to various religious groups and places of worship.
- Data Source : [https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)

# Methodology

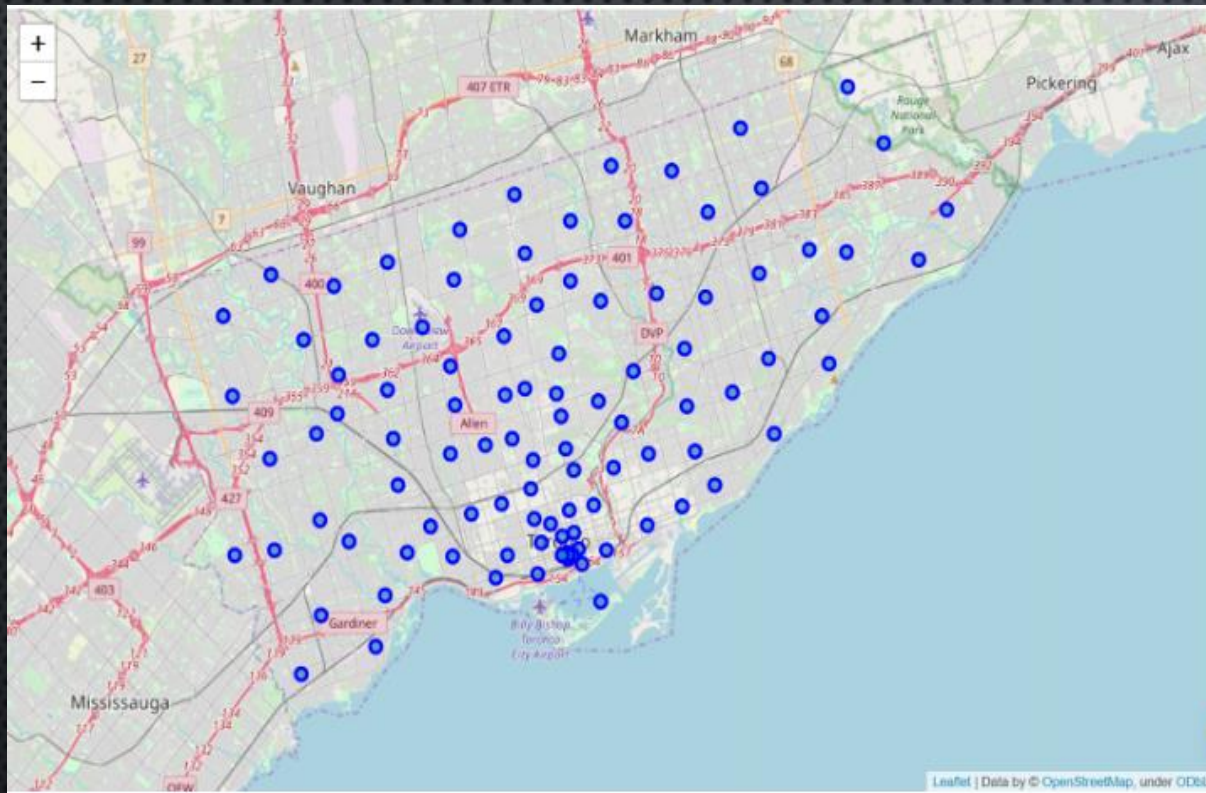
For this project we make use of the following:

1. Clustering Approach: To compare the similarities of two cities, exploring neighborhood
2. Work Flow:
3. Foursquare API: location API, location search and sharing
4. Libraries Which are Used to Developed the Project:
  - Pandas
  - Folium
  - Scikit Learn
  - JSON
  - XML
  - Matplotlib



# Result

Cluster result



Map of Scarborough



|   | Postalcode | Borough     | Neighborhood                           | Latitude  | Longitude  | Cluster Labels | 1st Most Common Venue | 2nd Most Common Venue      | 3rd Most Common Venue | 4th Most Common Venue      | 5th Most Common Venue       | 6th Most Common Venue | 7th Most Common Venue       |
|---|------------|-------------|--|-----------|------------|----------------|-----------------------|----------------------------|-----------------------|----------------------------|-----------------------------|-----------------------|-----------------------------|
| 0 | M1B        | Scarborough | Rouge, Malvern                         | 43.811525 | -79.195517 | 0              | Zoo Exhibit           | Financial or Legal Service | Fast Food Restaurant  | Construction & Landscaping | Fish & Chips Shop           | Filipino Restaurant   | Field                       |
| 1 | M1C        | Scarborough | Highland Creek, Rouge Hill, Port Union | 43.785665 | -79.158725 | 0              | Bar                   | Falafel Restaurant         | Donut Shop            | Dumpling Restaurant        | Eastern European Restaurant | Electronics Store     | Elementary School           |
| 2 | M1E        | Scarborough | Guildwood, Morningside, West Hill      | 43.765815 | -79.175193 | 2              | Park                  | Gym / Fitness Center       | Pool                  | Fried Chicken Joint        | Indian Restaurant           | Athletics & Sports    | Ethiopian Restaurant        |
| 3 | M1G        | Scarborough | Woburn                                 | 43.768369 | -79.217590 | 0              | Coffee Shop           | Fast Food Restaurant       | Business Service      | Park                       | Yoga Studio                 | Dumpling Restaurant   | Eastern European Restaurant |
| 4 | M1H        | Scarborough | Cedarbrae                              | 43.769688 | -79.239440 | 0              | Flower Shop           | Athletics & Sports         | Thai Restaurant       | Bank                       | Bakery                      | Caribbean Restaurant  | Hakka Restaurant            |



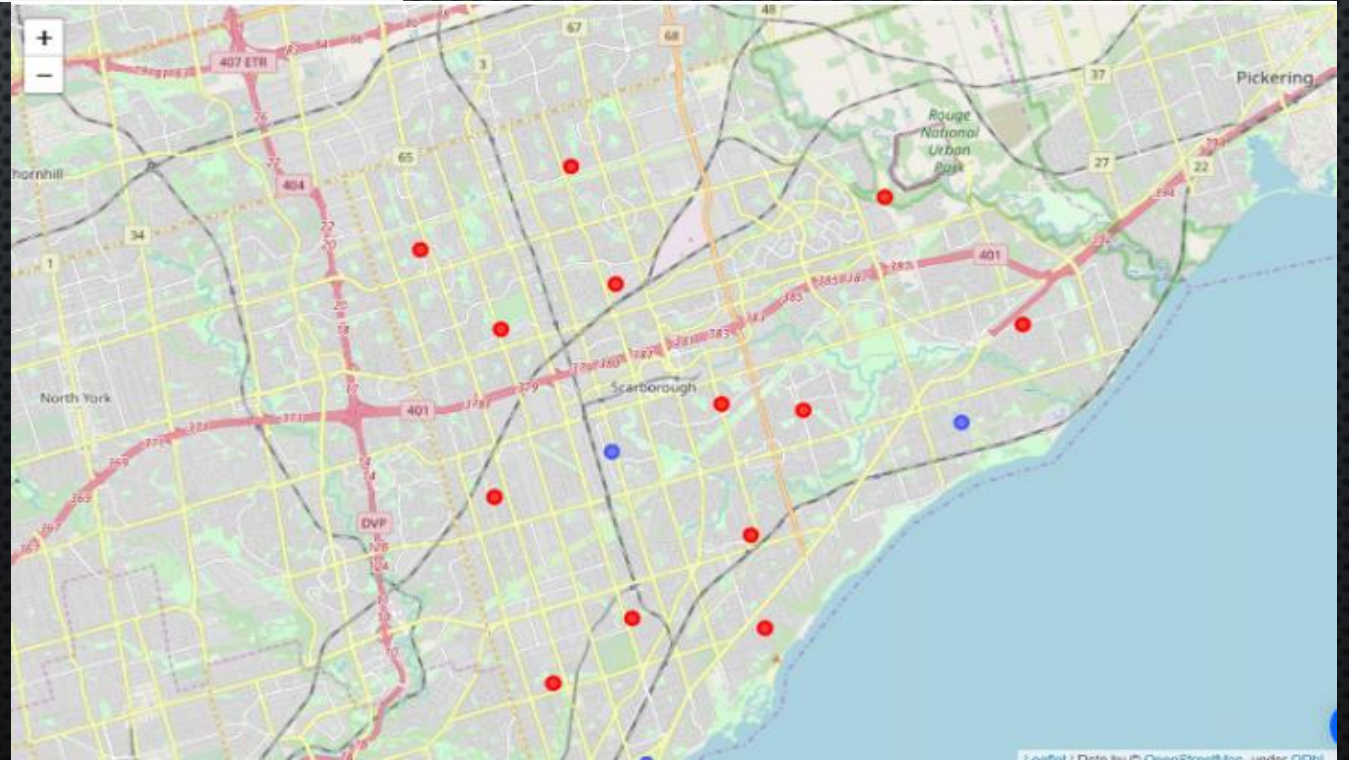
# Result

| Neighborhood                                      | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | 4th Most Common Venue | 5th Most Common Venue | 6th Most Common Venue | 7th Most Common Venue       | 8th Most Common Venue    | 9th Most Common Venue |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------------|--------------------------|-----------------------|
| Adelaide, King, Richmond                          | Coffee Shop           | Café                  | Hotel                 | Gastropub             | Burger Joint          | Asian Restaurant      | Bar                         | Restaurant               | American Restaurant   |
| Agincourt   | Chinese Restaurant    | Shopping Mall         | Pizza Place           | Supermarket           | Sushi Restaurant      | Breakfast Spot        | Print Shop                  | Mediterranean Restaurant | Coffee Shop           |
| Agincourt North, L'Amoreaux East, Milliken, St... | Pharmacy              | Sandwich Place        | Sushi Restaurant      | Doner Restaurant      | Donut Shop            | Dumpling Restaurant   | Eastern European Restaurant | Electronics Store        | Elementary School     |
| Albion Gardens, Beaumont Heights, Humbergate, ... | Grocery Store         | Park                  | Sandwich Place        | Discount Store        | Japanese Restaurant   | Fried Chicken Joint   | Beer Store                  | Hardware Store           | Pizza Place           |



Similar Venues in Neighborhoods

Map of cluster of Scarborough





# Discussion

- Figure 1 shows the map of Scarborough, Toronto and its neighborhood.
- Figure 2 shows the result obtained after using the cluster approach which listed the venues in Scarborough, Toronto. The venues listed include coffee shop, restaurant, electronic stores, yoga studio, bank, bakery etc.
- Figure 3 depicts the similar or common venues in the neighborhood in Scarborough, Toronto.
- Figure 4 depicts clusters of similar venues of facilities or amenities present in Scarborough, Toronto.
- Figure 5 shows the chart data of average house pricing of each neighborhood in Scarborough.
- Figure 6 shows the schools rating chart

# Conclusion

In this Capstone project, using k-means cluster algorithm the neighborhood has been separated into 10(Ten) different clusters from dataset, which have very-similar neighborhoods around them. Charts presented in the result sections shows the average house prices and school rating based on each neighborhood.