



# **FINDING A BETTER PLACE IN NORTH YORK, TORONTO**

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# INTRODUCTION:

- The purpose of this Project is to help people in exploring better facilities around their neighborhood. It will help people making smart and efficient decision on selecting great neighborhood out of numbers of other neighborhoods in North York, Toronto.
- Lots of people are migrating to various states of Canada and needed lots of research for good housing prices and population of the area. This project is for those people who are looking for better neighborhoods. For ease of accessing to Cafe, School, Super market, medical shops, grocery shops, mall, theatre, hospital, like minded people, etc.
- This Project aim to create an analysis of features for a people migrating to North York to search a best neighborhood as a comparative analysis between neighborhoods.

# PROBLEM:

- To find the answers to the following questions:
- Q1) Cluster the neighborhoods and list and visualize them in the terms of **number of facilities available** in those neighborhoods
- Q2) Cluster the neighborhoods and list and visualize them in the terms of **housing prices and population** of those neighborhoods

# DATA SECTION:

For this project we need the following data:

1. All the postal codes along with borough and neighborhoods of Toronto
  - 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)
  - Description: We will use North York Dataset after scrapping the above wikipedia page. This dataset is then added with latitude and longitude.
2. Average house price of all the postal codes of Toronto
  - Data source : <https://housepricehub.com/cities/city/Toronto>
  - Description: We will use this website to scrape the price average house price of all postal code of Toronto and then process it for our use.
3. Population of all postal codes of Canada
  - Data source : <https://www12.statcan.gc.ca/census-recensement/2016/>
  - Description: We will use this website to scrape the population of each postal code of Canada and then process it for our use

# METHODOLOGY:

1. We scrapped the data of only North York neighborhoods and found the location of all the neighborhoods
2. We used Foursquare API to find all the venues in all the neighborhoods and then counted in category wise.
3. Next we used K-Means Clustering and created clusters and inferred conclusions.
4. For the next part we scraped the average price and population of each neighborhood.
5. We again used K-Means Clustering and created clusters and inferred conclusions.

# CONCLUSION:

So now we can answer the questions asked above in the Questions section:

Answers:

Question 1:

The following 3 clusters were made:

```
cluster1 =
```

	Postal Code	Neighbourhood
7	M3H	Bathurst Manor, Wilson Heights, Downsview North

```
cluster2 =
```

	Postal Code	Neighbourhood
15	M9L	Humber Summit
17	M3M	Downsview Central

```
cluster3 =
```

	Postal Code	Neighbourhood
0	M3A	Parkwoods
1	M4A	Victoria Village
2	M6A	Lawrence Manor, Lawrence Heights
3	M3B	Don Mills North
4	M6B	Glencairn
5	M3C	Don Mills South
6	M2H	Hillcrest Village
8	M2J	Fairview, Henry Farm, Oriole
9	M3J	Northwood Park, York University
10	M2K	Bayview Village
11	M3K	Downsview East
12	M2L	York Mills, Silver Hills
13	M3L	Downsview West
14	M6L	North Park, Maple Leaf Park, Upwood Park
16	M2M	Willowdale, Newtonbrook
18	M5M	Bedford Park, Lawrence Manor East
19	M9M	Humberlea, Emery
20	M2N	Willowdale South
21	M3N	Downsview Northwest
22	M2P	York Mills West
23	M2R	Willowdale West

# CONCLUSION:

Question 2:

The following 3 clusters were made:

Cluster 2

Postal Code		Neighbourhood
8	M2J	Fairview, Henry Farm, Oriole
20	M2N	Willowdale South

Cluster 1

Postal Code		Neighbourhood
3	M3B	Don Mills North
5	M3C	Don Mills South
12	M2L	York Mills, Silver Hills
22	M2P	York Mills West

	Price	Population	Latitude	Longitude
cluster				
0	1.596880e+06	25150.944444	43.748603	-79.449109
1	6.812207e+06	18009.250000	43.743918	-79.371577
2	2.022157e+06	67095.000000	43.774355	-79.377545

Analysis of each cluster

Postal Code		Cluster 0	Neighbourhood
0	M3A		Parkwoods
1	M4A		Victoria Village
2	M6A		Lawrence Manor, Lawrence Heights
4	M6B		Glencairn
6	M2H		Hillcrest Village
7	M3H		Bathurst Manor, Wilson Heights, Downsview North
9	M3J		Northwood Park, York University
10	M2K		Bayview Village
11	M3K		Downsview East
13	M3L		Downsview West
14	M6L		North Park, Maple Leaf Park, Upwood Park
15	M9L		Humber Summit
16	M2M		Willowdale, Newtonbrook
17	M3M		Downsview Central
18	M5M		Bedford Park, Lawrence Manor East
19	M9M		Humberlea, Emery
21	M3N		Downsview Northwest
23	M2R		Willowdale West