THE BATTLE OF NEIGHBORHOODS

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 Scarborough, Toronto.

- This Project aim to create an analysis of features for a people migrating to Scarborough to search a best neighborhood as a comparative analysis between neighborhoods. The features include median housing price and better school according to ratings, crime rates of that particular area, road connectivity, weather conditions, good management for emergency, water resources both freash and waste water and excrement conveyed in sewers and recreational facilities.

DATA

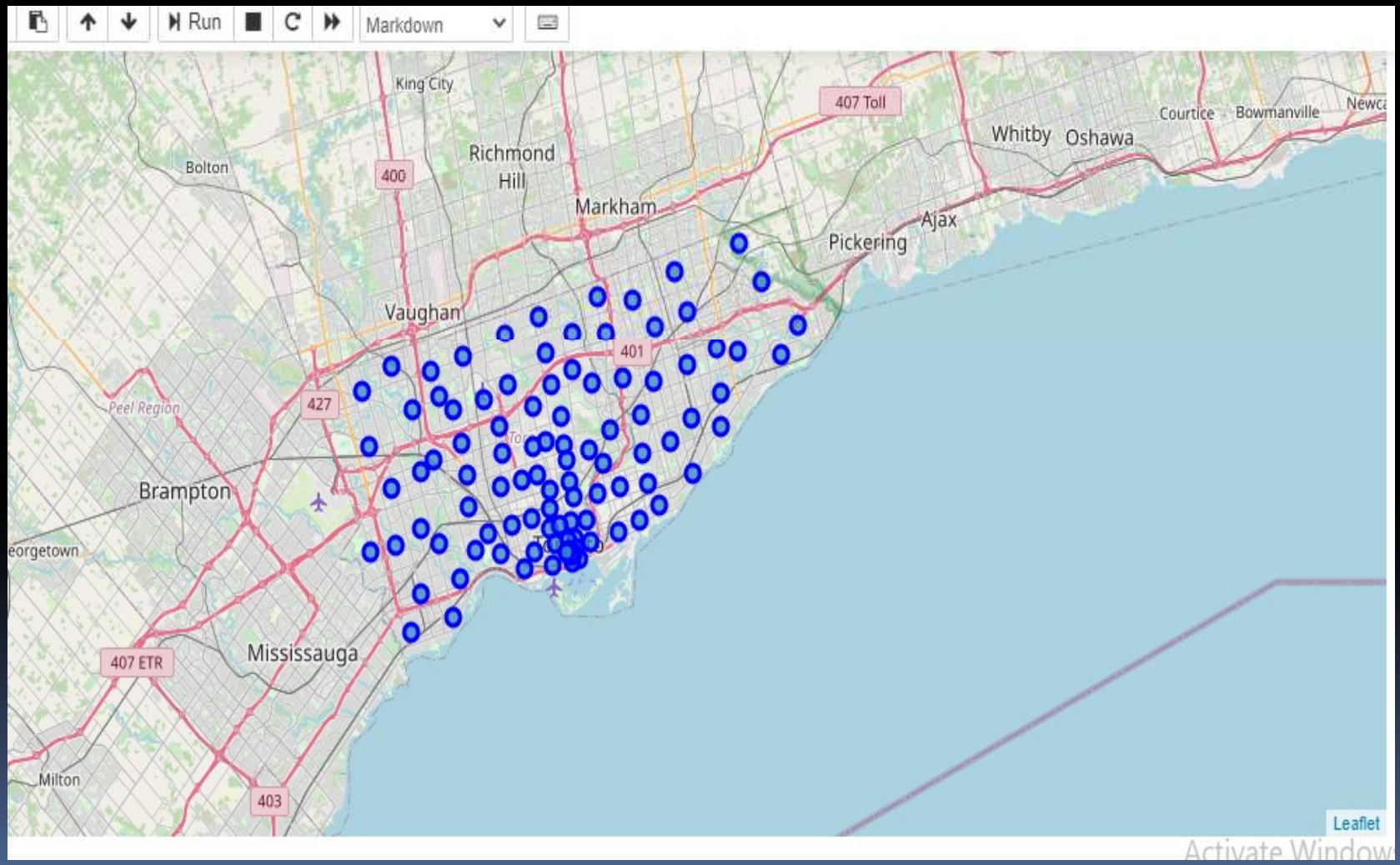
Data Link: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

Foursquare API Data:

- We will need data about different venues in different neighborhoods of that specific borough. In order to gain that information we will use "Foursquare" location information.

- The Foursquare Places API provides location based experiences with diverse information about venues, users, photos, and check-ins. The API supports real time

MAP OF SCARBOROUGH



METHODOLOGY

To compare the similarities of two cities, clustering approach is used. We decided to explore neighborhoods, segment them, and group them into clusters to find similar neighborhoods in a big city like New York and Toronto. To be able to do that, we need to cluster data which is a form of unsupervised machine learning: k-means clustering algorithm.

MOST COMMON VENUES

Out[47]:

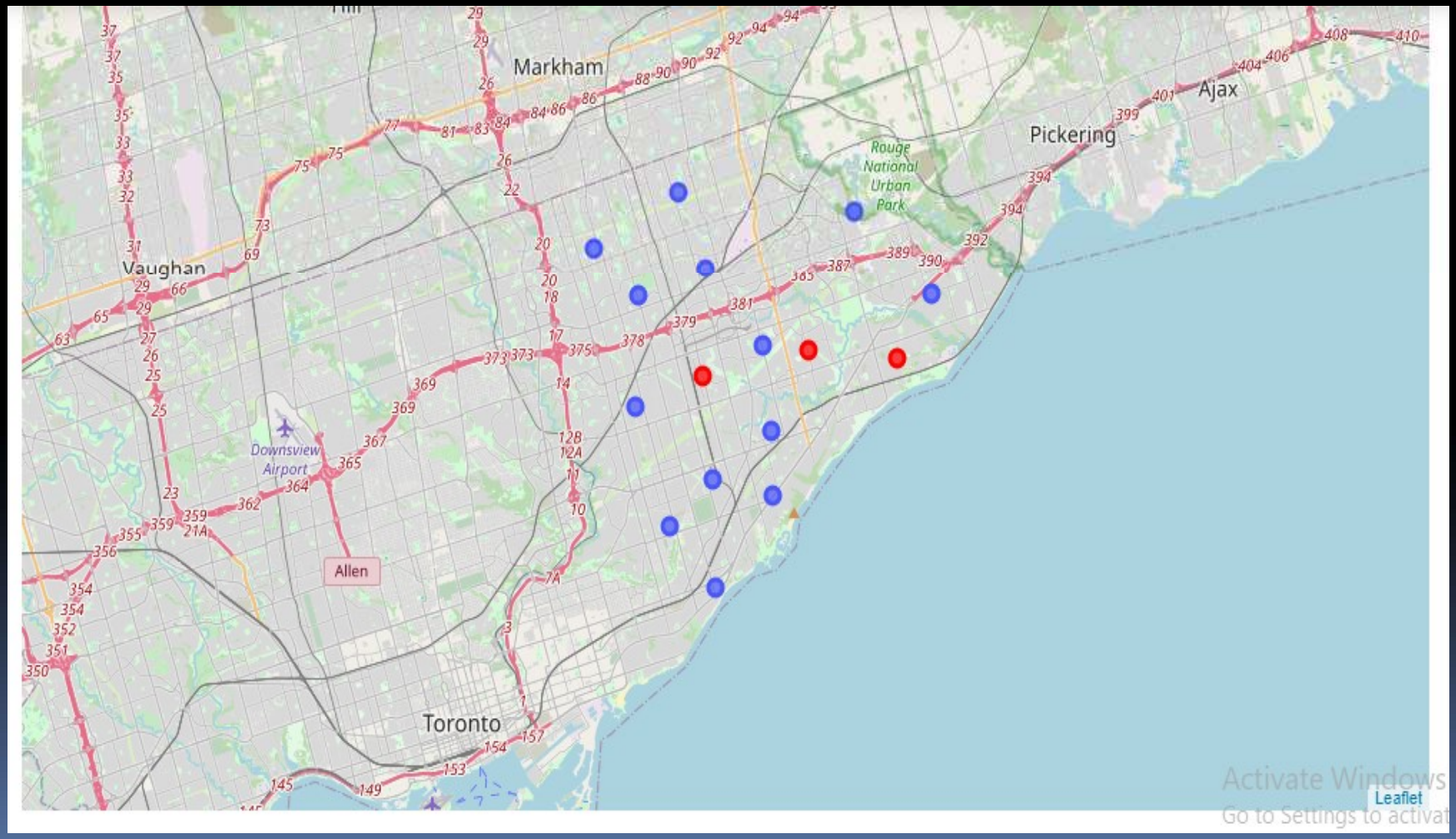
	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Agincourt	Chinese Restaurant	Shopping Mall	Pizza Place	Skating Rink	Pool Hall	Supermarket	Sushi Restaurant	Sandwich Place	Discount Store	Bank
1	Alderwood, Long Branch	Pizza Place	Print Shop	Gas Station	Coffee Shop	Gym	Pub	Sandwich Place	Pool	Cosmetics Shop	Elementary School
2	Bathurst Manor, Wilson Heights, Downsview North	Park	Convenience Store	Other Great Outdoors	Doner Restaurant	Dumpling Restaurant	Eastern European Restaurant	Electronics Store	Elementary School	Escape Room	Ethiopian Restaurant
3	Bayview Village	Dog Run	Asian Restaurant	Trail	Park	Ethiopian Restaurant	Dumpling Restaurant	Eastern European Restaurant	Electronics Store	Elementary School	Escape Room
4	Bedford Park, Lawrence Manor East	Coffee Shop	Pizza Place	Italian Restaurant	Sandwich Place	Intersection	Butcher	Sports Club	Thai Restaurant	Pub	Café

USING CLUSTERING METHOD

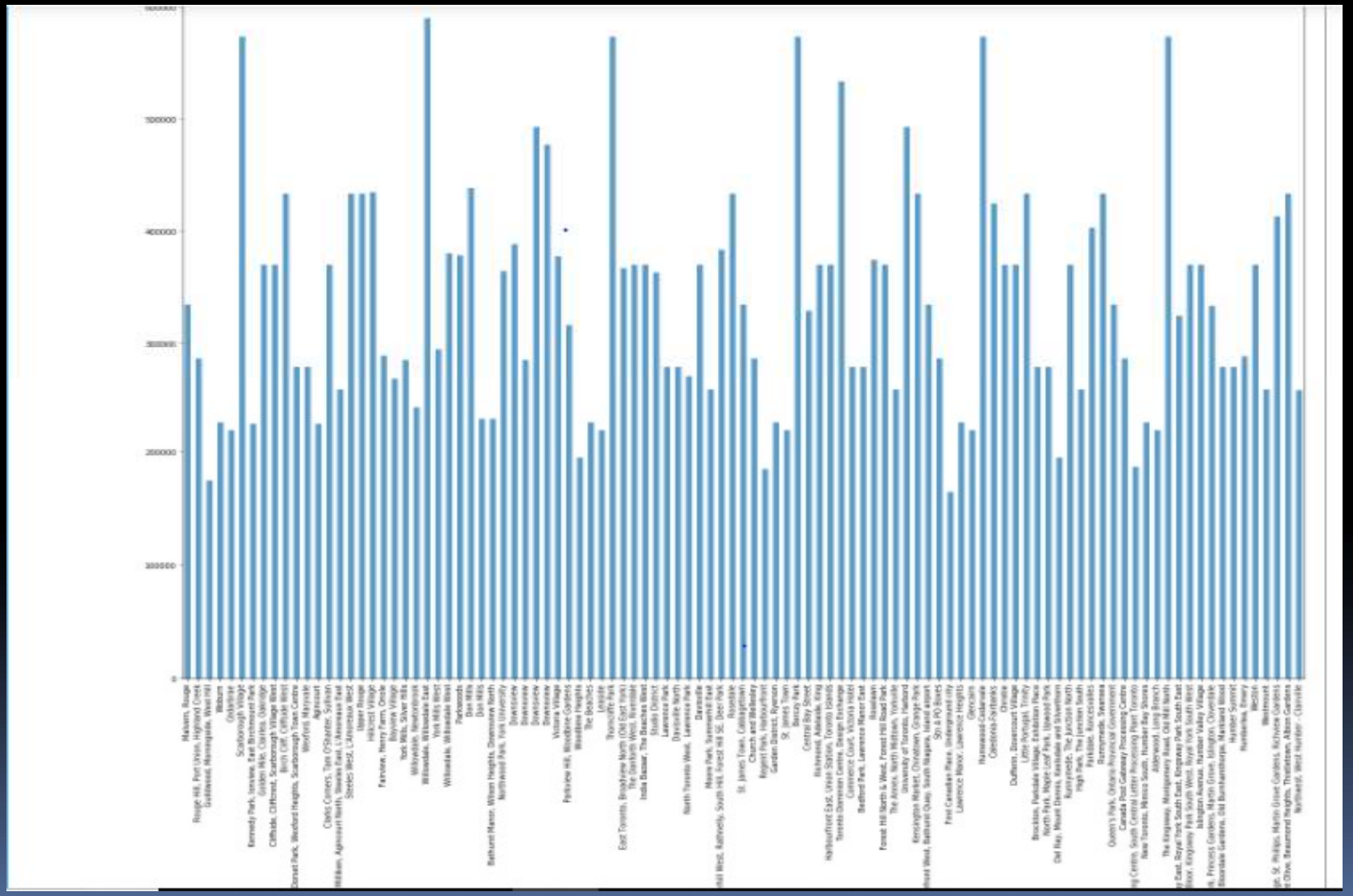
t[49]:

	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	8 C
0	M1B	Scarborough	Malvern, Rouge	43.81153	-79.19552	2	Zoo Exhibit	Financial or Legal Service	Paintball Field	Fast Food Restaurant	Ethiopian Restaurant	Dumpling Restaurant	Eastern European Restaurant	Ele
1	M1C	Scarborough	Rouge Hill, Port Union, Highland Creek	43.78564	-79.15871	2	Construction & Landscaping	Home Service	Fish & Chips Shop	Bar	Falafel Restaurant	Eastern European Restaurant	Electronics Store	Ele
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.76575	-79.17520	0	Park	Athletics & Sports	Gym / Fitness Center	Yoga Studio	Ethiopian Restaurant	Dumpling Restaurant	Eastern European Restaurant	Ele
3	M1G	Scarborough	Woburn	43.76820	-79.21761	0	Coffee Shop	Chinese Restaurant	Fast Food Restaurant	Park	Ethiopian Restaurant	Dumpling Restaurant	Eastern European Restaurant	Ele
4	M1H	Scarborough	Cedarbrae	43.76969	-79.23944	2	Thai Restaurant	Indian Restaurant	Gas Station	Caribbean Restaurant	Bank	Bakery	Athletics & Sports	Re

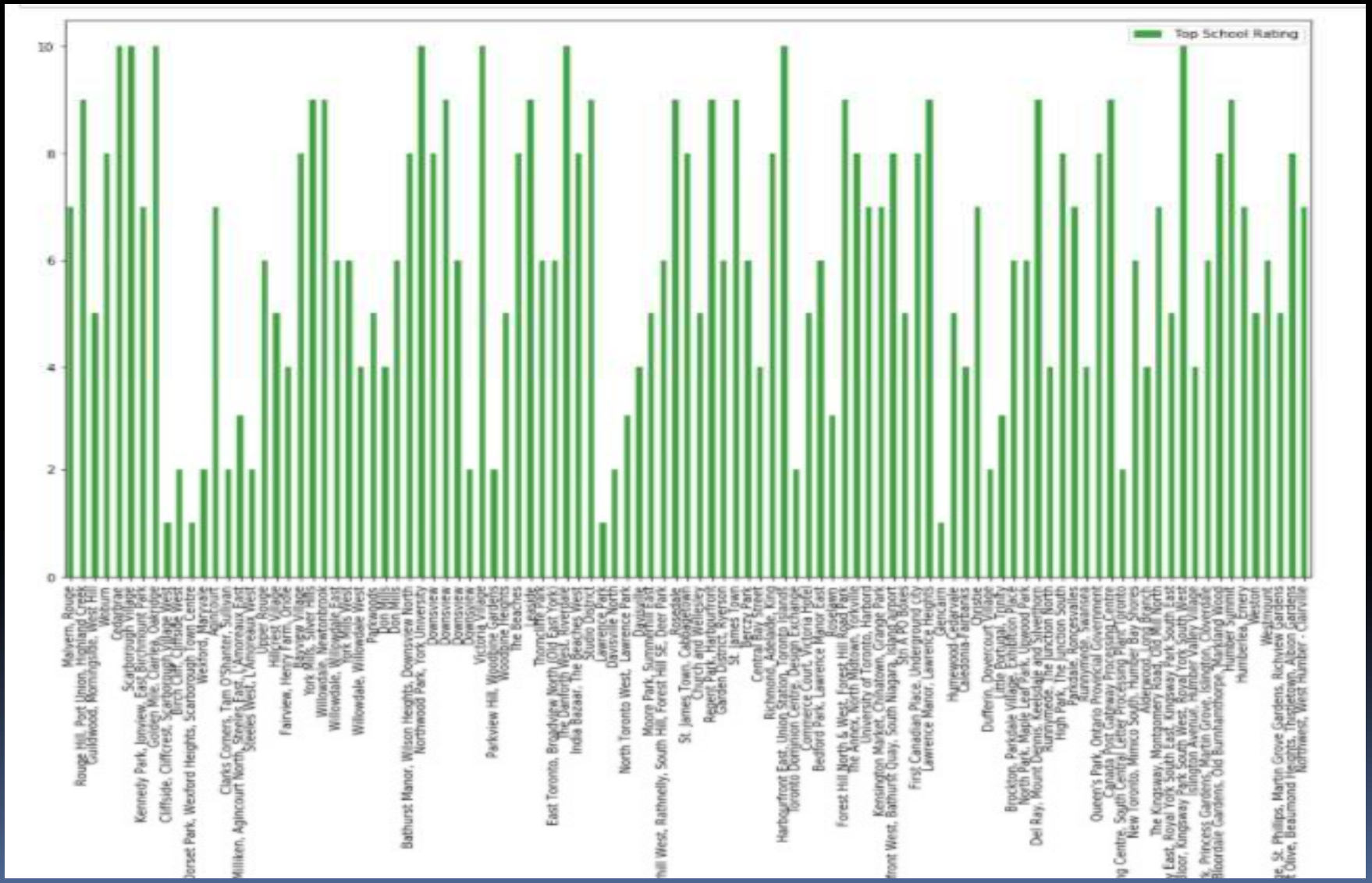
CLUSTERS IN SCARBOROUGH



AVERAGE HOUSING PRICE



SCHOOL RATINGS



CONCLUSION

In this project, using k-means cluster algorithm I separated the neighborhood into 10(Ten) different clusters and for 103 different lattitude and logitude from dataset, which have very-similar neighborhoods around them. Using the charts above results presented to a particular neighborhood based on average house prices and school rating have been made.

Thank You