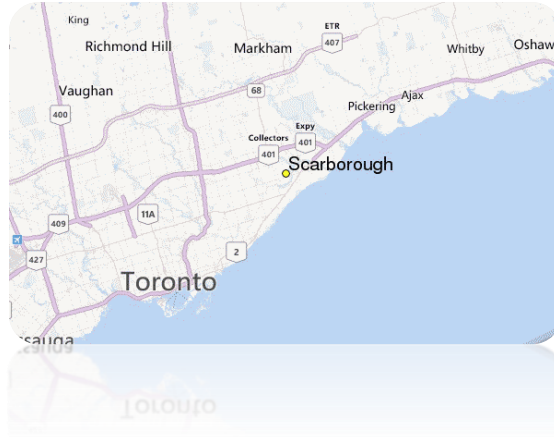# Capstone Project - The Battle of Neighborhoods

Analyzing Median House Prices and School Ratings for Scarborough Canada for Immigrants

The Location:

Scarborough is a popular destination for new immigrants in Canada to reside. As a result, it is one of the most diverse and multicultural areas in the Greater Toronto Area, being home to various religious groups and places of worship.

Project Description:

Many people migrating to various states of Canada require search of a good housing prices as well as good rating schools for their children. The projects aim to create an analysis of features for a neighborhood as a comparative analysis between neighborhoods. The features include median house price and school ratings and recreational facilities. This would help people to get awareness of the places before moving to a new country, state, city or place for their work or to start a new life

This Project would help people take a better decision on choosing the best neighborhood out of many neighborhoods in Scarborough city based on the distribution of various facilities in and around that neighborhood.

Foursquare API:

This project would use Four-square API as its prime data gathering source as it has a database of millions of places, especially their places API which provides the ability to perform location search, location sharing and details about a business.

Work Flow:

Using credentials of Foursquare API features of near-by places of the neighborhoods would be mined. Due to http request limitations the number of places per neighborhood parameter would reasonably be set to 100 and the radius parameter would be set to 500.

Clustering Approach

To compare the similarities of two cities, 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

NEIGHBORHOOD MOST COMMON VENUES

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	
Agincourt	Shopping Mall	Chinese Restaurant	Supermarket	Pool	Breakfast Spot	Malay Restaurant	Mediterranean Restaurant	Hong Kong Restaurant	D
Agincourt North, L'Amoreaux East, Milliken, St...	Coffee Shop	Pharmacy	Sandwich Place	Zoo Exhibit	Construction & Landscaping	Convenience Store	Deli / Bodega	Department Store	
Birch Cliff, Cliffside West	Park	Gym	Gym Pool	General Entertainment	Café	Skating Rink	College Stadium	Discount Store	Co
Cedarbrae	Flower Shop	Athletics & Sports	Bakery	Thai Restaurant	Bank	Hakka Restaurant	Caribbean Restaurant	Indian Restaurant	F
Clairlea, Golden Mile, Oakridge	Coffee Shop	Bus Line	Diner	General Entertainment	Ice Cream Shop	Intersection	Metro Station	Convenience Store	

NEIGHBORHOOD MEDIAN HOUSING PRICES
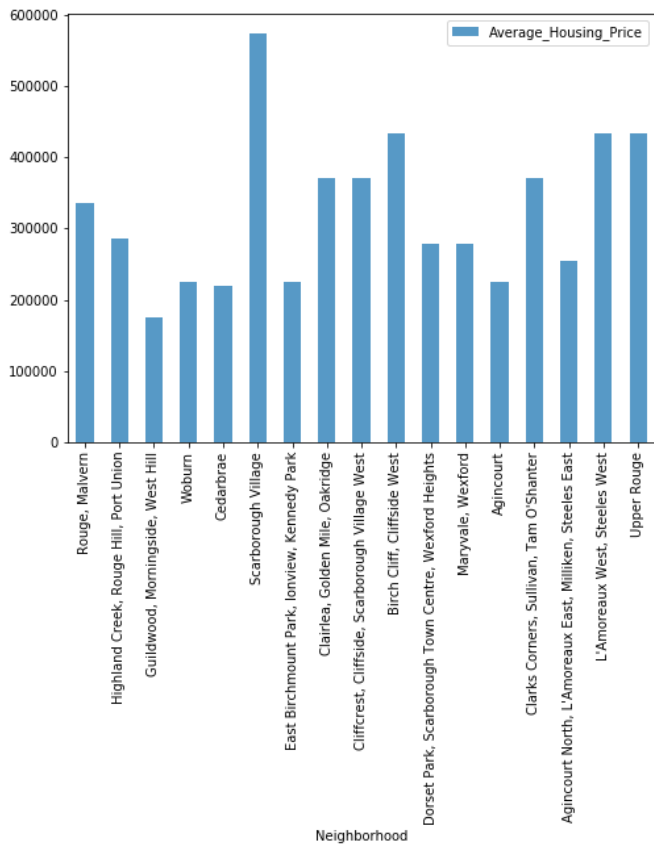
NEIGHBORHOOD SCHOOL RATINGS
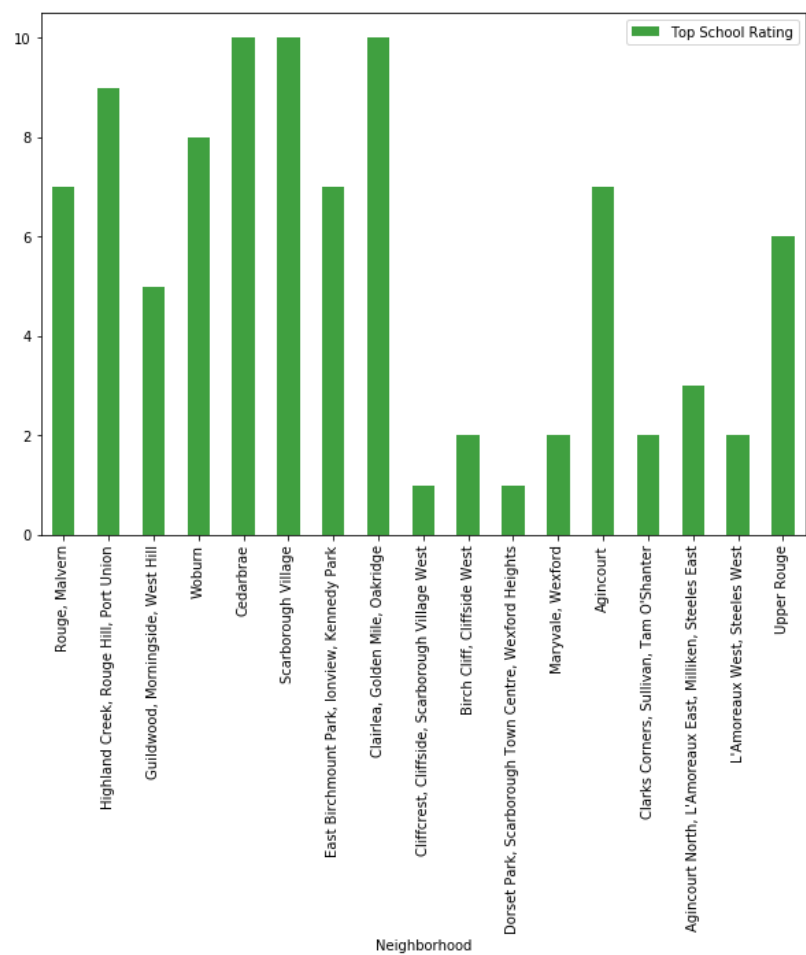
Conclusion:

In this project, through a k-means cluster algorithm we separate the neighborhood into 03 clusters, which have similar neighborhoods around them. Using the charts above decision leading to a particular neighborhood based on average house prices and school rating can be made