



The Battle of Neighborhoods

HELLO!

I am

● Muhammad Ateeb



Introduction

The purpose of this Capstone 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.



Data Section

Data Link: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M Will use Scarborough dataset which we scrapped from wikipedia on Week 3. Dataset consisting of latitude and longitude, zip codes.

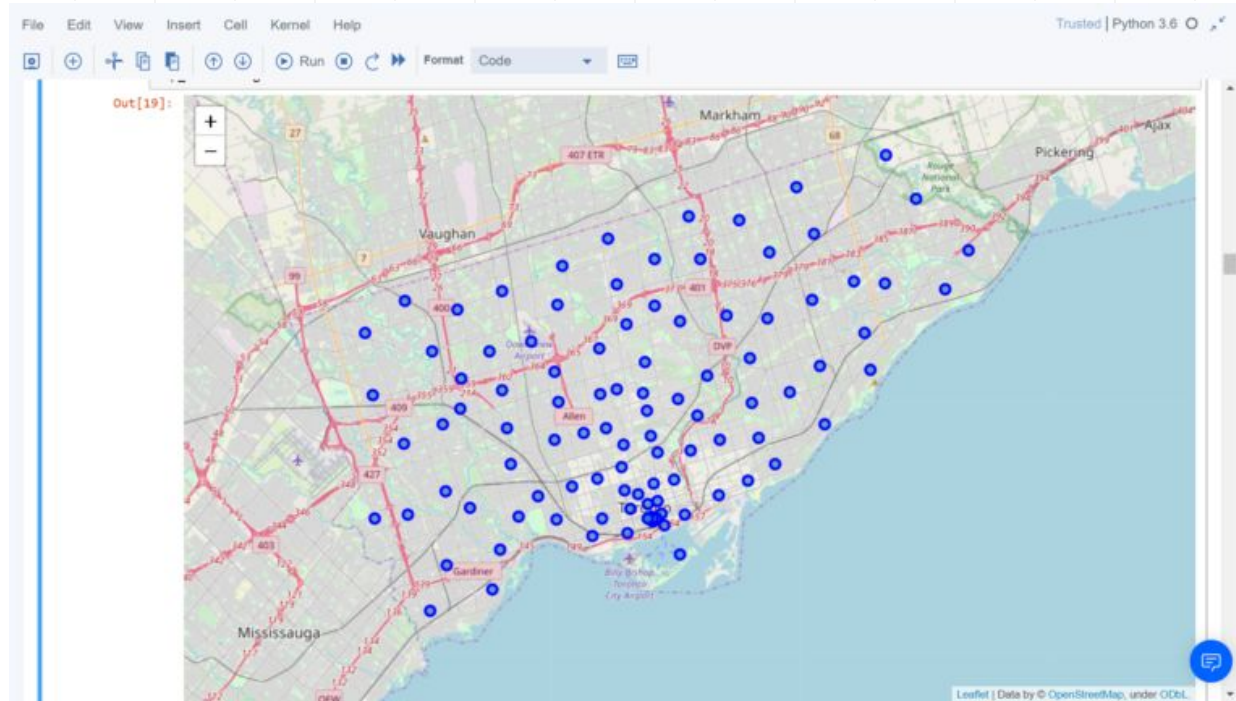
Foursquare API Data:

We will need data about different venues in different neighborhoods of that specific borough.

In order to gain that information we will use “Foursquare” locational information.



Map of Scarborough



Methodology Section

Methodology Section

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.



Using K-Means Clustering Approach | Most Common Venue

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In [36]:

```
neighborhoods_venues_sorted.insert(0, 'Cluster Labels', kmeans.labels_)
Scarborough_merged = df_2.iloc[:,16,:]

# merge toronto_grouped with toronto_data to add Latitude/Longitude for each neighborhood
Scarborough_merged = Scarborough_merged.join(neighborhoods_venues_sorted.set_index('Neighborhood'), on='Neighborhood')
Scarborough_merged.head()# check the last columns!
```

Out[36]:

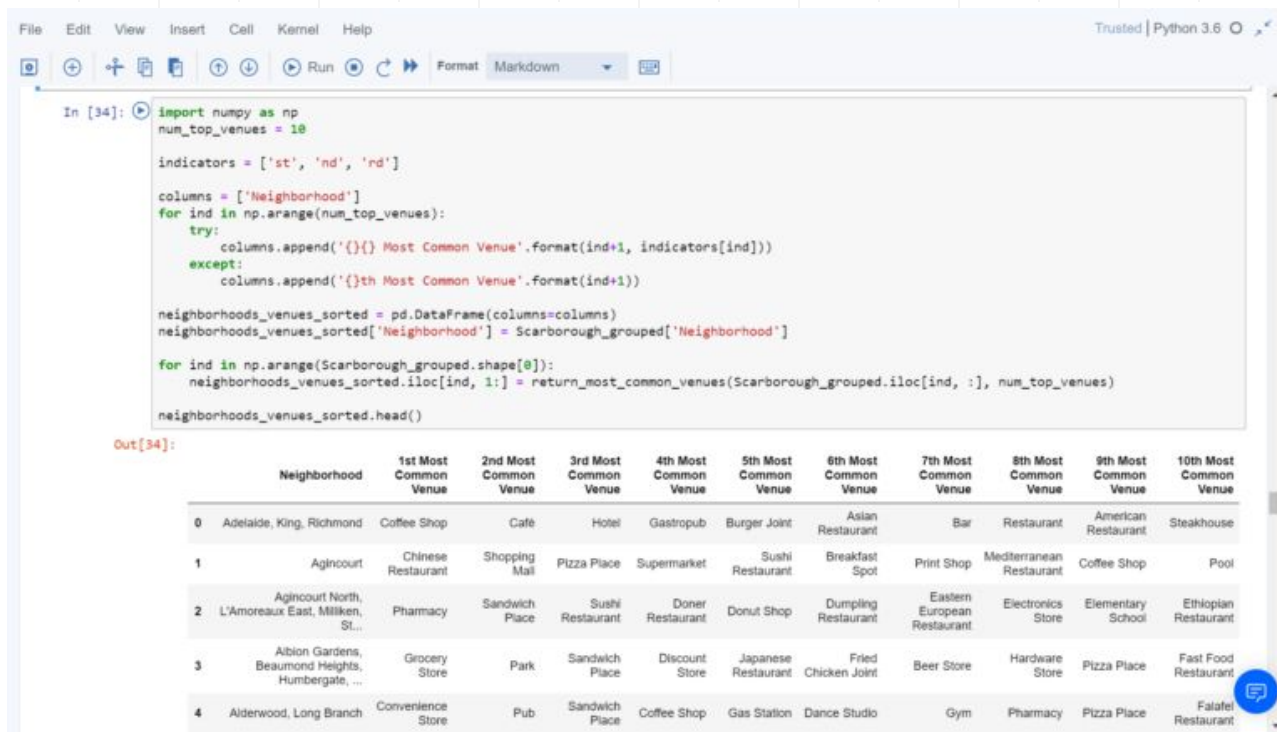
Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Rouge, Malvern	43.811525	-79.195517	0	Zoo Exhibit	Financial or Legal Service	Fast Food Restaurant	Construction & Landscaping	Fish & Chips Shop	Filipino Restaurant	Field	Fish Market	Farmers Market	Doner Restaurant
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	Ethiopian Restaurant	Event Space	Yoga Studio
Guildwood, Morningside, West Hill	43.765815	-79.175193	2	Park	Gym / Fitness Center	Pool	Fried Chicken Joint	Indian Restaurant	Athletics & Sports	Ethiopian Restaurant	Donut Shop	Dumpling Restaurant	Eastern European Restaurant
Woburn	43.768369	-79.217590	0	Coffee Shop	Fast Food Restaurant	Business Service	Park	Yoga Studio	Dumpling Restaurant	Eastern European Restaurant	Electronics Store	Elementary School	Ethiopian Restaurant
Cedarbrae	43.769688	-79.239440	0	Flower Shop	Athletics & Sports	Thai Restaurant	Bank	Bakery	Caribbean Restaurant	Hakka Restaurant	Indian Restaurant	Eastern European Restaurant	Electronics Store

Map of Clusters

In [37]:

```
kclusters = 10
```

Most Common Venues near Neighborhood | Using Clustering



Results Section

The Location:

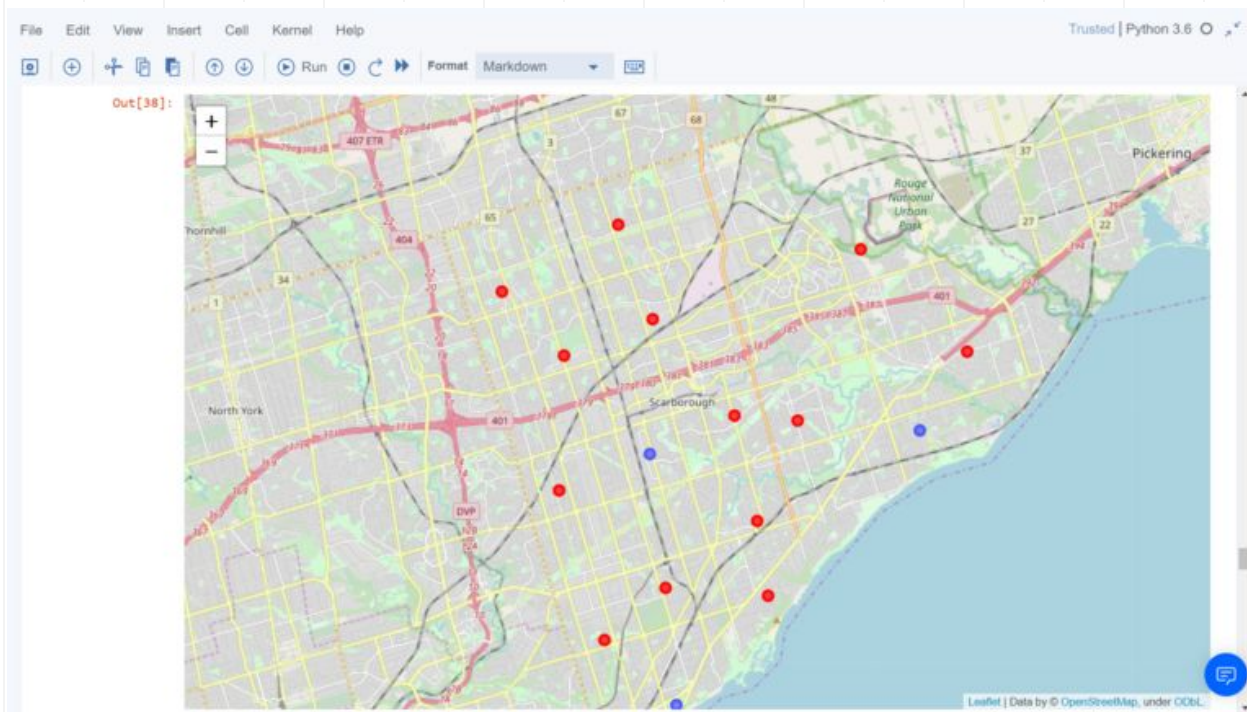
Scarborough is a popular destination for new immigrants in Canada to reside. As a result, it is one of the most diverse and multicultural areas in the Greater Toronto Area, being home to various religious groups and places of worship.

Foursquare API:

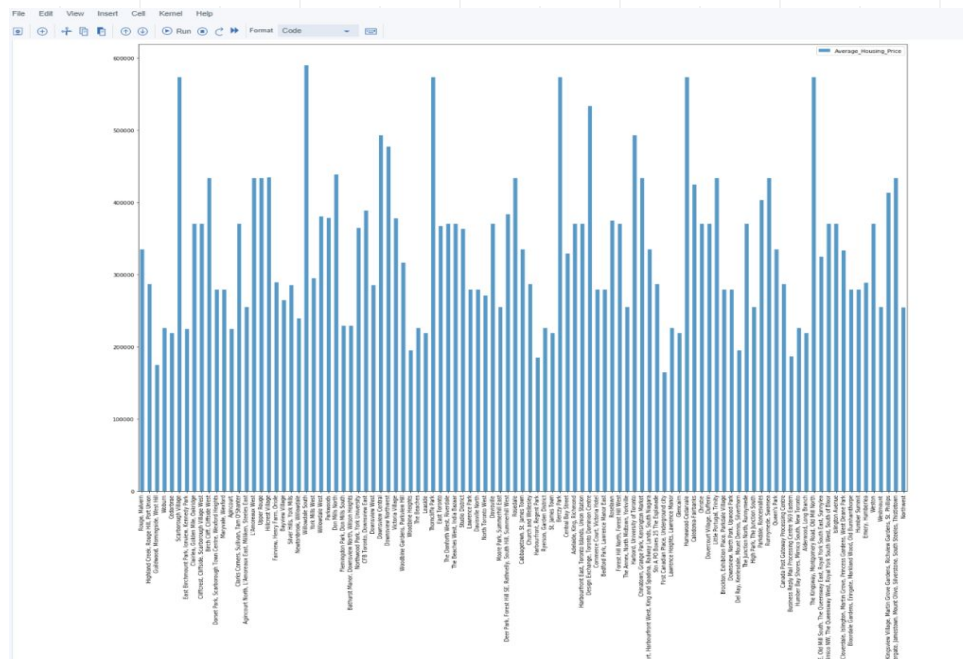
This Capstone project have used Four-square API as its prime data gathering source as it has a database of millions of places, especially their places API which provides the ability to perform location search, location sharing and details about a business.



Map of Clusters in Scarborough



Average Housing Price by Clusters in Scarborough



[illegible]

Discussion Section

Problem Which Tried to Solve:

The major purpose of this project, is to suggest a better neighborhood in a new city for the person who are shifting there. Social presence in society in terms of like minded people. Connectivity to the airport, bus stand, city center, markets and other daily needs things nearby.

- Sorted list of house in terms of housing prices in a ascending or descending order
- Sorted list of schools in terms of location, fees, rating and reviews

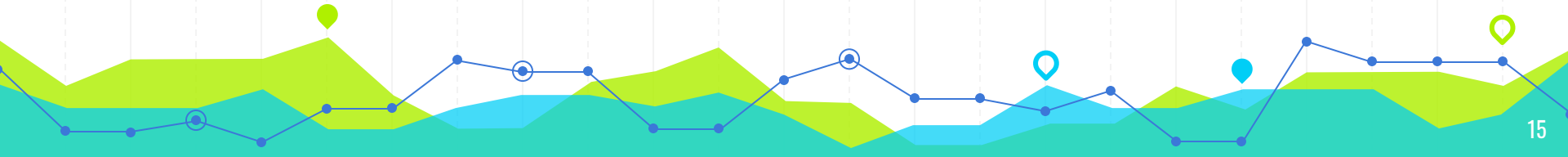
Conclusion Section

In this Capstone project, using k-means cluster algorithm I separated the neighborhood into 10(Ten) different clusters and for 103 different latitude and longitude 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.



Future Works

This Capstone project can be continued for making it more precise in terms to find best house in Scarborough. Best means on the basis of all required things(daily needs or things we need to live a better life) around and also in terms of cost effective



THANKS!

Any questions?

