

Finding the Perfect Neighbourhood

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Introduction



- Canada- A Country in the northern part of North America, is one of the second largest countries in total area
- Population consists of about 38 million with different races, Ethnicity and religion of people.

Business Problem

- Not all neighborhoods can access all all the facilities available. eg Malls shops Schools Entertainment facilities etc.

Data

- Neighbourhoods of Canada
 - Postal codes of Canada wikipedia page through data scraping.
- Venue data from FourSquare
 - Using FourSquare API

Methodology

- Feature Extraction
 - Using K-Clustering method

```
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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!
```

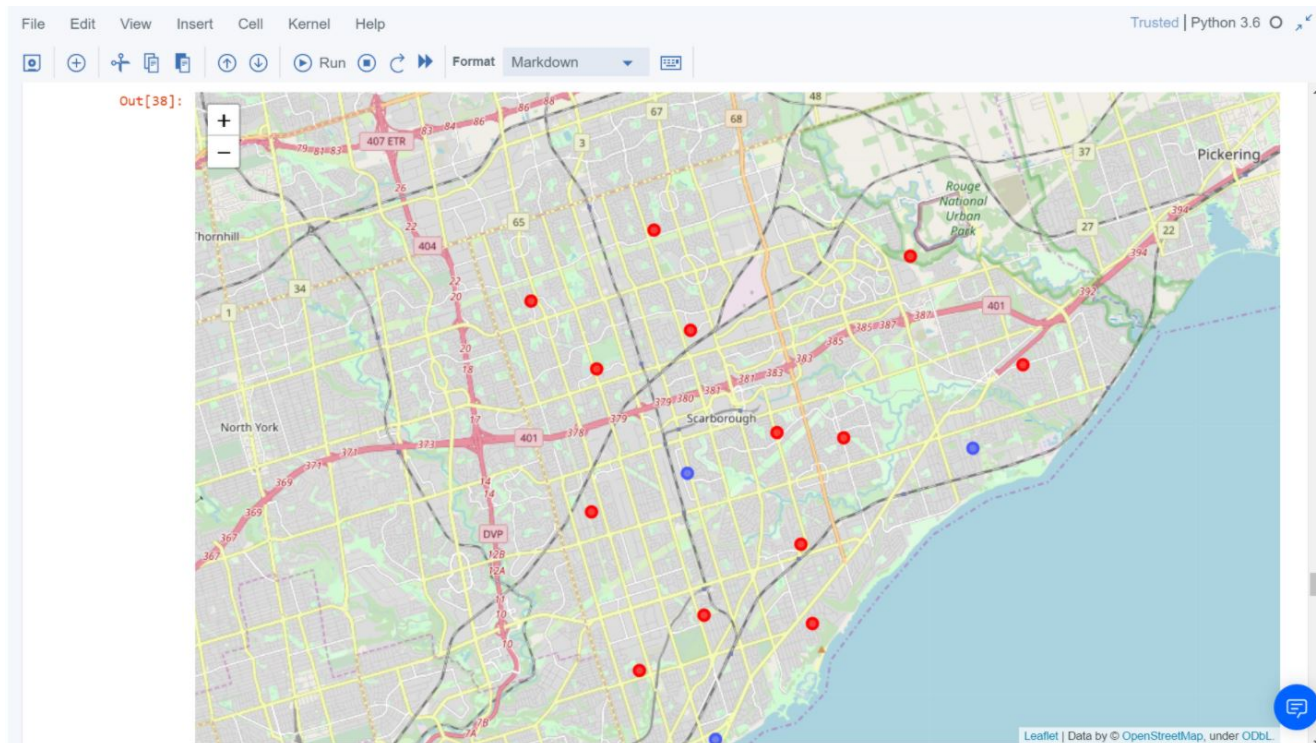
Out[36]:

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
```


- Plotting
 - Cluster points on the Maps



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. Although immigration has become a hot topic over the past few years with more governments seeking more restrictions on immigrants and refugees, the general trend of immigration into Canada has been one of on the rise.

Discussion

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

- ❖ In this 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.