IBM Coursera Capstone Project

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- ## Introduction / Business Problem

There are many people who are working in various cities (say New York and Toronto) across the world. Let's say a person got a job offer from a great company with great career prospects in other city or other borough of his/her current city. If person accept the job offer then he/she has to shift to new location. I think a person would love to shift a location which is exactly or almost similar to his/her last location because he/she loves the great amenities and other types of venues that exist in his/her current neighbourhood like school, gym, swimming pool, Amusement park, restaurants, coffee-shops, spencer etc. So I'll find out what are borough-neighbourhoods are very similar to give current location. A person can shift within the city or from one city to another city. If person is shifting within the city then he/she must be changing the borough and my task would be finding neighbourhoods in that borough which are very similar to his/her last location. If a person is shifting from one city to another city then my task would be finding the similar neighbourhoods.

Target Audience :-

The Job Seekers Who wants to find new Locations for job.

- ## Data :

To Solve this Problem I will Need below Data :

1. List of Neighbourhoods in Toronto, Canada.
2. Latitude and Longitude of this Neighbourhoods.
3. Perfect locations for Jobs.

Extracting The Data:

Scrapping the Data of Neighbourhoods from Wikipedia.

Getting Latitude and Longitude data of these neighbourhoods using geocoder.

Using Foursquare API getting venue data.

- # Methodology

First, I need to get this data from Wikipedia. Scrapping Data by using Pandas Data Frame or Table. Using This I just getting Cities and Their Postal Codes. To Find All Coordinators I used Foursquare API. I am getting Data for New York City and Toronto. After that I Apply EDA (Exploratory Data Analysis) to find Common Data between Them.

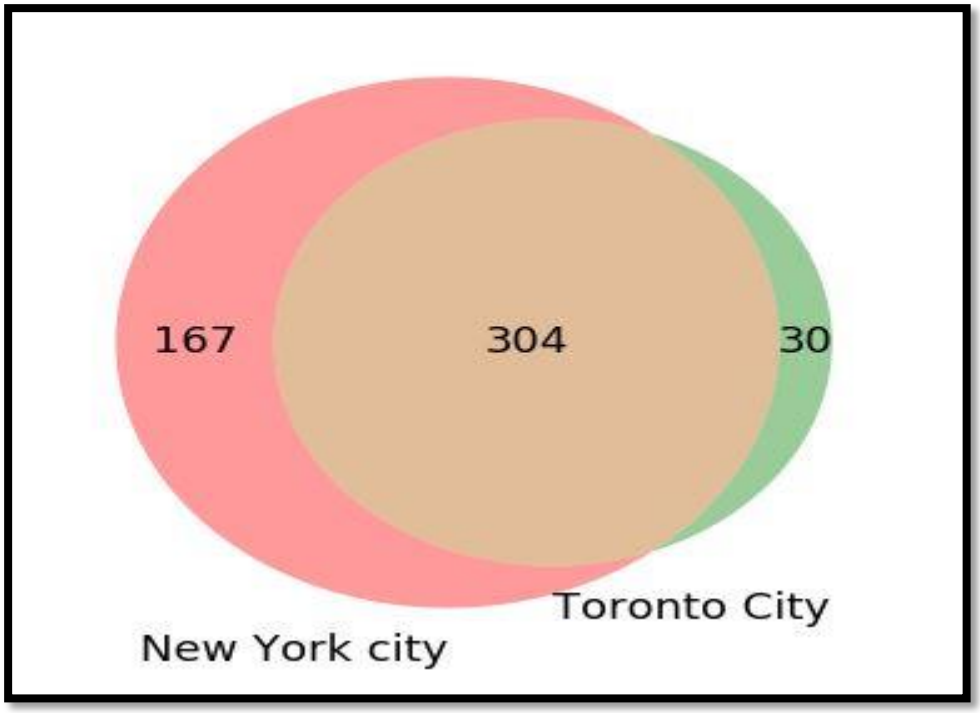
To find the most similar city, cosine similarity will be used. This kind of recommendation comes under item-item based recommender system. Finding Common Venues Categories.

Let us one person is living in Bronx, Riverdale, New York city. Now he/she wants to move to Toronto city for some reason and he/she wants to find the most similar neighbourhood to his/her current location in Toronto city.

- We will be finding only top 7 most similar boroughs.

1. Find following details of his/her location from above data:
2. index value
3. latitude
4. longitude
5. venues near this location

- **Result**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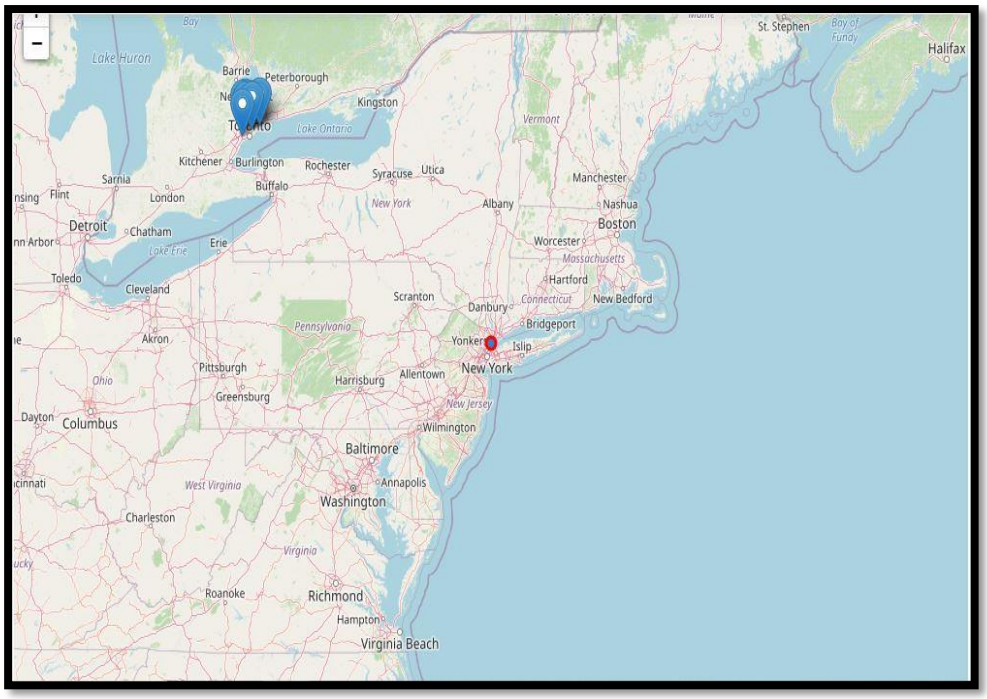
304
30
Toronto City
New York city


Lake Huron
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Sarnia
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Chatham
Erie
Lake Erie
Toledo
Cleveland
Akron
Pittsburgh
Ohio
Greensburg
Dayton
Columbus
Harrisburg
Allentown
Scranton
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New York
Albany
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Manchester
Nashua
Boston
Worcester
Massachusetts
Hartford
Connecticut
New Bedford
Danbury
Bridgeport
Yonkers
Islip
New York
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Hampton
Virginia Beach
St. Stephen
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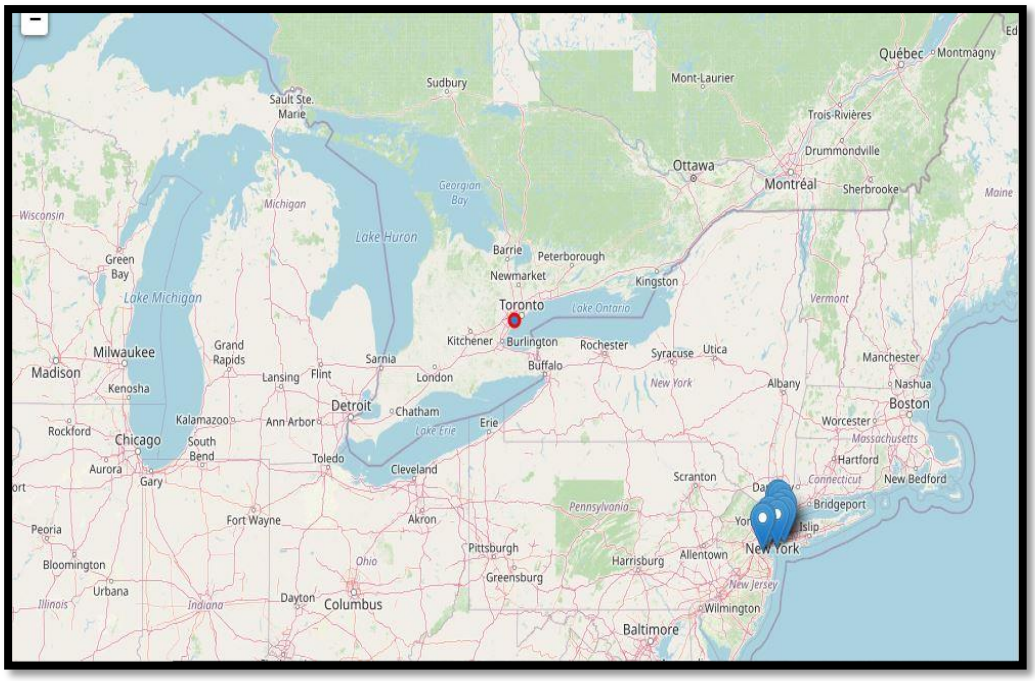

- **Conclusion :**

In this Project, we have gone through the process of identifying the process of business problem, specifying the data required, extracting and preparing data, performing the machine Learning.

- **References :**

Wikipedia, Foursquare developer documentation.