



Finding good places nearby North York, Toronto

IBM DATA SCIENCE PROFESSIONAL CERTIFICATION | COURSERA
CAPSTONE PROJECT

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Business Problem

- ▶ Lots of people are migrating to various states of Canada and this project is for those people who are looking for better neighborhoods. For ease of accessing to Cafe, School, Supermarket, medical shops, grocery shops, mall, theatre, hospital, like-minded people, etc
- ▶ This Project helps people to explore 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 North York, Toronto.

Data Mining

- ▶ Data link:
https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- ▶ For this project we will use Toronto dataset which we have scrapped from Wikipedia
- ▶ Dataset also consists of latitude and longitude, zip codes.

Foursquare API Data:

- ▶ We will need data about different venues in different neighbourhoods of that specific borough. In order to gain that information, we will use "Foursquare" locational information. Foursquare is a location data provider with information about all manner of venues and events within an area of interest. Such information includes venue names, locations, menus and even photos. As such, the foursquare location platform will be used as the sole data source since all the stated required information can be obtained through the API.

A number of venues are present in our desired neighborhood, as depicted in the graph.

Map of North York

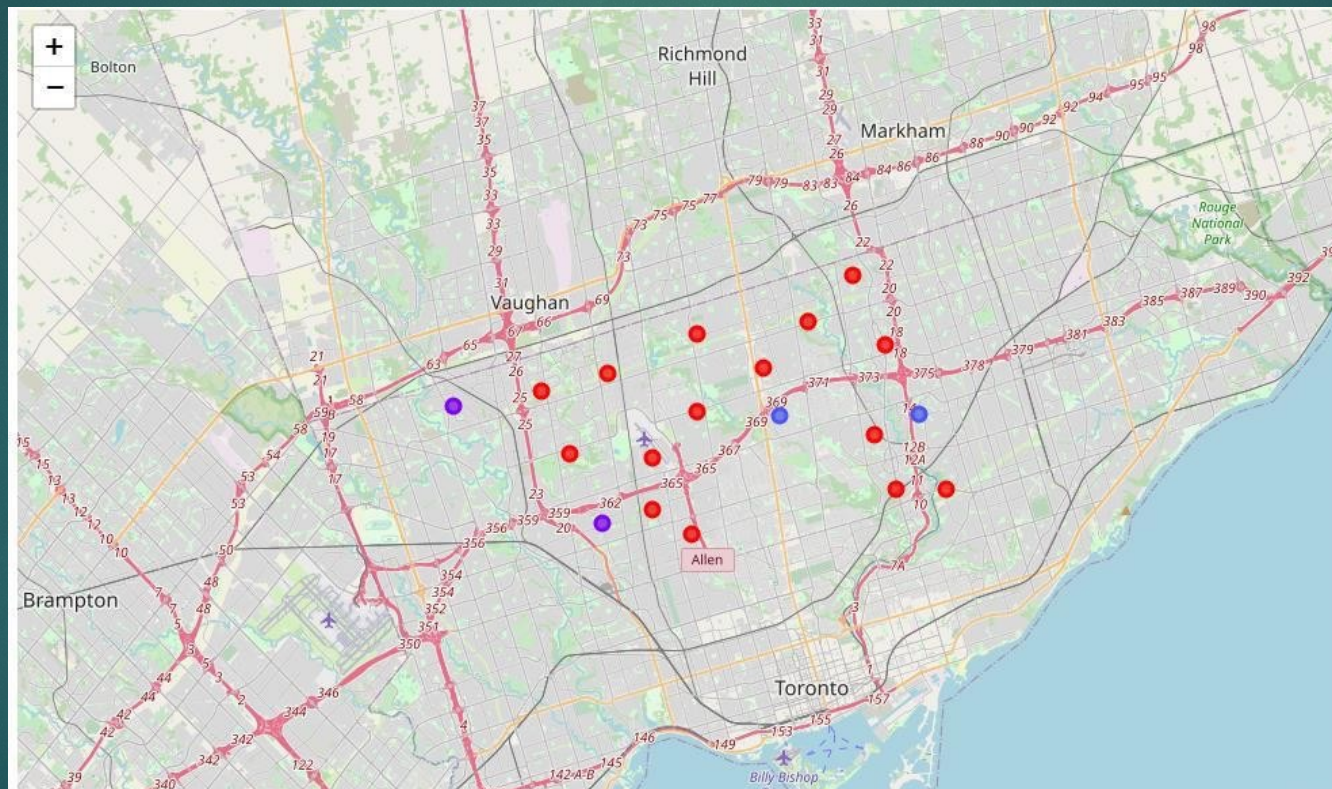


Methodology

- ▶ 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.
- ▶ 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.

Results

- Map of Clusters in North York:



Nearby Venues

```
: # Nearby Venues
NY_Venues = getNearbyVenues(names=df['Neighbourhood'],
                             latitudes=df['Latitude'],
                             longitudes=df['Longitude']
                             )
```

```
Malvern, Rouge
Rouge Hill, Port Union, Highland Creek
Guildwood, Morningside, West Hill
Woburn
Cedarbrae
Scarborough Village
Kennedy Park, Ionview, East Birchmount Park
Golden Mile, Clairlea, Oakridge
Cliffside, Cliffcrest, Scarborough Village West
Birch Cliff, Cliffside West
Dorset Park, Wexford Heights, Scarborough Town Centre
Wexford, Maryvale
Agincourt
Clarks Corners, Tam O'Shanter, Sullivan
Milliken, Agincourt North, Steeles East, L'Amoreaux East
Steeles West, L'Amoreaux West
Upper Rouge
Hillcrest Village
Fairview, Henry Farm, Oriole
Bayview Village
York Mills, Silver Hills
Willowdale, Newtonbrook
Willowdale
York Mills West
Willowdale
Parkwoods
Don Mills
Don Mills
Bathurst Manor, Wilson Heights, Downsview North
Northwood Park, York University
Downsview
Downsview
```


About the Location

- North York is an eclectic, multicultural district home to the hands-on Ontario Science Centre and the Aga Khan Museum, with exhibits on Islamic culture in a striking modern building.
- In the area's north, Black Creek Pioneer Village is an 1800s living museum. Sprawling Downsview Park includes a lake, event spaces, and a flea and farmers' market, while Edwards Gardens has a greenhouse, fountains, and botanic gardens



Thanks