

COFFEE SHOP IN TORONTO ?



BUSINESS PROBLEM

- Coffee is a part of Canadians daily routine. Canada also has many coffee shops. But it does not mean that there is no possibility of starting up a new one.
- Moreover starting a coffee shop in Toronto will definitely work as people love coffee but we should find a proper location.
- **Objective** : To find the possible locations in the neighbourhoods of Toronto to open a new Café based on population and density.
- **Business question** : In the neighbourhoods of Toronto, where an entrepreneur can start a new Coffee brand or a franchise to enjoy competitive advantage?

DATA ACQUISITION

- **Data Required**

- List of neighbourhoods in Toronto
- Demographic data of Toronto neighbourhoods
- Latitude and longitude coordinates of the neighbourhoods
- Venue data, particularly data related to coffee shops

- **Sources of data**

- Wikipedia page for neighbourhoods ([List of postal codes of Canada](#))
- Wikipedia page for demographic data ([Demographics of Toronto neighbourhoods](#))
- Geocoder package for latitude and longitude coordinates
- Foursquare API for venue data

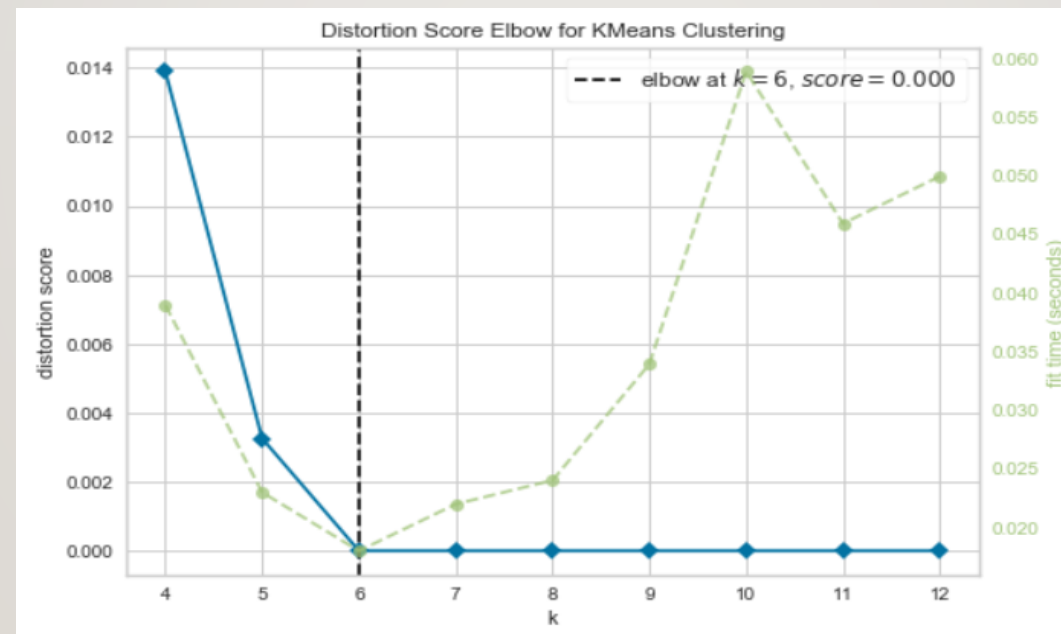
METHODOLOGY

- Web scraping wikipedia pages for neighbourhoods list and for demographic data
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Clean, merge, concatenate, transform and select features for analysis
- Perform clustering on the Café data by using k-means clustering by finding the best k which is 6 in my project
- Visualize the clusters in a map using Folium
- Examine clusters and visualize population, density and coffee shop data in each neighbourhood using a bar graph

PREDICTIVE MODELING

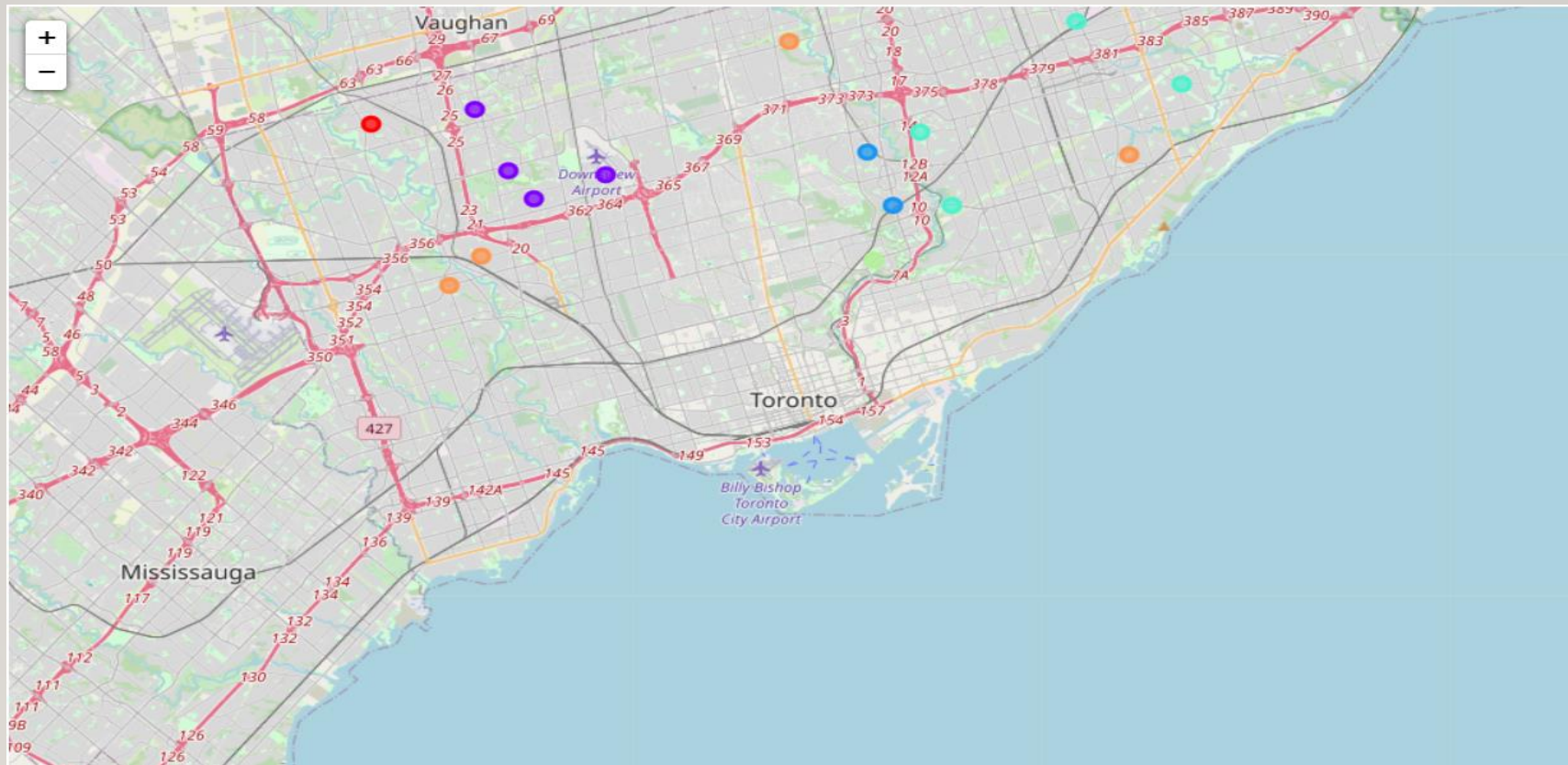
Clustering neighbourhoods of Toronto

Firstly identify best k value (number of clusters) to perform clustering



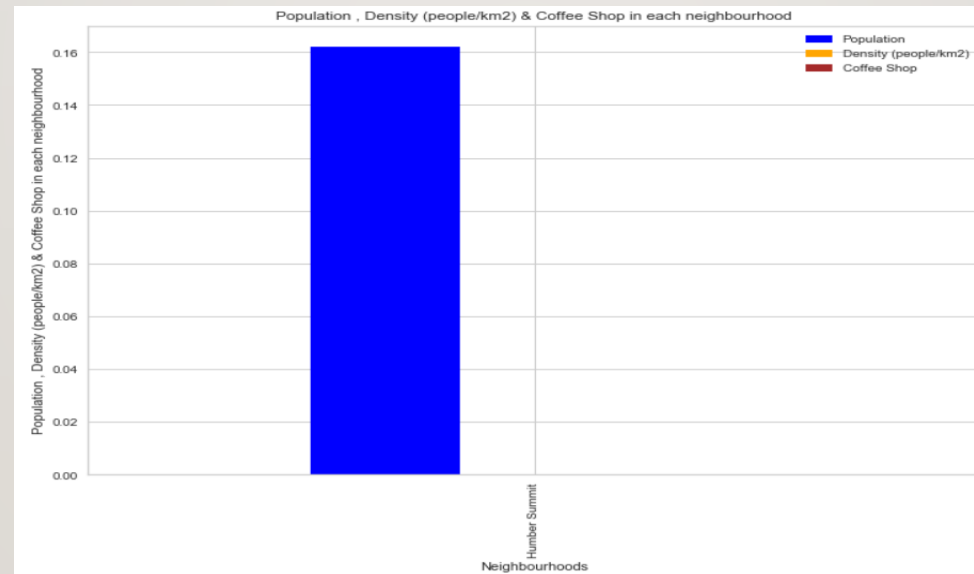
From the above graph , the best k is 6.

After fitting data to KMeans clustering, labels are generated.I used folium map to view the clustered neighbourhoods of Toronto.

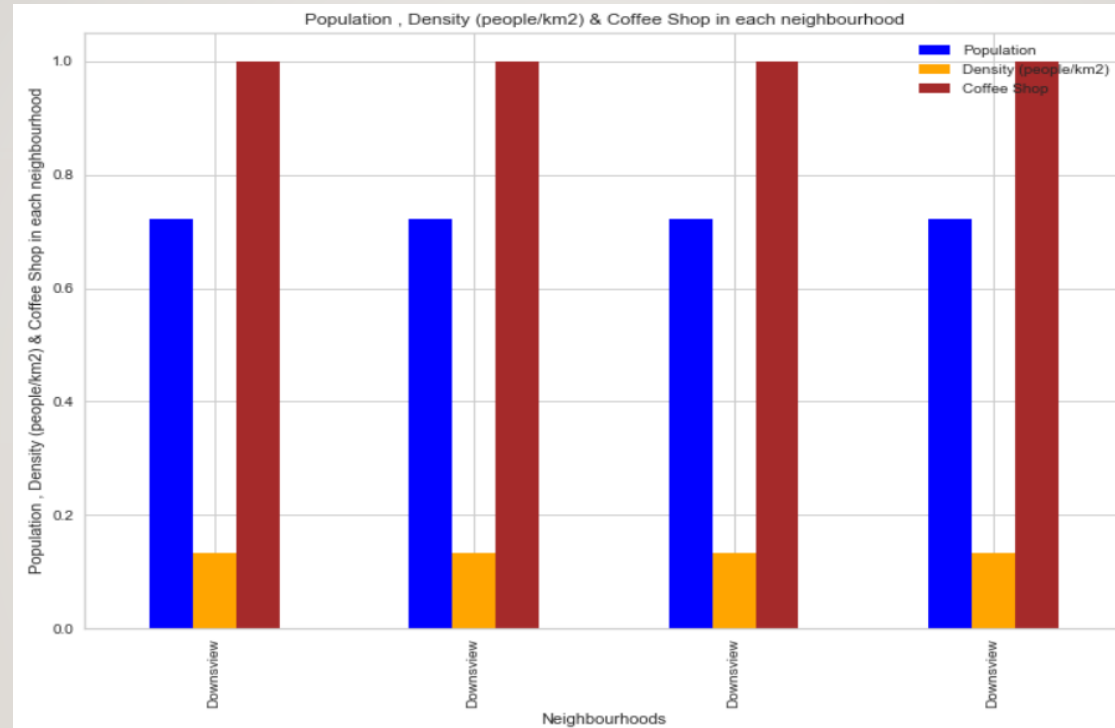


DISCUSSION

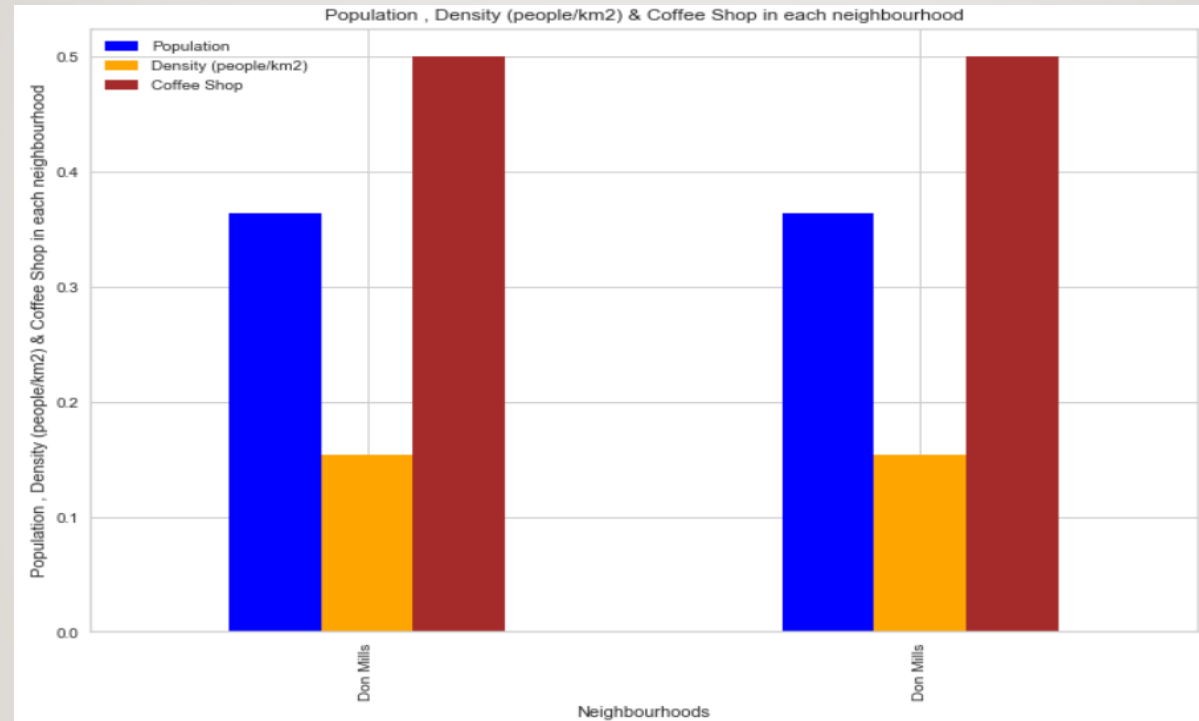
- **Cluster 1** : It has very low coffee shops as per population. So, Coffee Shop can be started in Humber Summit. The values of Density and Coffee Shop are very low that they are not viewed on the graph



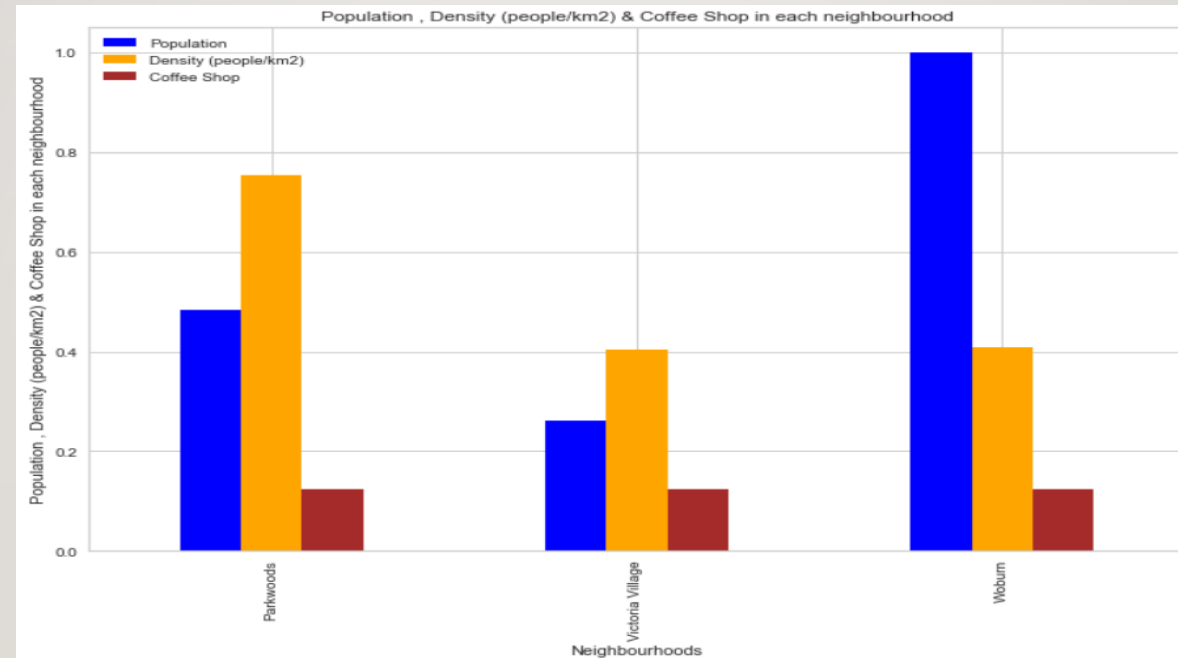
- **Cluster 2** : It has large number of Coffee Shops. So, there is no possibility of starting one more



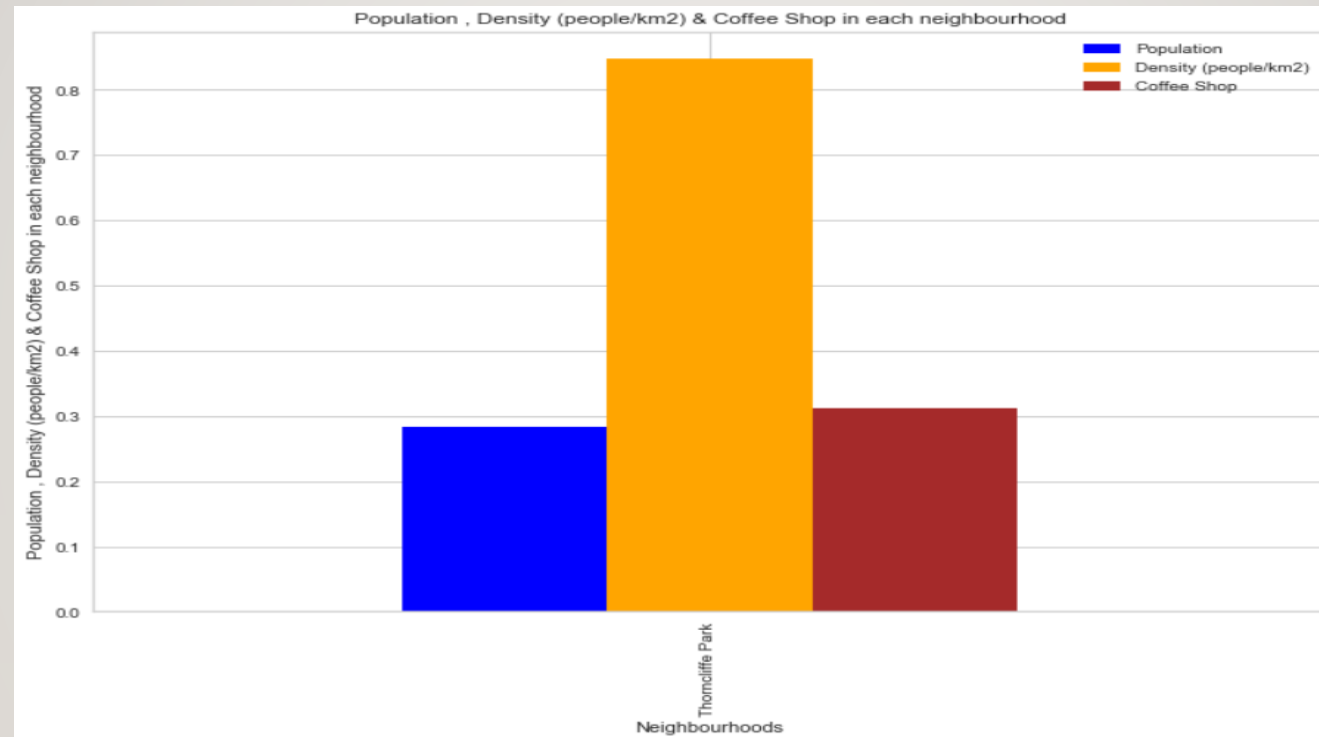
- **Cluster 3** : It has many Coffee Shops which can serve the population of the neighbourhoods so, no possibility for one more



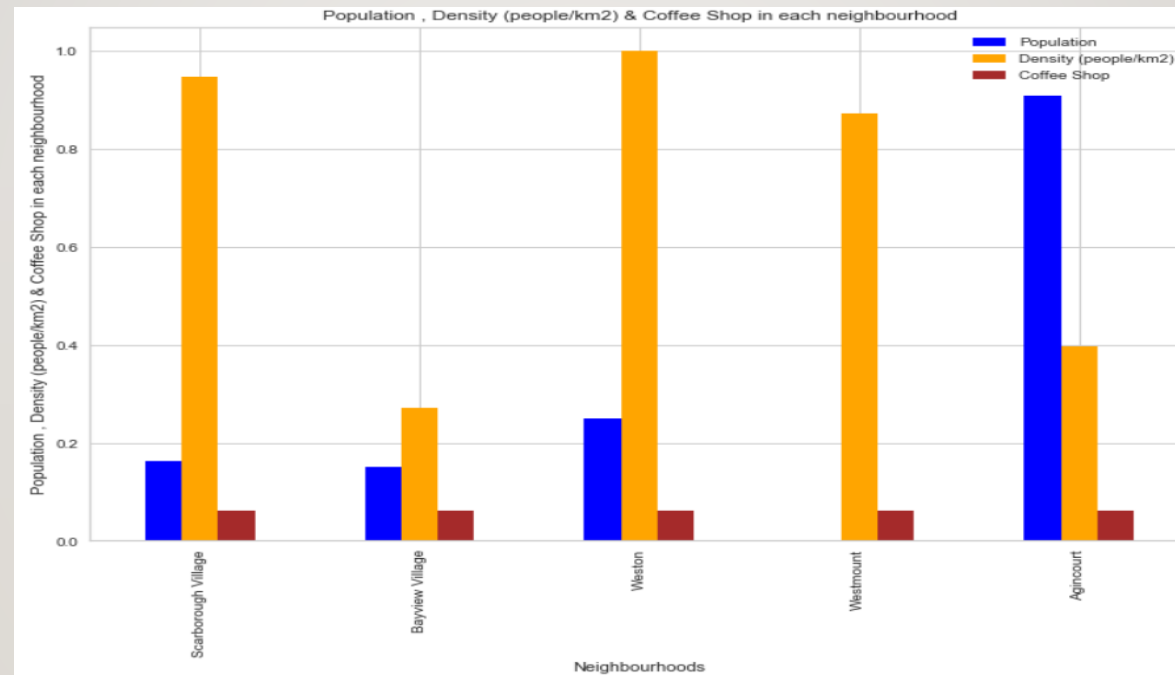
- **Cluster 4** : It has less Coffee Shops. As density is high although population is low in Parkwoods , Victoria Village and the Woburn has high population, a new Coffee Shop can be started



- **Cluster 5** : Although population is less in Thorncliffe Park, density is high. So, Coffee Shop can be started



- **Cluster 6** : Scarborough Village, Weston, Westmount have high density compared to population. BayView has enough number of Coffee Shops. Agincourt has high population and comparable density. So, Coffee Shop can be started in Scarborough Village, Weston, Westmount and also Agincourt



CONCLUSION

In this study, I used clusters to find locations where I can start up a Coffee Shop based on population and density of neighbourhoods. After examining all the clusters, few locations are suitable to start Café. They are Humber Summit, Parkwoods, Victoria Village, Woburn, Thorncliffe Park, Scarborough Village, Weston, Westmount, BayView and Agincourt



THANK YOU!