CAPSTONE PROJECT
TORONTO VS NEW YORK – BATTLE OF NEIGHBOURHOODS

HAVING AN ECONOMICAL AND MEMORABLE TOUR INTERESTS A TOURIST

- TODAY TOURISM IS ONE OF THE PILLARS OF THE ECONOMY AND THE PEOPLE MOST OFTEN VISITS THOSE COUNTRIES WHO ARE RICH IN HERITAGE AND DEVELOPED ENOUGH FROM A FOREIGN PERSPECTIVE, LIKE FRIENDLY ENVIRONMENT.

- TOURISTS ARE ALWAYS EAGER TO TRAVEL TO DIFFERENT PLACES ON THE BASIS OF AVAILABLE INFORMATION, AND THE COMPARISON (THE PART OF THE INFORMATION) BETWEEN THE TWO CITIES ALWAYS ASSIST TO CHOOSE THE SPECIFIC PLACES OR ACCORDING TO THEIR CHOICE.

DATA ACQUISITION AND CLEANING

- THE SERVICES OF FOURSQUARE API TO EXPLORE THE DATA OF TWO CITIES, IN TERMS OF THEIR NEIGHBORHOODS.

- THE NEIGHBORHOOD DATA FOR TORONTO WAS SCRAPED FROM THE WIKIPEDIA SITE (HTTPS://EN.WIKIPEDIA.ORG/WIKI/LIST_OF_POSTAL_CODES_OF_CANADA:_M)

- CLEANING INVOLVED DROPPING THE ROWS TO WHICH BOROUGH WAS "NOT ASSIGNED". ALSO, LATER ON COORDINATES OF EACH BOROUGH WERE OBTAINED FROM THE INTERNET AND THEN MERGED INTO THE PREVIOUS DATAFRAME.

- FOR MANHATTAN, A SAVED DATA FILE WAS EXPLORED THROUGH FOURSQUARE API. IN THIS ALL BOROUGHS ALONG WITH THEIR COORDINATES ARE READILY AVAILABLE IN A .JSON FILE. (HTTPS://COCL.US/NEW_YORK_DATASET)

METHODOLOGY

- "Clustering" to segment the neighbourhoods with similar objects on the basis of each neighbourhood's data

- Both the neighbourhoods were then explored separately as venues and venue categories and then they were subjected to machine learning model of "Clustering" using "k-means" technique.

- Using the k-means clustering, each neighbourhood will be categorized into 5 number of clusters based on their similarities.

RESULTS

- THE NEIGHBOURHOODS ARE MUCH SIMILAR IN FEATURES LIKE THEATRES, OPERA HOUSES, FOOD PLACES, CLUBS, MUSEUMS, PARKS ETC. WHILE, , IT DIFFERS IN TERMS OF SOME UNIQUE PLACES LIKE VETERINARY HOSPITALS, HISTORICAL PLACES AND MONUMENTS.

- CLUSTERS IDENTIFIED FOR DOWNTOWN TORONTO-
  - CLUSTER 1- AIRPORT LOUNGE AND SERVICE, COFFEE SHOP, CAFE, RESTAURANTS & GROCERY STORE
  - CLUSTER 2- CHILDREN FRIENDLY- PARKS, PLAYGROUNDS
  - CLUSTER 3- COFFEE SHOPS
  - CLUSTER 4- CAFES AND RESTAURANTS
  - CLUSTER 5- RESIDENTIAL, CAFE

- CLUSTERS IDENTIFIED FOR DOWNTOWN TORONTO-
  - CLUSTER 1- RESIDENTIAL
  - CLUSTER2 - RESTAURANTS AND CAFES
  - CLUSTER 3- GOING OUT/ ENTERTAINMENT
  - CLUSTER 4- RESTAURANT, CAFE, ENTERTAINMENT
  - CLUSTER 5- RESTAURANTS, CAFES, RESIDENTIAL AND MUSIC VENUES

DISCUSSION AND RECOMMENDATION

- HISTORICAL PLACE IS ONLY SITUATED IN DOWNTOWN TORONTO AND THE MONUMENT OR LANDMARK VENUE IS IN MANHATTAN NEIGHBORHOODS.

- AIRPORT FACILITY, HARBOR, SCULPTURE GARDEN AND BOAT OR FERRY SERVICES ARE ALSO AVAILABLE IN DOWNTOWN TORONTO WHILE VENUES LIKE NIGHTLIFE, CLIMBING GYM AND MUSEUMS ARE PRESENT IN MANHATTAN.

- I RECOMMEND DOWNTOWN TORONTO NEIGHBORHOODS WILL BE CONSIDERED FIRST TO VISIT, DUE TO AVAILABILITY OF AIRPORT FACILITY. THIS WILL HELP THEM SAVE TIME AND MONEY AND AT THE SAME TIME EXPLORE MORE PLACES

CONCLUSION

- The Downtown Toronto and Manhattan neighborhoods have more like similar venues.

- The dissimilarity exists in terms of some different venues and facilities but not on a larger extent