



Coursera Capstone Project

Predicting Place for New Shopping mall in Toronto, Canada

Business Report

- Location for the shopping mall is one of the most important decisions that will predict whether the mall will be a success or a failure.
- Our goal is to analyse the best locations in the city of Toronto, Canada for opening a new shopping mall.
- Here Business Question is arises that: in the city of Toronto, if property developer is looking to open a new shopping mall, where would you recommend that they open it ?

Data acquisition and cleaning

- List of neighborhood in Toronto, Canada.
 - Latitude and longitude coordinates of the neighborhood.
 - Venue data, mostly related to the shopping malls.
- Wikipedia page for neighborhood(https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)
 - Geocoder package for latitude and longitude coordinates.
 - Foursquare API for venue data.

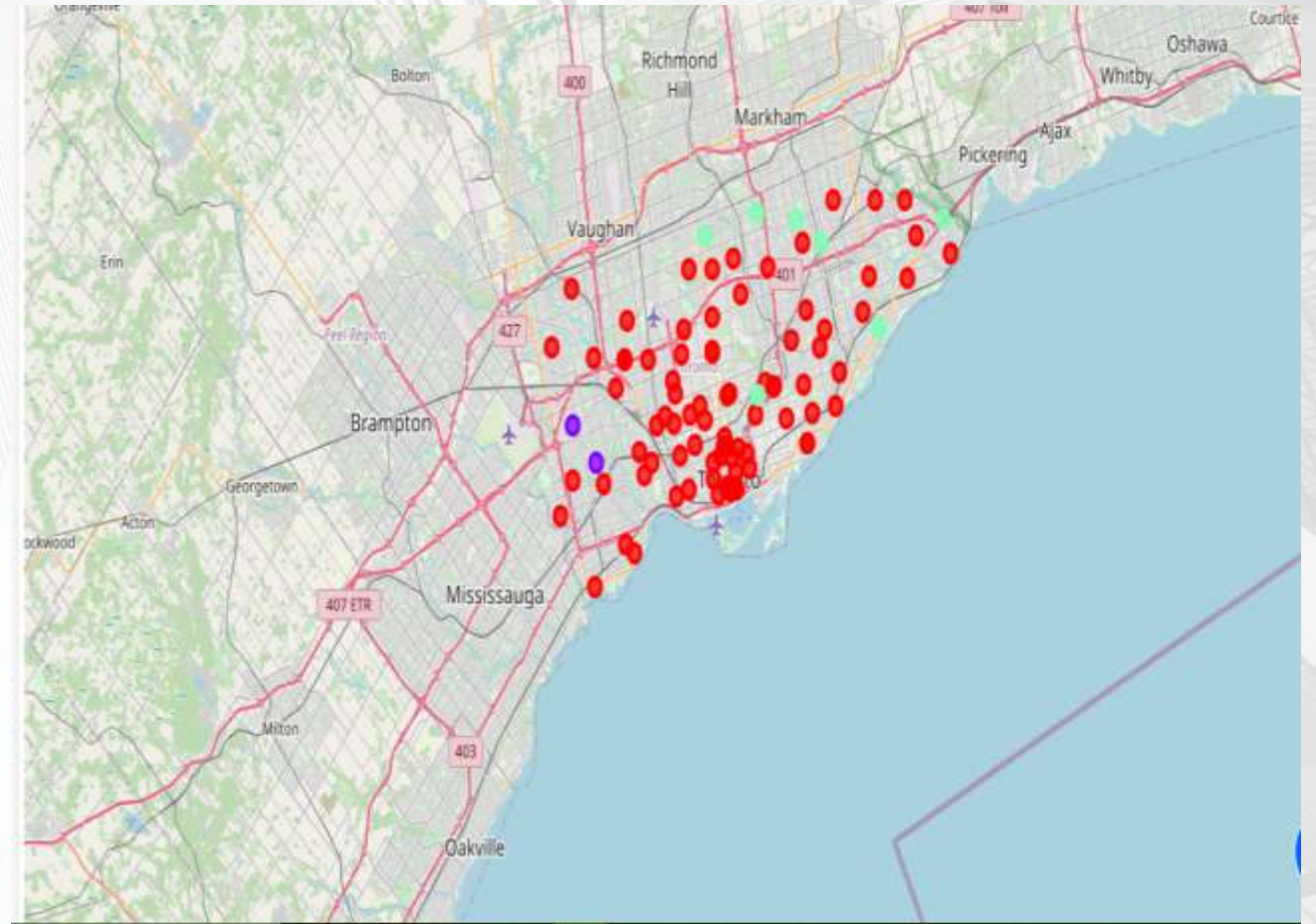
Methodology

- Web scriping the Wikipedia page for neighborhood list.
- Get latitude and longitude coordinates from usiing geocoder.
- Use foursqure API to get venue data.
- Group data by neighborhood and taking the mean of the frequency of occurence of each venue category.
- Filter venue category by shopping mall
- Performs clustering on the data by using k-means clustering
- visulize the clusters in a map using folium.

Results

Categorize the neighborhood in 3 cluster:

- Cluster 0: Neighborhoods with low number to no existence of shopping malls
- Cluster 1: Neighborhoods with moderate number of shopping malls
- Cluster 2: Neighborhoods with high concentration of shopping malls





Discussion

Most of the malls are concentrated in the West area of city

Highest number in cluster 2 and moderate in cluster 1.

Cluster 1 has very low to no shopping mall in the neighborhoods.



Recommendation

open new shopping mall in neighborhood in cluster 0 with little to no competition

Avoid neighborhoods in cluster 2, already high concentration of shopping malls and intense competition

Can also open in neighborhood in Cluster 0 with moderate competition



Conclusion

Answer to business question: The neighborhoods in cluster 0 are the most predicted locations to open a new shopping mall

Finding of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decision to open a new shopping mall



THANKS