

Capstone Project: The Battle of Neighborhoods

Introduction: Scarborough is an administrative district and former city in Toronto, Ontario, Canada. Scarborough is a popular destination for new immigrants in Canada to reside. As a result, it is one of the most diverse and multicultural areas in the Greater Toronto Area, being home to various religious groups and places of worship. It includes some of Toronto's popular natural landmarks, such as the Toronto Zoo and Rouge Park. The northeast corner of Scarborough is largely rural with some of Toronto's last remaining farms, leading to Scarborough's reputation of being greener than any other part of Toronto

Business Problem:

The objective of the project is to guide or provide insights to anyone who wants to immigrate to Canada, but has chosen Scarborough to dwell and start its own business. Project will try to segment and cluster areas of Scarborough on the most common places captured from Foursquare. Knowing the neighborhoods/locality and type of business thriving in those venues can aid to narrow down/finalize the business plans.

Data:

The Postal code data is acquired from below wikipedia page
https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

Latitude/Longitude coordinates are downloaded as csv from below link:
http://cocl.us/Geospatial_data

Foursquare API will be used to get the data to explore the neighborhood.

Methodology:

In this project efforts are to detect areas of Scarborough Venues and their categories. Idea is NOT to target any specific category but to provide whole spectrum of current businesses in the region.

In first step we have collected the required data: location and type (category) of every venue

Second step in analysis was calculation and exploration of venues count across different neighborhood of Scarborough

Third step will be to create clusters (using k-means clustering) of those locations to identify general zones / neighborhoods / addresses where businesses are currently dominating.

Result & Discussion:

We have the details of most common venues of each neighborhood in Scarborough. Also results shows that most business revolves around cluster1.

Conclusion:

Purpose of this project was to identify the neighborhoods/locality and types of business thriving in those venues so that any new immigrant with business in mind can aid to narrow down/finalize the business plans.

We see that cluster1 is the epicenter of most business. The stakeholder can utilize this information to jump into the bandwagon of cluster1. Or can utilize the fact that because there are not enough restaurants in other clusters, can pick one of them and proceed further. As an example further classification can be done based on the ethnicity density & population density of the region and any cluster where the particular ethnic present is larger but not enough restaurants to cater the taste buds, respective category of restaurant should be probably a righteous way to jump start. Final decision is left to the user of this information on how they want it to interpret.