Opening of new restaurants in Manhattan, NYC and Toronto: A comparative analysis

Coursera Capstone Project

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Introduction

Business Problem

Can we predict the most suitable neighbourhoods for opening new restaurants in both Manhattan, New York City and Toronto and if so, which city has the better locations?
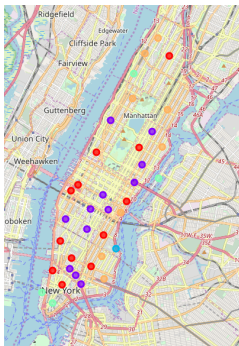
Used data

The following data will be used to tackle the business problem:

- a json file conatining the geospatial data of New York City
- a list of postal codes for neighborhoods in Toronto taken from Wikipedia
- a csv file containing the longitude and latitude of the Toronto neighbourhoods
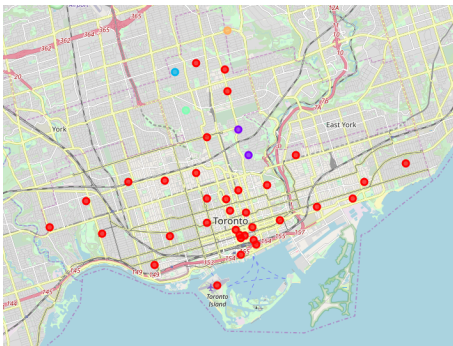
Methodology

- download the New York json file
- consider only Manhattan neighbourhoods
- use Foursquare API to find the most popular venues
- parse the Wikipedia page for the Toronto neighborhoods
- combine the Toronto neighborhood data with the geospatial data in the csv file
- use Foursquare API to find the most popular venues in both Manhattan and Toronto
- use k-means clustering for the Manhattan and Toronto data sets
- visualise the neighbourhood cluster for both Manhattan and Toronto on a map via folium

Results

Manhattan neighbourhood clusters

Toronto neighbourhood clusters

Discussion

- Manhattan has one neighbourhood cluster with a very high number of restaurant venues
- Manhattan has two neighbourhood clusters with an intermediate number of restaurants
- Toronto has only one single sparse restaurant cluster
- the data analysis can be improved by choosing an optimal number of clusters k for the k-means algorithm

Conclusion

- success of newly opened restaurants is higher in Manhattan than in Toronto based
- best cluster in Manhattan is the red cluster, number 1 with the purple, number 2 and orange, number 5 as the next best locations
- the data analysis performed is preliminary and may be improved via a better choice of k for the k-means algorithm

Thank you!

📄 https://www.entrepreneur.com/slideshow/299849

📄 https://cocl.us/new_york_dataset

📄 https://en.wikipedia.org/wiki/List_of_postal_
codes_of_Canada:_M

📄 https://cocl.us/Geospatial_data