Data Science Capstone

Comparison of Neighborhoods in Toronto and New York

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1 Introduction

1.1 Background

New York and Toronto are very diverse cities with a great variety of restaurants, multicultural food supply and recreational venues. Each of these cities has an interest in attracting both businesses and highly qualified workforce.

1.2 Problem and Interest

Suppose you want to develop your career and are thinking of moving from New York to Toronto (or vice versa).

When looking for a place to live, you might want to move to a similar neighborhood that you already know and like from the city you are moving from.

How similar are the neighbourhoods in each city, in terms of restaurants and recreational opportunities and what exactly makes them similar?

2 Data acquisition and cleaning

2.1 Data sources

For this analysis, I use freely available geographical data on the location of neighbourhoods in New York and Toronto.I also use the freely available Yelp Fusion API. Yelp provides a commercial rating system mainly for restaurants and some recreational venues.

IMPORTANT NOTE

Due to a well known looping issue of the Foursquare sign up procedure (see Coursera Forum), I wasn't able to create a developer account to use the Foursquare API in this exercise. To proceed with the course, I obtained a developer account on Yelp and used the Yelp Yelp Fusion API instead.

The following data sources are used:

- New York boroughs and neighborhoods including latitude and longitude of each neighborhood (provided as JSON-file from the Coursera IBM Data Science Course Material)
  https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-DS0701EN-SkillsNetwork/labs/newyork_data.json
- Toronto boroughs and neighborhoods including postal codes (retrieved from Wikipedia on 27 Dec 2020)
  https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- Geocoder using the ERSI ArcGIS API
  https://developers.arcgis.com/rest/geocode/api-reference/overview-world-geocoding-service.htm
- Yelp Fusion API to retrieve information about businesses by location
  https://www.yelp.com/developers/documentation/v3

2.2 Data cleaning