

# The Battle of Neighbourhoods

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December 2020

## 1. Introduction

### 1.1 Background

Today, more people than ever live in a country other than the one in which they were born. In 2019, the number of migrants globally reached an estimated 272 million, 51 million more than in 2010. International migrants comprise 3.5 per cent of the global population. Canada is aiming to add 401,000 new permanent residents next year and 411,000 in 2022. It is important that immigrants have a good understanding of Canada should they decide to migrate there. This project looks to throw more light on Canada by looking at Toronto and comparing it to other cities of the world to understand its culture.

### 1.2 Problem

Data that may reveal similarities in the neighbourhood like latitude and longitude gotten from the Foursquare API. The data is visualised to show congestion of popular spots like café and train stations.

### 1.3 Interest

Prospective immigrants from several countries will be interested in knowing how Toronto mirrors their home country and how to be prepared for Canada.

## 2. Data Acquisition and Cleaning

### 2.1 Data Sources

The data for Canada postal codes, boroughs and neighbourhoods is sourced from a Wikipedia page [https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M).

The latitude and longitude of each borough and neighbourhood is gotten through the Foursquare API.

### 2.2 Data Cleaning

Data downloaded or scraped from multiple sources were combined into one table. There were a lot of missing values from the Wikipedia page detailing the postal codes and boroughs. Postal codes with missing boroughs and neighbourhoods were removed. The resulting table was then merged with the latitude and longitude data gotten from the foursquare API.

### 2.3 Feature selection

After data cleaning, there were 103 samples and 5 features in the data. There were no redundancy in the features.

### **3. Data Visualisation**

The data is visualised using the folium library to show locations and, by extension, congestion of the cities compared in the project.

### **4. Results**

The maps show varying similarities in the congestion of similar popular hotspots with Toronto and other cities like Paris.