

# Capstone Project: The Battle of Neighborhoods

## Opening a Sporting Goods Shop in Toronto



### Introduction/Business Problem:

Toronto is one of the largest metropolitan cities in Canada. As the most populous city in Canada, this city is an attractive destination for many businesses. Toronto consists of 10 Boroughs and 103 neighborhoods. This project aims at exploring Toronto neighborhoods and finding potential locations for opening a **sporting goods shop** in a shopping mall or shopping plaza. For this purpose, a data-driven approach is applied to make an informed decision. As discussed in the following sections, different sources are used to obtain data about each neighborhood and K-Mean clustering method is used to cluster similar neighborhoods. The results of this study could be used by distributors of sports goods that are interested in opening new shops in the Toronto.

### Data Description:

For this problem the following data sources are used:

- Data about Toronto neighborhoods are scraped from the following 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)  
This dataset provides information about different postal areas of Toronto along with their related Borough and neighborhoods.

- Geographical coordinates of each postal code is obtained from the following csv file:  
[https://cocl.us/Geospatial\\_data](https://cocl.us/Geospatial_data)  
This dataset provides geographical coordinates (Latitude and Longitude) of different postal areas of Toronto.
- Foursquare API is used to get all venues for each neighborhoods of Toronto.

## **Methodology:**

In order to find the potential locations for opening a new **sport goods shop** in Toronto, the following criterion are considered:

- 1- Neighborhoods with higher density of sport venues are more attractive to open the new shop because there is more demand in such neighborhoods.
- 2- Neighborhoods that already have at least one sport goods shop are not suitable because there will be more competition.
- 3- In this project we assume that the customer is interested in opening the sport goods shop in a shopping mall or shopping plaza. Therefore, the neighborhoods with more shopping malls or shopping plazas are more attractive because they give more options.