**Capstone Project:**

**The clash of Neighborhoods in Toronto City**

# Problem and background

**Problem**

How To Find The Best Neighborhood In Toronto Based On Specific Needs And Requirements For The Robert’s Family ?

**Background**

We are living in Toronto, Canada, since many years and we have a long-time friend in France moving in Toronto with his family. As he is not familiar with our city, he asks our help to **find a neighborhood that match with all his family’s needs**. The Robert’s have four children aged from 3 to 11 years old and three border collie dogs which are very dynamic. The parents work from home so they don’t have any geographic constraints related to their work location, but they really seek for a place that offers the best opportunities in terms of **education**, **sports facilities** and **healthcare institution** for their children. They also look for **green spaces** and **parks** nearby for their dogs and kids. Concerning their lifestyle, this family also have a very healthy diet and want a developed food offer around their home with a various **fresh market**, **farmers market**, **grocery store** and restaurants that serve fresh foods and have good tips.

# Framework

**Data**

The data will be retrieved from Foursquare database for neighborhoods in Toronto. The features available in the dataset are for example: venues, store reviews, longitude and latitude, names of the neighborhood, categories of venues, types of stores. ­­

**Methodology**

The goal of the project is to find the neighborhood that fulfills the majority of the requirements an individual needs in locating the best neighborhood. From our data, we will extract information about the venues and their specific location (longitude and latitude). The first step is the segmentation of the Toronto city into neighborhoods and provide a detailed list of venues available in all this neighborhood, then we will cluster neighborhoods using the k-means algorithm. Finally, we will compare this cluster and ranked them to determine the best in terms of number of listed requirements.

# Other applications and users

At the end we realize that the request we are dealing with is a very common one. Indeed, there is many families wishing to buy a house or an appartement in Toronto and who have the same requirements than Robert’s family. The framework and methodology of this project could be shared afterward and benefits to many other families in other cities. It can also be useful for investors or corporate entities looking for the most lucrative location to invest to attract a wide range of home renters or clients. Our framework and methodology can also be extended to other problems. For example, People looking for the best neighborhood to set up their business in any city. In this case, only the database and the list of requirements have to be adapted to the problem in question.