

IBM Data Science Capstone

Week 4

Introduction

In this project, we will explore the area of Toronto, Canada in order to determine the most ideal neighbourhood to open a fitness gym. Therefore, it may be a great opportunity for a new entrepreneur or existing business owner to establish or expand on the current business. In modern society, fitness has exploded and become more relevant to a wide range of individuals with different personality types. For some, a fitness centre/gym is essential to maintain fitness and conditioning for a particular sport and/or career. For others, vanity may be a main driver in the goal for a more appealing physique – whether it be for a vacation or other personal reasons. One thing for certain, is that gyms are becoming increasingly popular and thus present a lucrative business opportunity. With these main premises in mind, this project is aimed to aid an individual or business to find the most suitable location in Toronto.

Business Problem

The main objective of this project is to determine the most suitable location to open a new fitness centre in Toronto, Canada. By using various data science methods/tools along with machine learning algorithms, the end goal is to provide a clear and concise solution to the following business question: What would be the most prime location to open a fitness centre in Toronto, Canada?

Target Audience

The intended audience for this study is the aspiring or existing business owner who seeks to open a fitness centre in Toronto, Canada.

Data as the Main Driver

In order to solve this problem, data will be gathered based on:

- Toronto neighbourhood data,
- Latitude and Longitude pertaining to the neighbourhoods within Toronto
- Venue data from each individual neighbourhood

Transforming the Data

The following methods will be used to better understand and group the data into a usable format:

- Web scraping Toronto neighbourhood data, taken from Wikipedia (as of February 2020)

- Retrieving Latitude and Longitude data for each neighbourhood using a python Geocoder package
- Utilizing a developer API provided by Foursquare, to retrieve venue data for each neighbourhood for further investigation