

Finding best location for Fitness center

1. Introduction

1.1. For the final project I'm trying to find best location in Toronto area to open Fitness center. With modernization of society we have been less and less active which started affecting health of the population. Increasing number of people are becoming overweight in developed countries. But on the bright side, with social media, fitness and health has become popular so there is demand for the fitness centers especially in big cities like Toronto.

1.2. Business problem

Objective is to find the most suitable location for fitness center in Toronto, Canada. Idea is to use data science methods learned during this Capstone, such as clustering, segmentation and with the help of Foursquare API. Question is where to open Fitness center and idea is to open it in the area where there is least number of Fitness centers and gyms, just to have least number of competition.

2. Location, why Toronto?:

Toronto is the most populous city in Canada and the fourth most populous city in North America. It is recognized as one of the most multicultural and cosmopolitan cities in the world. According to Ipsos survey one in three (33%) Canadians say improving their personal fitness and nutrition is their top new year's resolution, compared with only 21 per cent who chose to focus on financial goals. More than half (53%) of Canadians say improving their overall quality of life is the primary motivation for pursuing a health and wellness resolution. Preventing health risks (45%), losing weight (42%) and increasing their energy (41%) ranked as other top reasons to exercise more and eat better. One in five Canadians (18%) say they would join a gym. Which means that demand for the fitness facilities in Toronto.

3. Foursquare API:

Foursquare API is used in this project as source of data, as it has a database of millions of places, with API which provides the ability to perform location search, location sharing and details about business.

4. Libraries used:

Pandas: For creating and manipulating dataframes

Folium: Python visualization library – used to visualize cluster distribution

Scikit Learn: importing k-means clustering

JSON: Library to handle JSON files

XML:

Geocoder: To retrieve Location Data

Beautiful Soup: to scrap and library http requests

Matplotlib: Python Plotting Module