Hot Spots for Fitness

Capstone project for the IBM Data Science Certification

Introduction

In my home city of Austin, fitness groups are attracting a following of customers by moving away from traditional large gyms and moving closer to their customers. Companies such as Camp Gladiator setup outdoor meetup locations across the city in areas that would be convenient for people looking to workout. They focus on areas with higher density populations of people that are more likely to be active, around office parks, schools, suburban areas, and more.

My program will help companies like Camp Gladiator identify the best locations to setup a new outdoor location. It will recommend "hot spots" by identifying areas that have trending venues related to health (healthy restaurants, active wear shopping, etc) and no gyms within close proximity.

Data

To develop the program, I will use location and venue data from the Foursquare API for Toronto, Canada. These are the specific endpoints that will be used:

• Trending: get trending venues

• Categories: get venue categories

• Explore: get venue recommendations

I will also use two other data sources to identify neighborhoods in Toronto:

• Neighborhood
names: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

• Neighborhood locations: https://cocl.us/Geospatial_data

Methodology

The process to analyze this data will be as follows:

• Identify neighborhoods in Toronto (https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)

• Identify latitude and longitude of each neighborhood (https://cocl.us/Geospatial_data)

• Lookup top 5 trending venues for each neighborhood (Foursquare API - Trending)

• Filter neighborhoods that have a health venue in top 5 trending venues (Foursquare API - Categories)

• Verify if a gym is within 5 miles of the filtered list of neighborhoods (Foursquare API - Explore)

• Present final list of "hot spots"

Results

The results of the program identified four neighborhoods as recommended spots for a new outdoor fitness location in Toronto:

- Berczy Park
- The Beaches
- Central Bay Street
- Kensington Market/Chinatown/Grange Park

See below for the list of locations and top venues.

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
Berczy Park	Coffee Shop	Farmers Market	Beer Bar	Cocktail Bar	Bakery
The Beaches	Pub	Trail	Health Food Store	Women's Store	Diner
Central Bay Street	Coffee Shop	Sandwich Place	Italian Restaurant	Café	Salad Place
Kensington Market, Chinatown, Grange Park	Café	Vegetarian / Vegan Restaurant	Coffee Shop	Dessert Shop	Mexican Restaurant

Each neighborhood has a farmers market, health food store, salad place, or vegetarian/vegan restaurant in the top 5 venues. Berczy Park or Kensington

Market/Chinatown/Grange Park are the best locations since health venues are the 2nd most common venues. The Beaches and Central Bay Street have health venues ranked lower in the most common venues at 3rd and 5th. None of them have gym or fitness centers in the top 5 venues, so any of the four are good opportunities.

Discussion

The data provided by Foursquare is vast and provides a surprisingly easy way to analyze large amounts of data for a city. There are many other attributes I could work into my program to further refine the fitness hot spot recommendations. For example:

- Search tips to identify venues/neighborhoods that mention health terms
- Search lists to identify venues/neighborhoods that mention health terms
- Use user details to target a specific demographic
- Search events at health venues to identify ideal days/times to schedule kickoff events
- Analyze venue price information to assess potential pricing

Conclusion

The fitness hot spot program is a useful tool for growing fitness companies to tap into trending locations of an active city. Using recommendations based on high traffic locations will help ensure that new workout spots have the best chance at success. This program can be easily adapted for other cities and company types to focus on a target demographic.