Innova Gym

Gabriel Di Palma

Fevereiro,2020

1. Introduction

If you're not moving in the workplace, you're putting yourself at risk for obesity and heart disease, according to scientific research. So, you've made that annual resolution to work-out and drop a few pounds. But buying a T-shirt and sneakers is just not enough these days. according to CNET one of the top issues at CES 2020 will be Health and wellness. Once scattered across the sea of different pavilions at CES, this category now takes up nearly half of Tech West -- where most of the newest and most innovative vendors make their pitch. It features technology to help you eat better, sleep better, exercise more efficiently, monitor your health better and a ton of other new takes on health and wellness. There are bands that claim to track how many calories you take in (rather than logging your meals) and mini bikes to help kids stay fit while playing video games. But all this "new techs" doesn't really solve all the problems. None of this tech can replace a real gym. So, the challenge remains.

That's the idea behind Inova gym, a fully wearable integrated gym near the most up trending fitness restaurants. Fully helping your calorie intake and spending goals.

In order to base and increase the assertiveness of the Inova Gym location choice, the foursquare dataset was used. Toronto's neighborhoods were ranked by the presence of health food and fast food restaurants. Each health food restaurant added two points to

the neighborhood and each fast food restaurant subtracted one point from the sum. Then a chart was made with the ranked neighborhoods.

2. Data acquisition

Initially the postal code data from Toronto, CA was downloaded from the database in a "csv" from the link "http: //cocl.us/Geospatial_data". With these data, a data frame with three columns "Postcode", "Latitude", "Longitude" was built. The Geographic coordinates from each Toronto neighborhood will be used to retrieve data from the Foursquare API.

The data from Foursquare was retrieved twice. First for healthy restaurants and then for "junkie food" venues for each neighborhood. Two data frames where built with the columns: Name, for the venue name; lat and lng, for the latitude and longitude of the venue; categories, with the venue category; postcode, with the venue post code.

3. Methodology

Data was downloaded from the Foursquare API for each Toronto neighborhood using the latitudes and longitudes from the Geospatial data data frame. To download both "junkie food" venues and healthy venues localization, a custom function was built to do multiple Foursquare calls in sequence. As input the function received latitudes and longitudes from the Toronto neighborhood, so a API call was made for each Geospatial data data frame row.

Then with the data from "junkie food" and healthy venues in separate data frames, the data frames where merged by postcode.

Another custom function was built to calculate the distances from each "junkie food" and healthy venues for each neighborhood. For the neighborhoods without venues in the browsed categories, the geographical coordinates where filled with 0, before the distance calculation. The data frame was than inversely sorted by venues distance.

4. Results

For the results analysis where considered only the top 10 biggest distances, simple using the head function, with a 10 parameter, in an already inversely sorted data frame.

	name_health	lat_health	lng_health	postcode	cat_health	name_fastf	lat_fastf	lng_fastf	cat_fastf	distance
48	Lucky Dragon Chinese Food	43.719463	-79.480755	M6L	Chinese Restaurant	0	0.0	0.0	0	90.711531
57	Artisano Bakery Café	43.631006	-79.518172	M8Z	Bakery	0	0.0	0.0	0	90.701733
49	Welcome Food Mart	43.669701	-79.483491	M6N	Grocery Store	0	0.0	0.0	0	90.689957
10	Food Basics	43.786720	-79.416991	M2M	Supermarket	0	0.0	0.0	0	90.688121
41	Lawrence Square	43.716164	-79.447026	M6B	Shopping Mall	0	0.0	0.0	0	90.680389
43	The Healthy Abode Inc. - Environmental Assessment	43.695864	-79.457912	M6E	Construction & Landscaping	0	0.0	0.0	0	90.680143
52	Carload Food Market	43.650150	-79.480454	M6S	Grocery Store	0	0.0	0.0	0	90.677881
50	Annette Food Market	43.662457	-79.470979	M6P	Italian Restaurant	0	0.0	0.0	0	90.675502
56	Ontario Food Market	43.601103	-79.500311	M8V	Grocery Store	0	0.0	0.0	0	90.671691
34	Bruno's Fine Food	43.736642	-79.419870	M5M	Butcher	0	0.0	0.0	0	90.666474

5. Discussion

As its possible to note in the above figure, not all venues classified as "healthy" venues are really healthy places, like "Lawrence Square" and "The Healthy Abode Inc. - Environmental Assessment". They are actually a Shopping Mall and a Construction & Landscaping not even a place where it's possible to buy or eat some food. This shown that the applied method it's not 100% accurate in search for specific venues categories.

Also, it´s good to note that all the listed neighborhoods in top 10 don´t have any junkie food venues.

6. Conclusion

Finally, in the choosing process for a specific neighborhood, each of the plausible venues where individually analyzed, their menus and business hours.

The Artisano Bakery Café, Etobicoke, ON M8Z it's the most suitable to open a gym near it. It´s rounded by another good service places, and even a Spa and Pharmacy. For sure it´s a bakery, but with good salads in the menu.

57	Artisano Bakery Café	43.631006	-79.518172	M8Z	Bakery	0	0.0	0.0	0	90.701733