
Battle of the Neighbourhood in Singapore

— By Nadiah Ibrahim —

The problem

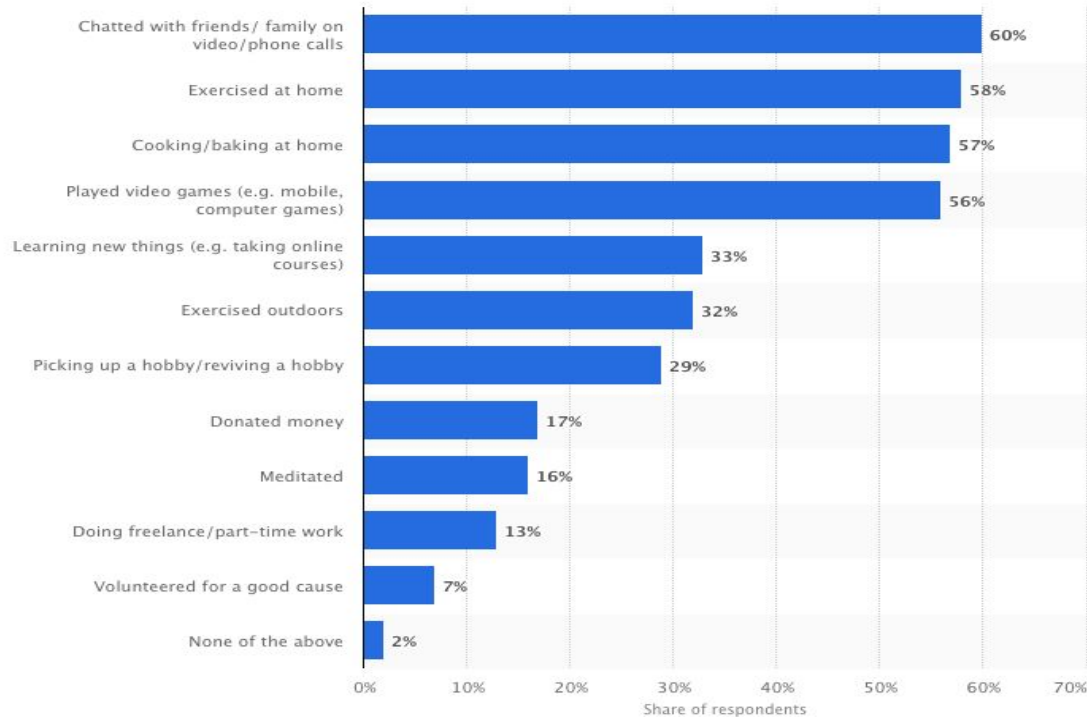
Problem statement

According to statistica.com, 58% of Singaporean engages in exercise activity at home during the Covid-19 pandemic in 2020 (refer to the next slide).

With the current positive outlook on the pandemic situation due to the discovery of the vaccines, a lot of business are taking this opportunity to make a head start by launching their business as soon as they can.

Assuming that the Singaporean community would be keen in continuing the healthy lifestyle, this particular project is looking into the most popular neighbourhood in Singapore to set up a new fitness center.

Activities undertaken by Singaporeans in the previous two weeks during the COVID-19 pandemic as of May 22, 2020



Source: <https://www.statista.com/statistics/1119966/singapore-activities-conducted-during-covid-19-pandemic/>

Data acquisition & cleaning

1. 3 source of data

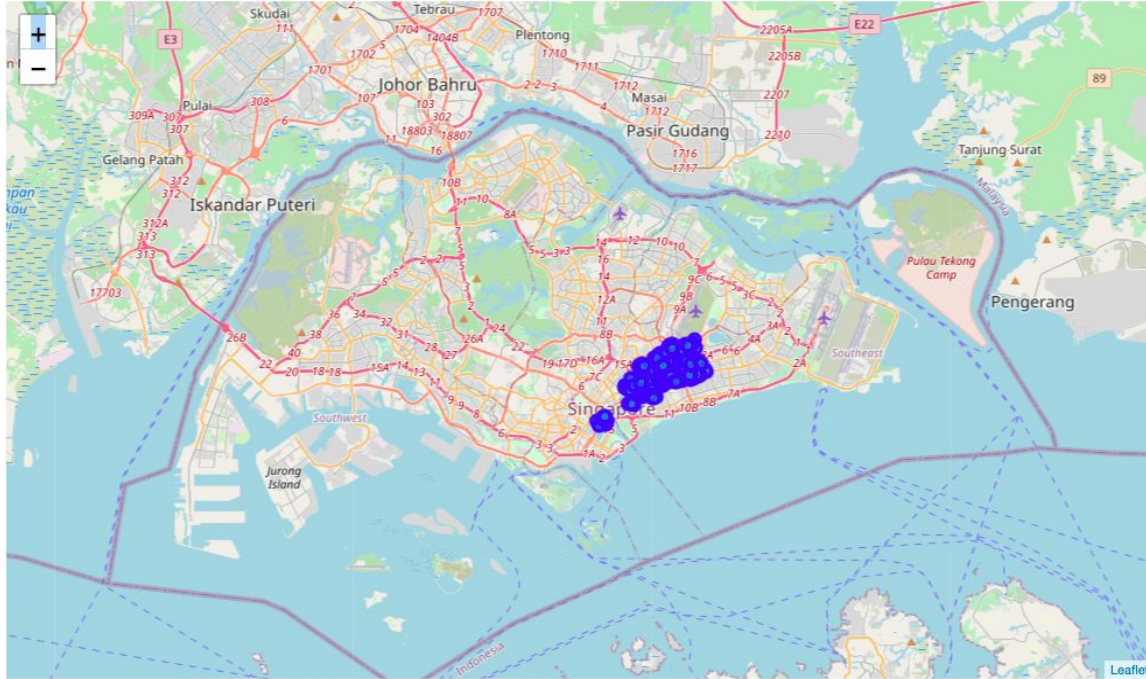
- a. Singapore HDB Postal Code Mapper (2018): <https://www.kaggle.com/mylee2009/singapore-postal-code-mapper>
- b. Singapore Open Data: Location of Gyms@SG: <https://data.gov.sg/dataset/gymssg>
- c. Wikipedia: https://en.wikipedia.org/wiki/Postal_codes_in_Singapore

2. Data needed is latitude, logitude, postal code and the location of existing gym in Singapore

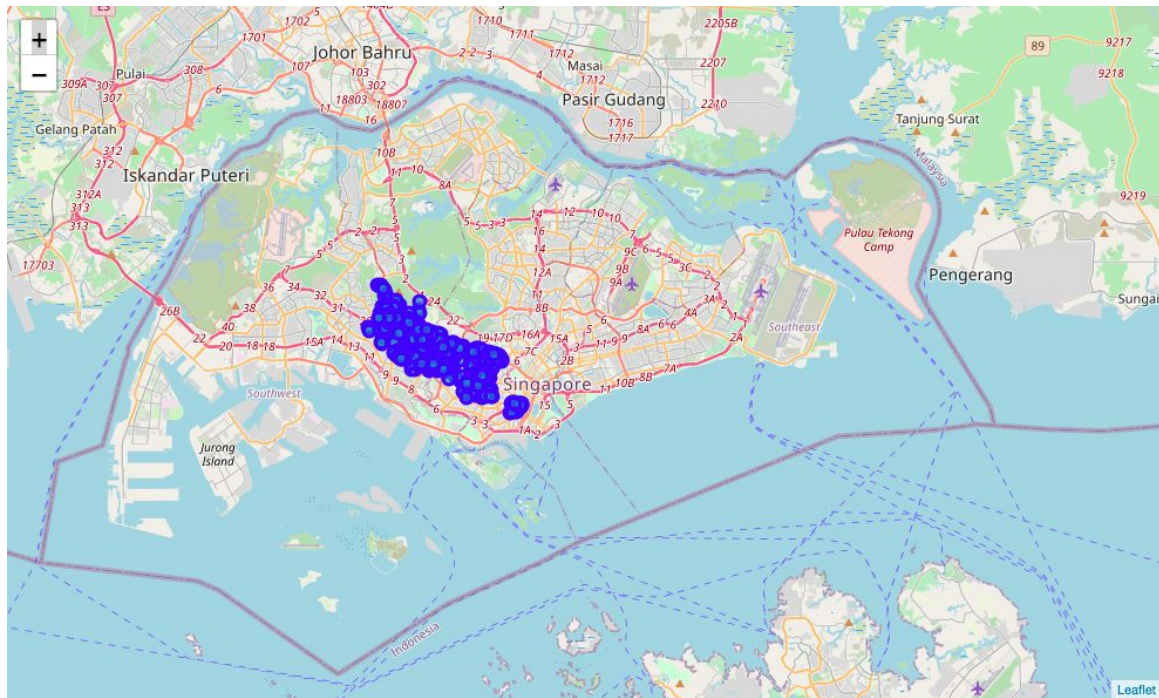
3. Total data set acquired for all the hotspots in Singapore : 4919 rows

4. Total data set for existing fitness center in Singapore: 159 rows

Using folium map to display hotspots locations

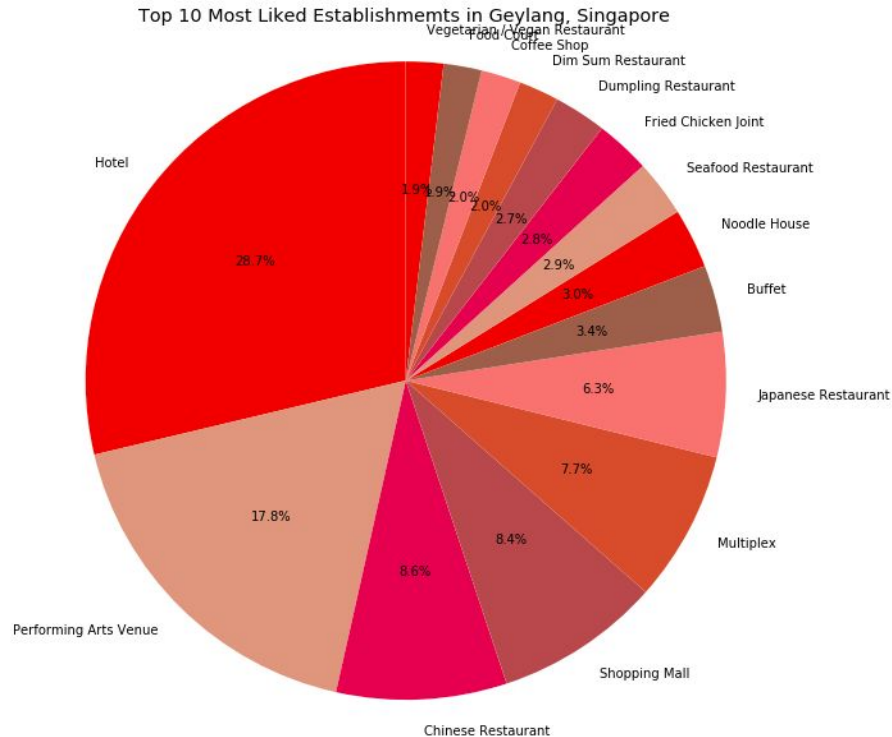


Hotspot locations in Geylang district

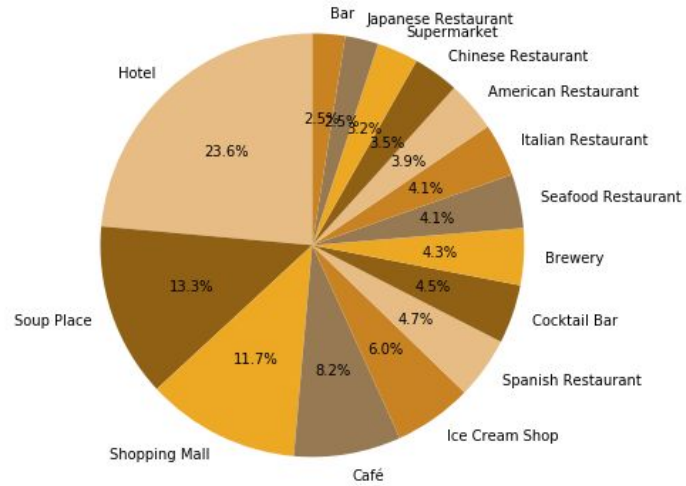


Hotspot location in Bukit Timah district

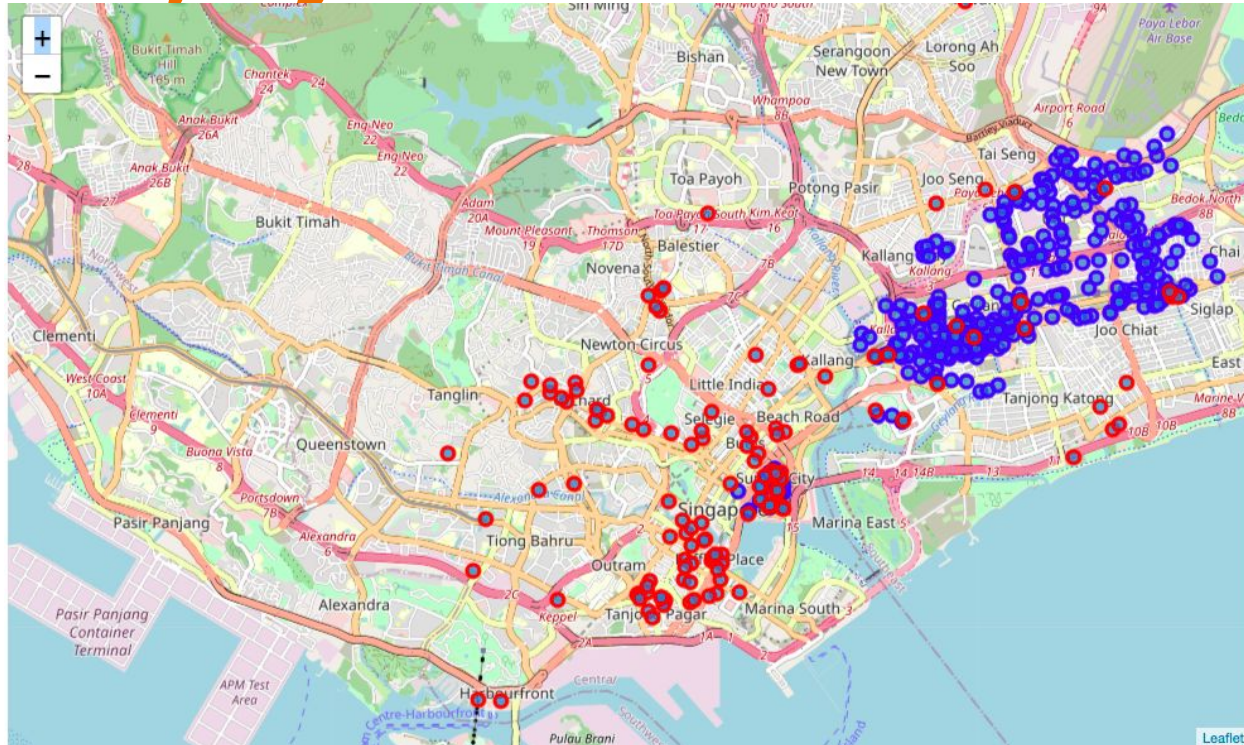
Pie Chart depiction of most liked hotspots by district



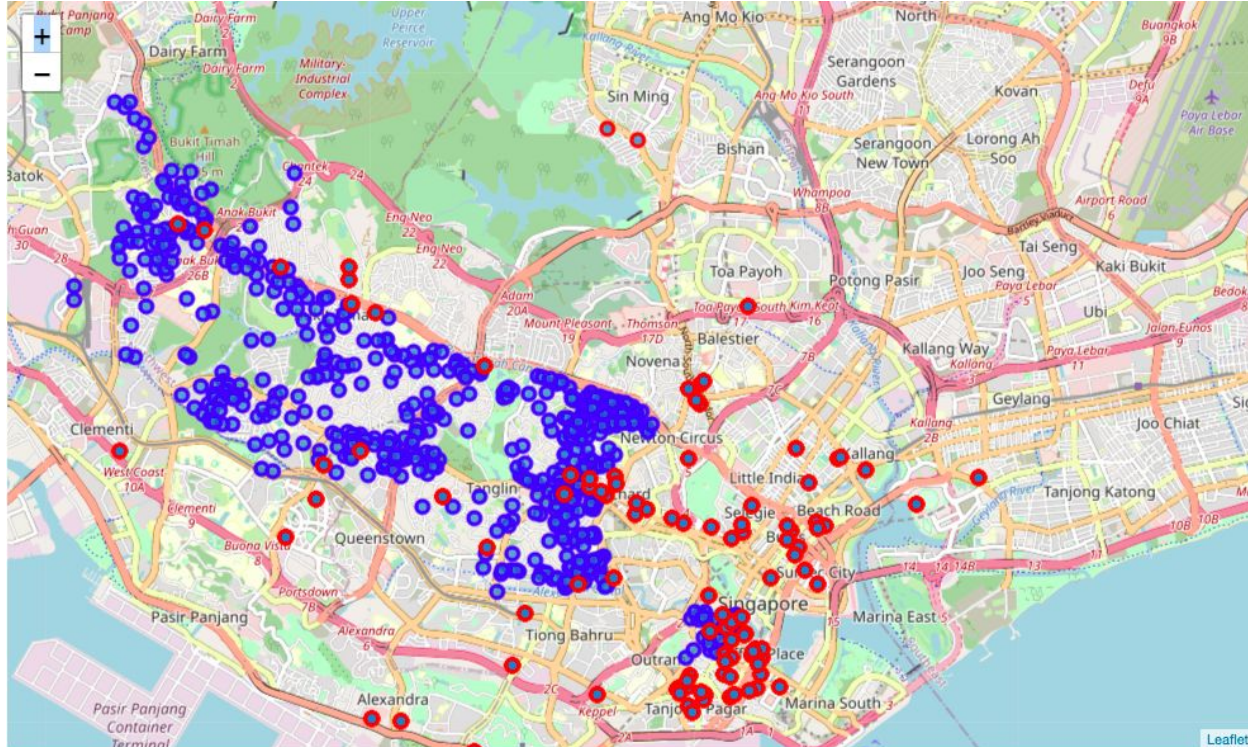
Top 10 Most Liked Establishments in Bukit Timah, Singapore



Location of existing fitness center nearby to most liked hotspots in Geylang



Location of existing fitness center nearby to most liked hotspots in Bukit Timah



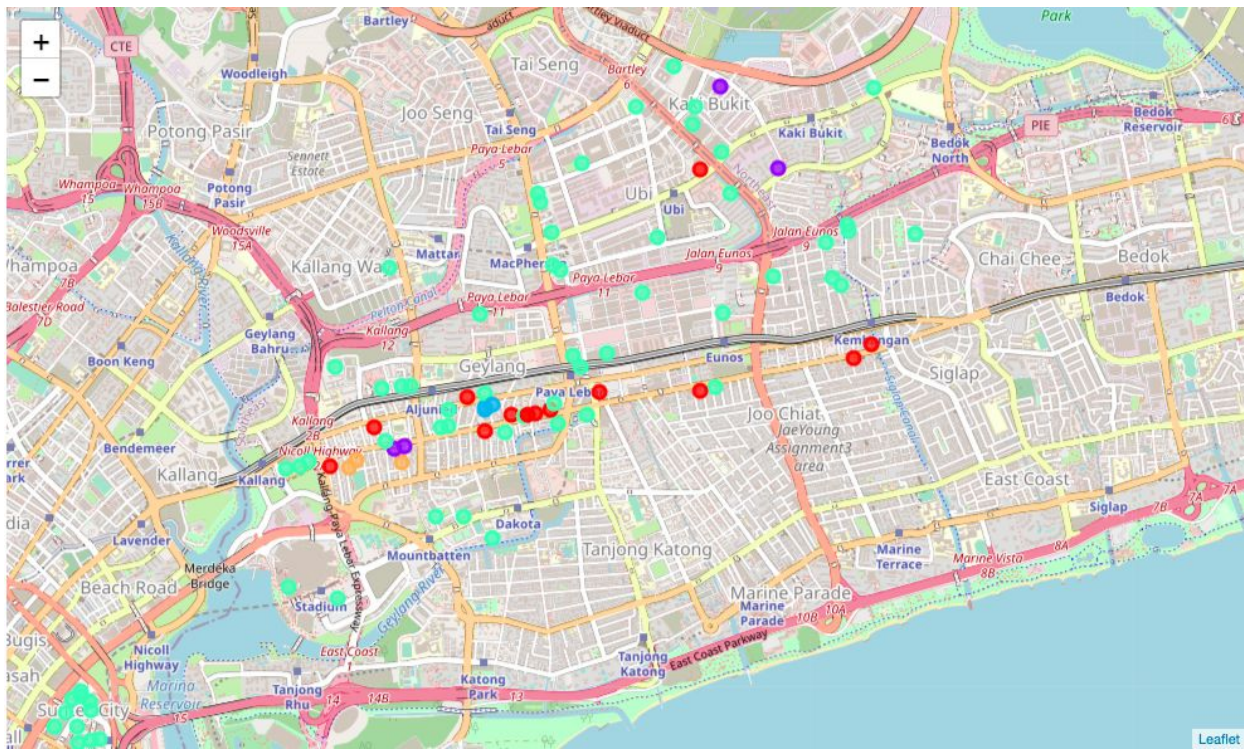
Analysis

1. In the district of Geylang, there are 34 popular venues and 210 nearby venues return by Foursquare.
2. In the case of Bukit Timah, 12 popular venues were return with 300 nearby venues.
3. From these two pie charts, we can tell that in the district of Geylang, the most popular location is Hotel at 28.7%, Performing Arts at 17.8%, followed by various of restaurants.
4. For the Bukit Timah district, Hotel is the most popular location as well with 23.6%, followed by Soup place at 13.3%, Shopping Mall at 11.7% and restaurants and cafe for the rest. We can see from the 2 pie charts that the Bukit Timah district has a more even distribution of popularity compared to the Geylang district.
5. There are 116 Existing Fitness Center located nearby the hotspot in Geylang versus 111 in Bukit Timah.

Geylang K Mean Clustering (k =5)

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Ethnic Restaurants	Daily needs supply	Arts & Dining	Health, Beauty & Dining	Hotels & Dining
Chinese, Philippines Cuisine	Convenience store, Deli, Flea markets	Arts museum, Vegan restaurant, Dessert shop	Basketball court, playground, sports bar, frozen yogurt	Hotel, Vegan restaurant, fast food restaurant

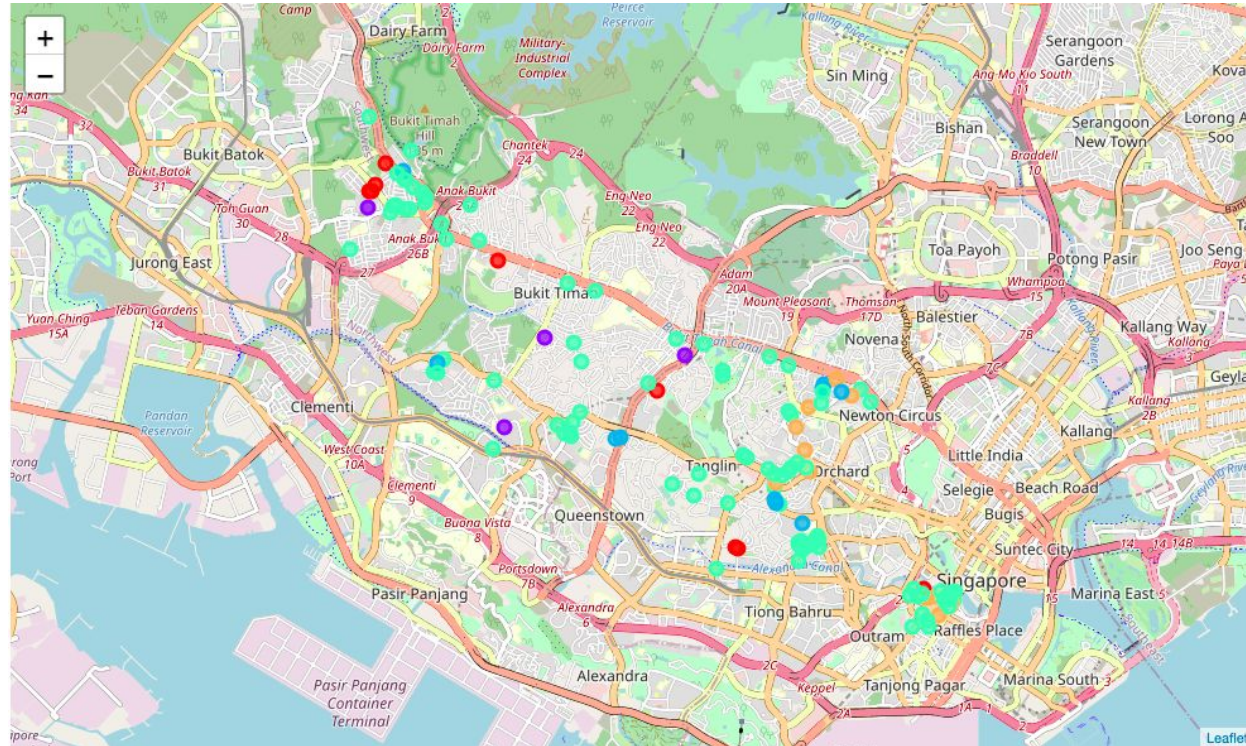
Geylang district by cluster



Bukit Timah K Mean Clustering (k =5)

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Health & Dining	Health & Dining	Health, Beauty & Dining	Dining, Entertainment & Health	Hotel, Dining, Entertainment & Health
Gym, dance studio, fast food restaurants	Gym, dance studio, fast food restaurants	Wine shop, Coffee shop, Cosmetic shop, Dance studio	Cafe, American restaurant, bar, bakery, dance studio, escape room, steakhouse, burger joint	Hotel, gym, cupcake shop, dance studio, nightclub, doctor's office

Bukit Timah district by cluster



Conclusion

BUKIT TIMAH WINS!

- more diversified business establishments in the Bukit Timah district
- recommend to focus on this district if anyone were to open a new fitness center