Opening a new Fitness Center in Mumbai,IN

IBM Applied Data Science Capstone
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Business Problem

Location of a fitness center is critical in determining whether it will be a success or not

Objective: To select the best location for a new fitness center in Mumbai

● **Business question**

In Mumbai, if someone is looking to open a new fitness center, where should they do so?

Data

Data required

➤List of neighbourhoods in Mumbai

➤Geographical coordinates of the neighbourhoods

➤Venue data related to fitness centers

Sources of data

➤Wikipedia page for neighbourhoods

➤Geocoder package for geographical coordinates

➤Foursquare API for venue data

Methodology

➔ Web scraping Wikipedia page for neighbourhoods list

➔ Gathering geographical coordinates using Geocoder

➔ Foursquare API to get venue data

➔ Grouping data by neighbourhood for each venue category

➔ Filter venue category by "Fitness Center"

➔ Using k-means clustering to group neighborhoods

➔ Visualizing the clusters in a map using Folium

Results
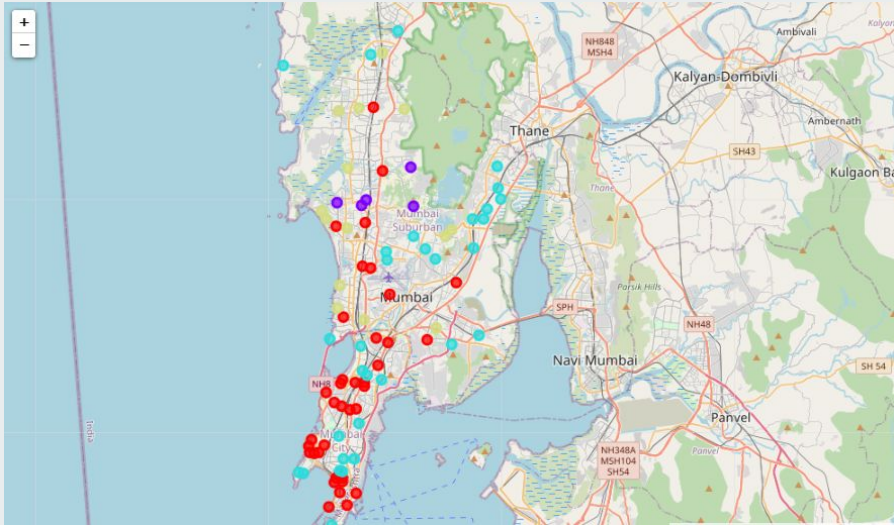
Performed k-means clustering based on the frequency of occurrence for "Fitness Center" for the 4 main clusters :

• Cluster 0(Red): Neighbourhoods with moderate number of fitness centers

• Cluster 1(Purple): Neighbourhoods with highest number of fitness centers

• Cluster 2(Blue): Neighbourhoods with lowest concentration of fitness centers

• Cluster 3(Mint Green): Neighbourhoods with moderate number of fitness centers

Discussion

• Most of the fitness centers are concentrated north of Mumbai Suburban region

• Highest number in cluster 1 and moderate number in clusters 0 and 3

• Cluster 2 has very low number to no fitness centers in the neighbourhoods

• Oversupply of fitness centers mostly happened north of the Mumbai Suburban region,
with South Mumbai having very few fitness centers

Recommendations

• Open new fitness centers in neighbourhoods of cluster 2 , having little to no competition

• Can also open in neighbourhoods in clusters 0 and 3 with moderate competition if have

unique selling propositions to stand out from the competition

• Avoid neighbourhoods in cluster 1, already having intense competition

Conclusion

• Answer to the business question: The neighbourhoods in cluster 2 are the most preferred locations to open a new fitness center

• The findings from this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations in their decisions to open a new fitness center

THANK YOU!!