

Coursera Capstone

Opening a New Gym in Pune, India

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Business problem

- Location of the gym is one of the most important decisions that will determine whether the gym will be a success or a failure.
- **Objective:** To analyze and select the best locations in the city of Pune, India to open a new gym This project is timely as the city is currently suffering from oversupply of gyms.
- **Business question**
 - In the city of Pune, India, if a property developer is looking to open a new gym, where would you recommend that they open it?

Data

- **Data required**

1. List of neighbourhoods in Pune
2. Latitude and longitude coordinates of the neighbourhoods
3. Venue data, particularly data related to Gym

- **Sources of data**

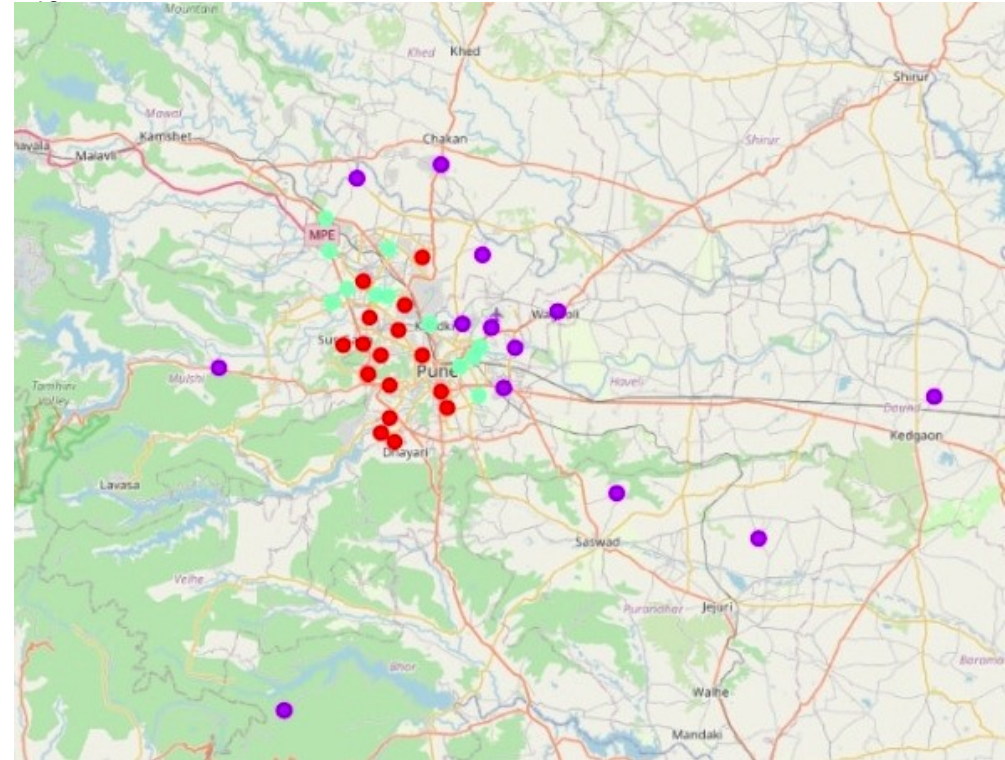
1. Wikipedia page for neighbourhoods
(https://en.wikipedia.org/wiki/Template:Neighbourhoods_of_Pune)
2. Geocoder package for latitude and longitude coordinates
3. Foursquare API for venue data

Methodology

- Web scraping Wikipedia page for neighbourhoods list
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Gym
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium

Results

- Categorized the neighbourhoods into 3 clusters :
 - Cluster 0: Neighbourhoods with moderate number of gyms
 - Cluster 1: Neighbourhoods with low number to no existence of gyms
 - Cluster 2: Neighbourhoods with high concentration of gyms



Discussion

- Highest number of gyms in cluster 2 and moderate number of gyms in cluster 0
- Cluster 1 has very low number to no gyms in the neighbourhoods
- Oversupply of gyms mostly happened in the central area of the city, with the suburb area still have very few gyms

Recommendations

- Open new gyms in neighbourhoods in cluster 1 with little to no competition
- Can also open in neighbourhoods in cluster 0 with moderate competition if have unique selling propositions to stand out from the competition
- Avoid neighbourhoods in cluster 2, already high concentration of gyms and intense competition

Conclusion

- Answer to business question: The neighbourhoods in cluster 1 are the most preferred locations to open a new Gym.
- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new Gym.

THANK YOU!!