



IBM Applied Data Science Capstone

Opening a New Coffee Shop in Bangalore, India

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Business Problem

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

Data

- Data required

- List of neighbourhoods in Bangalore
- Latitude and longitude coordinates of the neighbourhoods
- Venue data, particularly data related to coffee shops

- Sources of data

- All India Pincode directory with contact details along with Latitude and longitude.

<https://data.gov.in/resources/all-india-pincode-directory-contact-details-along-latitude-and-longitude>

- Locationiq Geocoder API for latitude and longitude coordinates
- Foursquare API for venue data

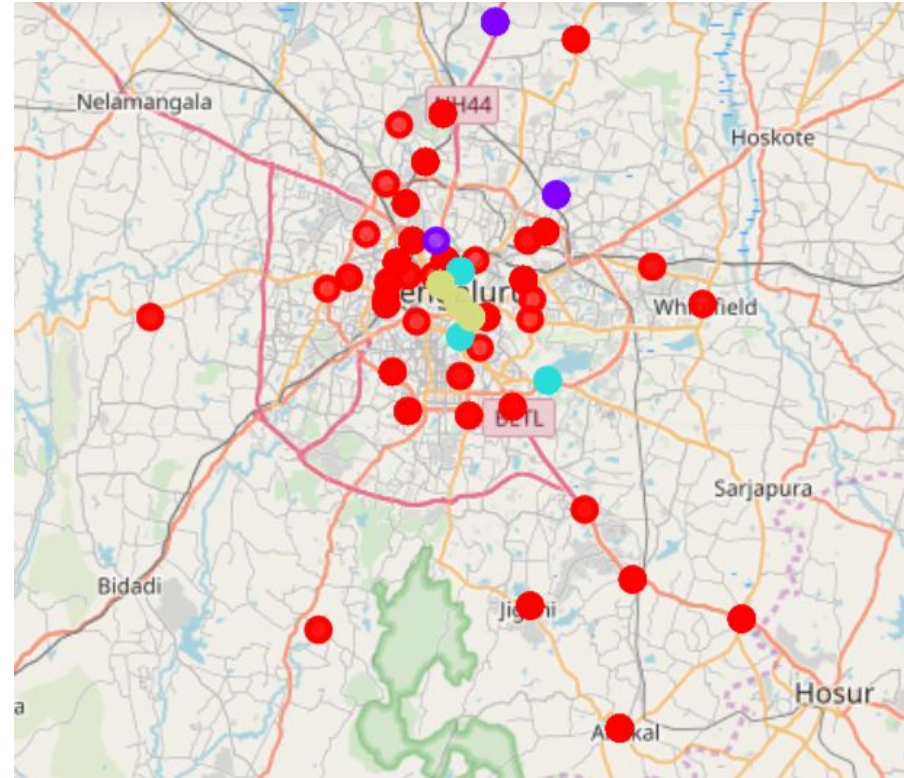
Methodology

- Wrangling bangalore data from All India Pincode directory dataset
- Get latitude and longitude coordinates using Geocoder API
- 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 Coffee Shop
- Perform clustering on the data by using k means clustering
- Visualize the clusters in a map using Folium

Result

Categorized the neighbourhoods into 4 clusters:

- **Cluster 1:** Neighbourhoods with no coffee shops
- **Cluster 2:** Neighbourhoods with high concentration of coffee shops
- **Cluster 3:** Neighbourhoods with moderate concentration of coffee shops
- **Cluster 4:** Neighbourhoods with low concentration of coffee shops



Discussion

- Most of the coffee shops are concentrated in cluster 2 and moderate number in cluster 3
- Cluster 4 has very low number to no coffee shop in the neighbourhoods
- Cluster 1 has no coffee shop in the neighbourhoods.

Recommendation

- Open new coffee shops in neighbourhoods in cluster 1 & 4 with little to no competition
- Can also open in neighbourhoods in cluster 3 with moderate competition if the investor/builder has unique selling propositions to stand out from the competition
- Avoid neighbourhoods in cluster 2, as there is already a high concentration of coffee shops and intense competition

Conclusion

- Answer to business question: The neighbourhoods in cluster 1 & 4 are the most preferred locations to open a new coffee shop
- 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 coffee shop



Thank You