Coursera Capstone

IBM Applied Data Science Capstone

Opening a New Pizza Shop in Bangalore, Karnataka

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BUSINESS PROBLEM

◈ **Objective:** Select the best locations in the **city of Bangalore, Karnataka** to open a new **pizza shop**.

◈ This project aims to provide solutions to answer the business question:

   ◈ In the city of Bangalore, Karnataka, if a **Pizza franchise** is looking to open a new pizza outlet, where would you recommend that they open it?

DATA

Data required:

- List of neighborhoods in Bangalore.

- Latitude and longitude coordinates of those neighborhoods.

- Venue data, particularly data related to Pizza places.

Sources of data

- The data is stored in a Wikipedia page having the link as below: https://en.wikipedia.org/wiki/List_of_neighbourhoods_in_Bangalore

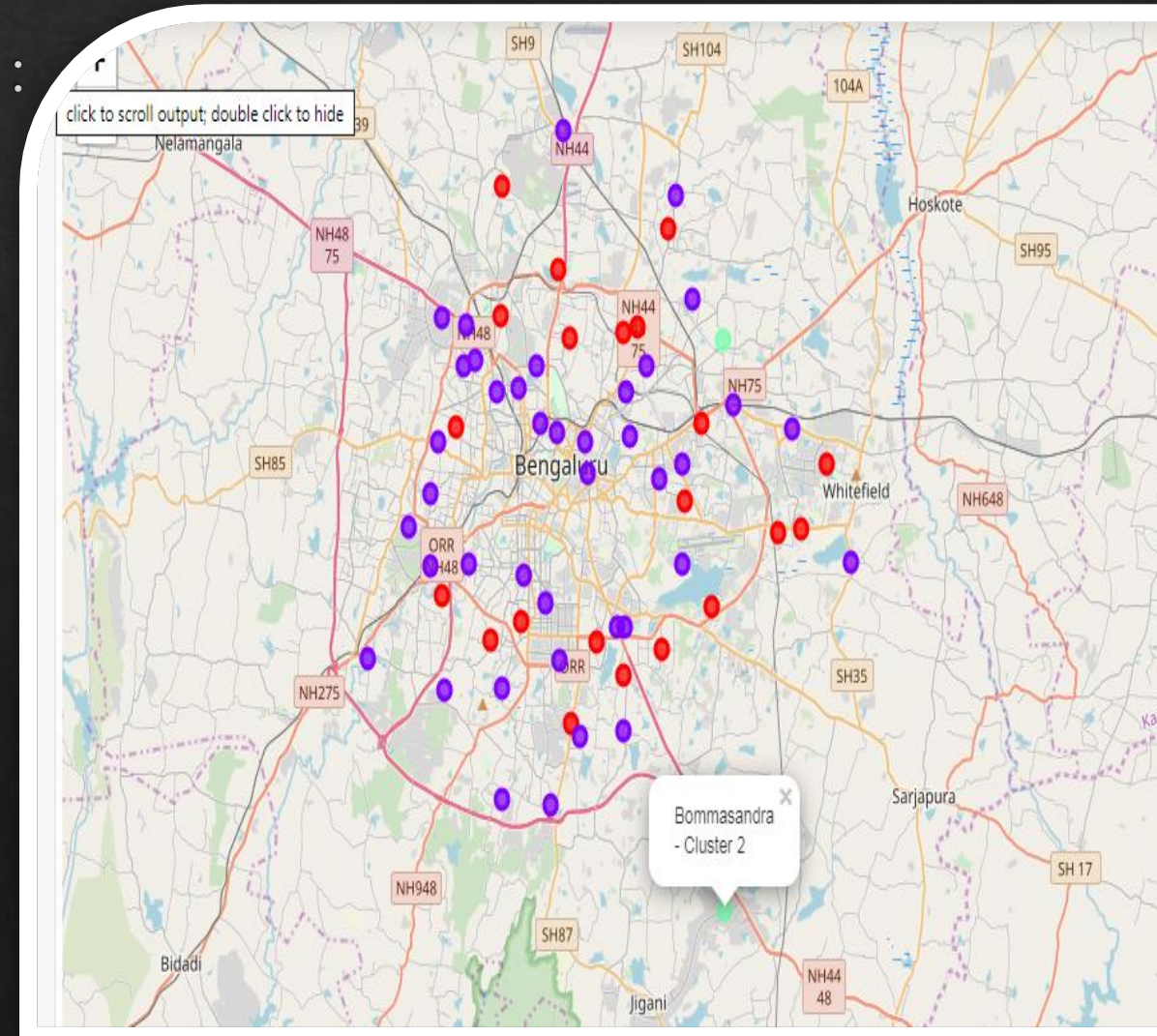- Geocoder package for latitude and longitude

- Foursquare API for venues

METHODOLOGY

- Web scraping Wikipedia page for extracting neighborhoods list

- Get latitude and longitude coordinates using Geocode

- Use Foursquare API to get venue data of each neighborhood

- Group data by neighborhood and taking the mean of the frequency of occurrence of each venue category

- Filter venue category by Pizza Places

- Perform clustering on the data by using k-means clustering

- Visualize the clusters in a map using Folium

RESULT

◈ Categorized the neighborhoods into 3 clusters :

➢ Cluster 0: Neighborhoods with

high number of Pizza Places.

➢ Cluster 1: Neighborhoods with low number to

no existence of Pizza Places

➢ Cluster 2: Neighborhoods with moderate

concentration of Pizza Places

OBSERVATION

◈ Most of the pizza shops are concentrated in the Northern and Eastern area of Bangalore city, with the highest number in cluster 0 and moderate number in cluster 2.

◈ On the other hand, cluster 1 is having the lowest no of pizza places in the neighborhoods.

◈ This represents a great opportunity and high potential areas in opening new pizza palace as there is very little to no competition from existing pizza places.

◈ Meanwhile, pizza palace in cluster 0 are likely suffering from intense competition due to oversupply and high concentration of pizza shops.

RECOMMENDATION

◈ Open new pizza places in neighborhoods in cluster 1 with little to no competition

◈ Can also open in neighborhoods in cluster 2 with moderate competition if have unique selling propositions to stand out from the competition

◈ Avoid neighborhoods in cluster 1, already high concentration of pizza places and intense competition

THANK YOU