



Coursera Capstone

IBM Applied Data Science Capstone

Opening a Restaurant near by IT Parks in Chennai, India

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Business Problem

In this project we will try to find an optimal location for a restaurant. Specifically, this report will be targeted to stakeholders interested in opening a restaurant near by IT Parks in Chennai, India.

Objective: To analyse and select the best locations in the city of Chennai, India to open a new Authentic Restaurant.

Business question: If a Investor is looking to open a new restaurant, where would you recommend that they open it?

Data

➤ Data required

- List of neighbourhoods i.e. IT Parks in Chennai
- List of existing restaurants in the neighbourhood (any type of restaurant)
- List of and distance to North Indian and/or Chinese restaurants in the neighbourhood, if any
- Latitude and longitude coordinates of those neighbourhoods. This is required in order to plot the map and to get the venue data.
- Venue data, particularly data related to restaurants.
- We will use this data to perform clustering on the neighbourhoods.

➤ Sources of data

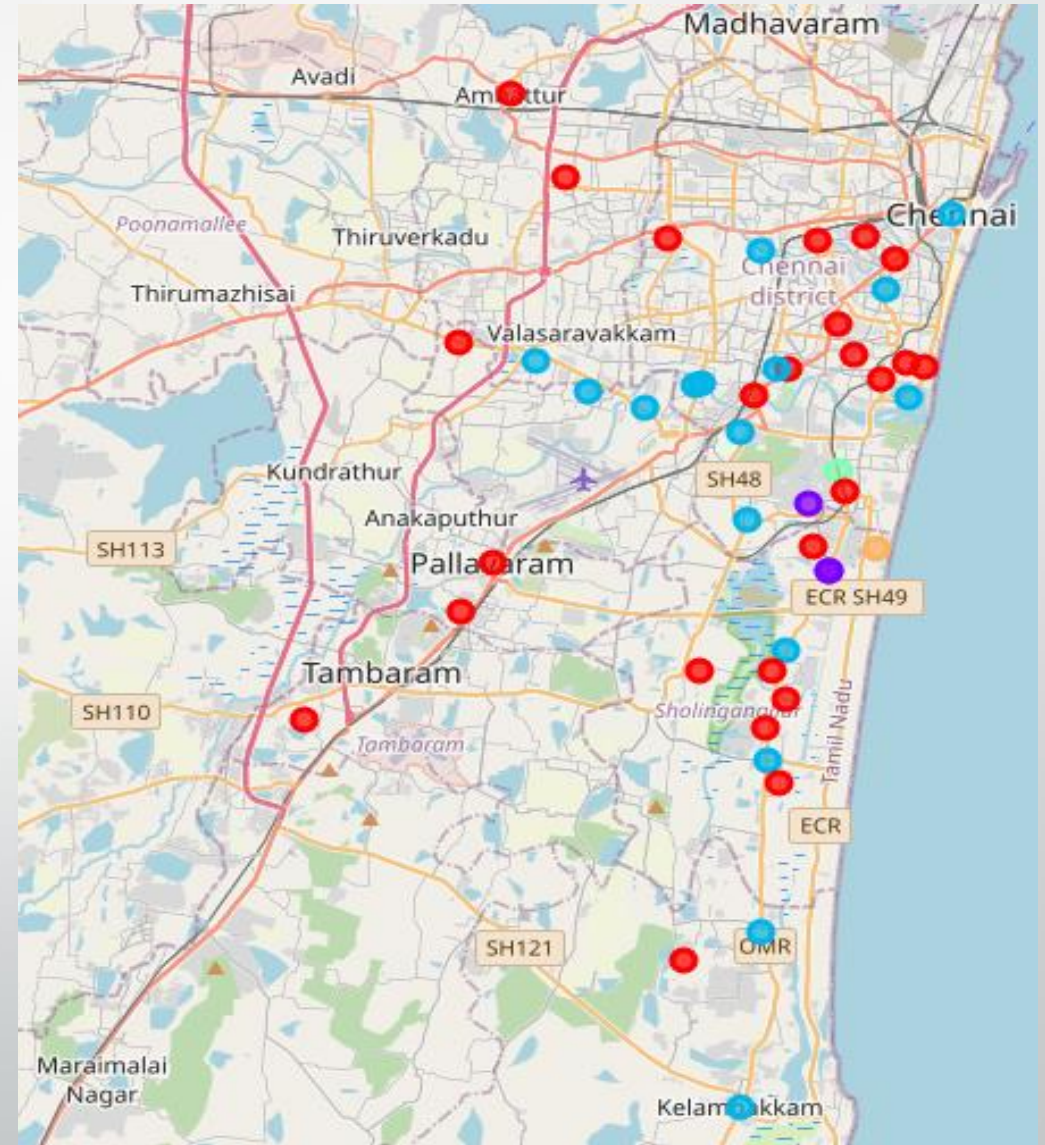
- Wikipedia page for neighbourhoods(https://en.wikipedia.org/wiki/List_of_tech_parks_in_Chennai)
- Foursquare API for venue data

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 Restaurant
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium

Results

- Categorized the neighbourhoods into 5 clusters :
 - Cluster 0: Neighbourhoods with high number of authentic restaurants
 - Cluster 1: Neighbourhoods with moderate number of authentic restaurants
 - Cluster 2: Neighbourhoods with high number of authentic restaurants
 - Cluster 3: Neighbourhoods with low number of authentic restaurants
 - Cluster 4: Neighbourhoods with low number of authentic restaurants



Discussion

- Highest number in cluster 0 & 2 and moderate number in cluster 1
- Cluster 3 & 4 has very low number to no Restaurants in the neighbourhoods

Conclusion

- ❑ Answer to business question: The neighbourhoods in cluster 3 are the most preferred locations to open a new authentic restaurant
- ❑ 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 restaurant



Thank You