



Coursera Capstone

IBM Applied Data Science Capstone

Opening a New Indian Restaurant in Delhi, India

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Business Problem

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

DATA

► Data required

- List of neighbourhoods in Delhi
- Latitude and longitude coordinates of the neighbourhoods
- Venue data, particularly data related to indian restaurants

► Sources of data

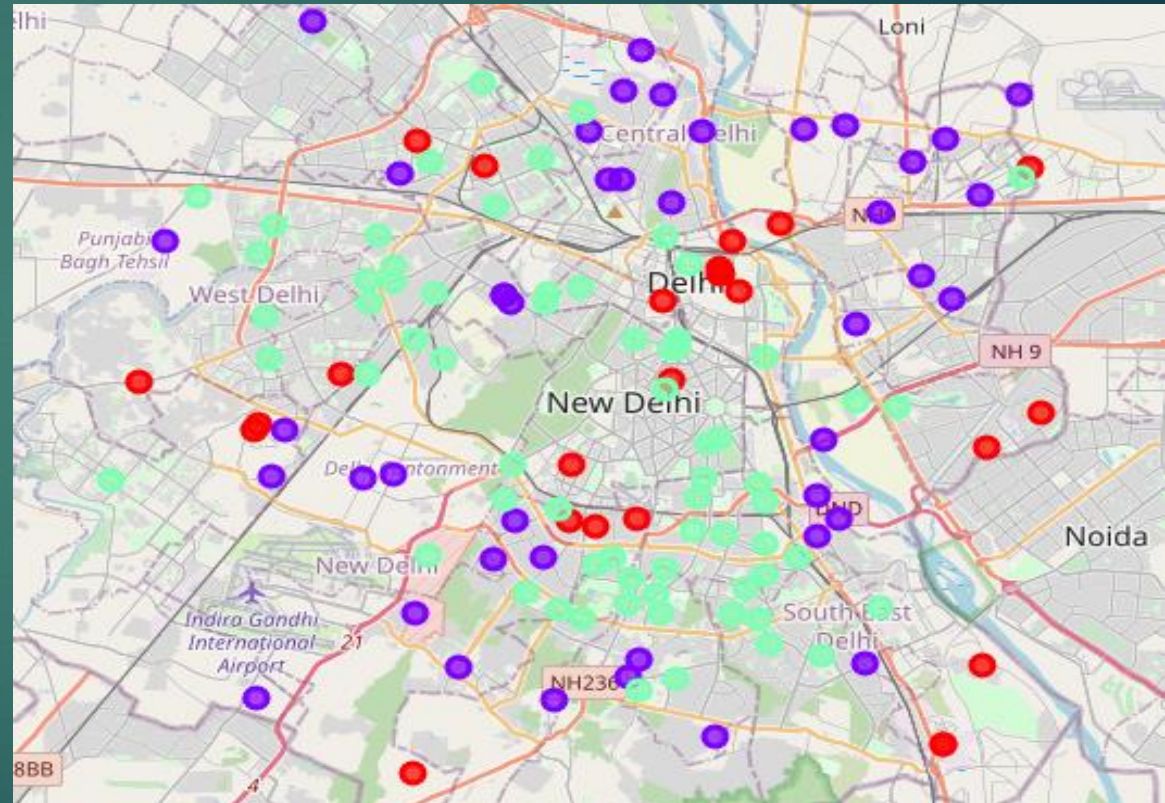
- Wikipedia page for neighbourhoods
(https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Delhi)
- Geocoder package for latitude and longitude coordinates
- Foursquare API for venue data

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 Shopping Mall
- ▶ 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 high number of indian restaurants
 - Cluster 1: Neighbourhoods with low number to no existence of indian restaurants
 - Cluster 2: Neighbourhoods with moderate concentration of indian restaurants



DISCUSSION

- Most of the indian restaurants are concentrated in the south area of the city
- Highest number in cluster 0 and moderate number in cluster 2
- Cluster 1 has very low number to no shopping mall in the neighbourhoods

Recommendations

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

CONCLUSION

- ▶ Answer to business question: The neighbourhoods in cluster 1 are the most preferred locations to open a new indian restaurants
- ▶ 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 indian restaurant

THANK YOU