

COURSERA CAPSTONE

IBM APPLIED DATASCIENCE

*Neighborhood Recommendation to open a new Indian Restaurant in
Ahmadabad City of India*

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Business Problem

- ▶ If in the city of Ahmedabad, a person is looking to open a new Restaurant, where would one recommend that they open it?

DATA

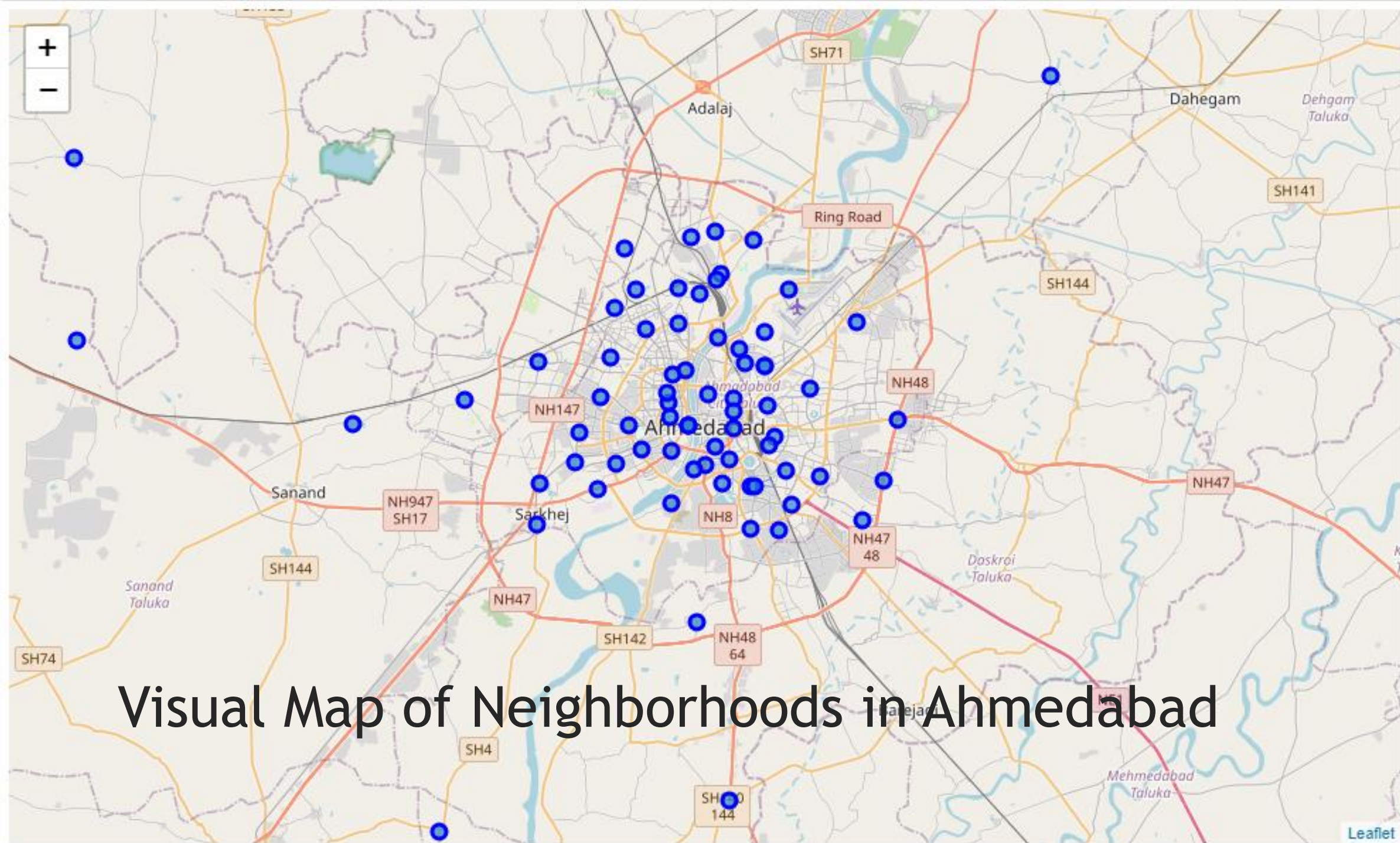
► Data Required:

- List of neighborhoods in Ahmedabad.
- Latitude and longitude coordinates of those neighborhoods.
- Venue data, particularly data related to restaurants.

• Sources of Data:

- Wikipedia page for neighborhood:
 - https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Ahmedabad
- Google Places API for geocoordinate of the neighborhoods.
- Foursquare API for venue data.

Out[16]:



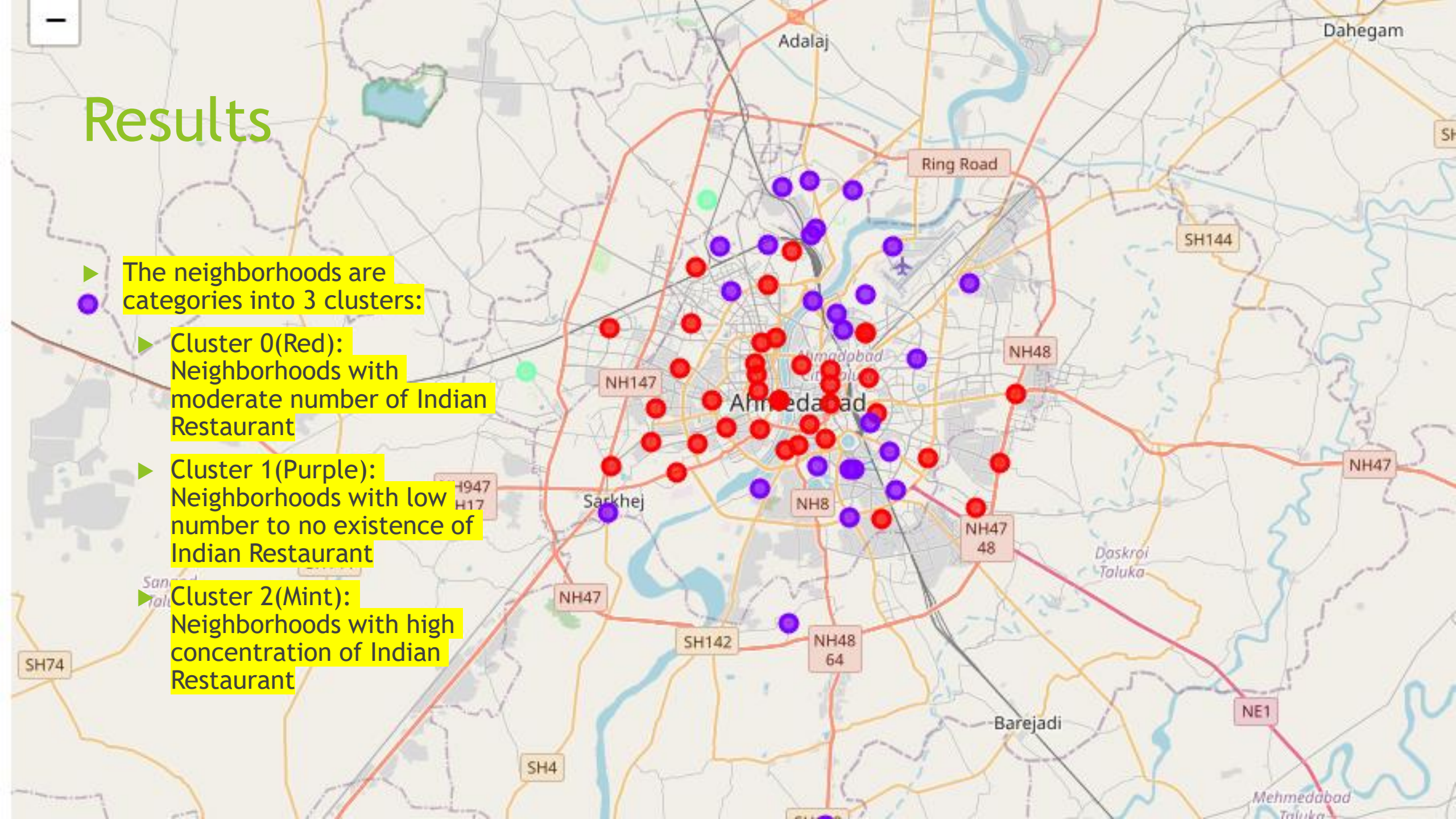
Methodology

Web scraping Wikipedia page for neighborhoods list

- Get latitude and longitude coordinates using Google Places API.
- Use Foursquare API to get venue data.
- Group data by neighborhood by taking the mean of the frequency of occurrence of each venue category.
- Filter venue category by Indian Restaurant.
- Perform clustering on the data by using k-means clustering.
- Visualize the clusters in a map using Folium.

Results

- ▶ The neighborhoods are categorized into 3 clusters:
 - ▶ Cluster 0 (Red): Neighborhoods with moderate number of Indian Restaurant
 - ▶ Cluster 1 (Purple): Neighborhoods with low number to no existence of Indian Restaurant
 - ▶ Cluster 2 (Mint): Neighborhoods with high concentration of Indian Restaurant



Discussion

- ▶ The Concentration of Indian Restaurants are well distributed over the city.
- ▶ Highest number in cluster 2 and moderate number in cluster 0.
- ▶ Cluster 1 has very low number to no shopping mall in the neighborhoods.
- ▶ Oversupply of shopping malls mostly happened in the central area of the city, with the suburb area still have very few shopping malls.

Recommendations

- ▶ Open new Indian Restaurant in neighborhoods in cluster 1 with little to no competition.
- ▶ Can also open in neighborhoods in cluster 0 with moderate competition if looking to expand and create a chain of restaurants for well know brand.
- ▶ Avoid neighborhoods in cluster 2, already high concentration of Indian Restaurantsand intense competition

Conclusion

- ▶ The neighborhoods in cluster 1 are the most preferred locations to open a new shopping mall.

The findings of this analysis will help the stakeholders to pick best location to setup their new Indian Restaurant.

THANK YOU...