Battle Of Neighborhoods

IBM CAPSTONE PROJECT

BUSINESS PROBLEM

• The main objective behind the idea is to find the best spot for the next profitable restaurant business in the Bay Area

• The Bay Area has a lot of restaurants with different cuisines including Mexican, Italian etc

• Starting a restaurant without analysis won't yield good results

DATA

DATA REQUIRED

- List of neighborhoods in Los Angeles, USA
- Latitude and Longitude of these neighborhoods
- Venue data related to Indian restaurants. This will help us find the neighborhoods that are more suitable to open an Indian Restaurant.
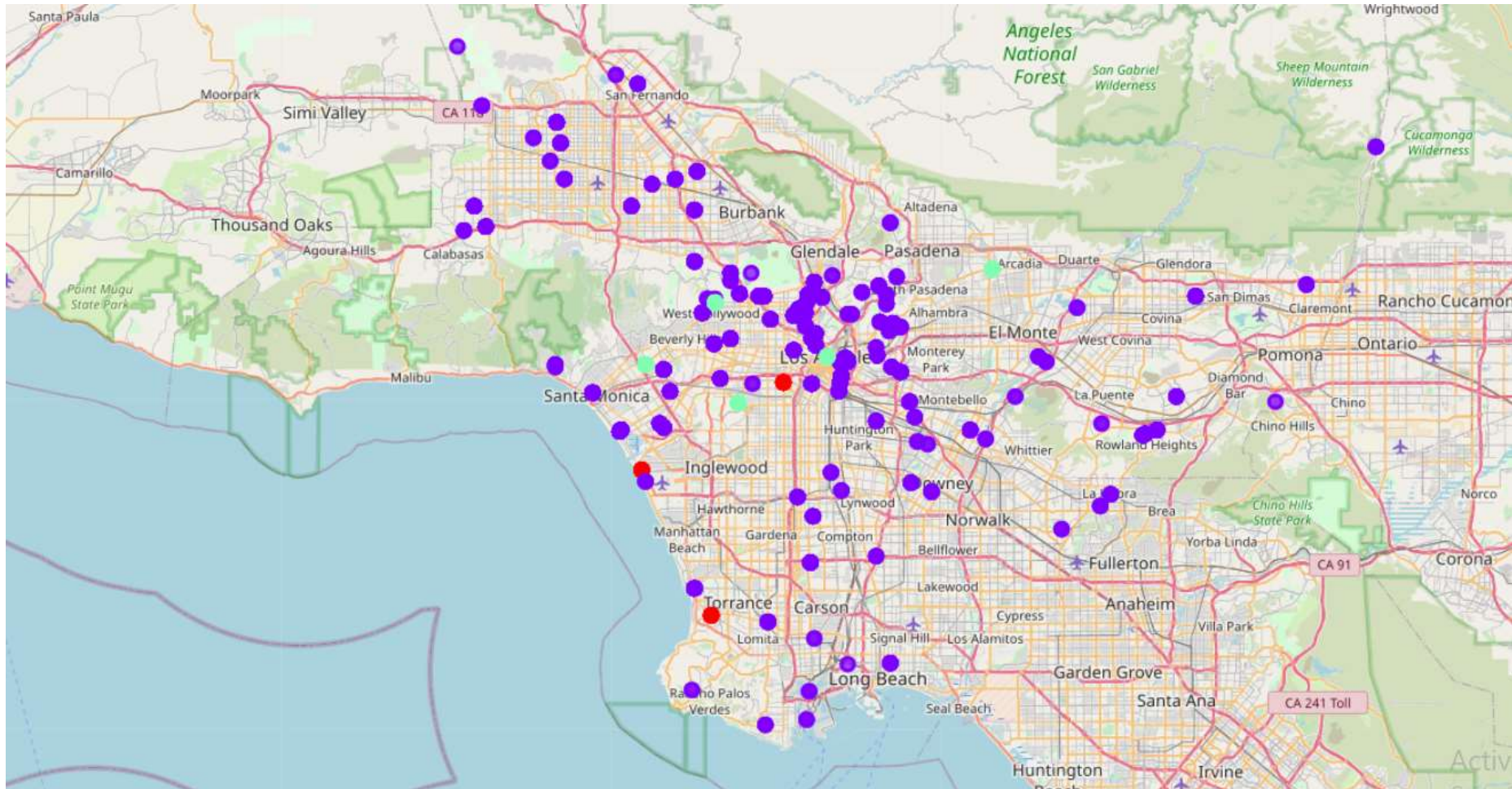
SOURCE OF DATA

- Scrapping of Los Angeles neighborhoods via online website
https://familypedia.wikia.org/wiki/List_of_incorporated_cities_and_towns_in_California
- Getting Latitude and Longitude data of these neighborhoods via Geocoder package
- Using Foursquare API to get venue data related to these neighborhoods

DATA SCIENCE METHODOLOGY

- The data was extracted and cleaned, and the feature selection was made
- Map for all the Venues in the Los Angeles was plotted
- Foursquare API was used to figure out the nearest restaurants
- The restaurants were classified using KMeans ML algorithm
- The clustered restaurants were plotted in the Los Angeles

RESULTS

RESULTS

The results from k-means clustering show that we can categorize Los Angeles neighborhoods into 3 clusters based on how many Indian restaurants are in each neighborhood:

•**Cluster 0: Neighborhoods with the less number of Indian restaurants.**

•**Cluster 1: Neighborhoods with no Indian restaurants.**

•**Cluster 2: Neighborhoods with a more number of Indian restaurants**

The results are visualized in the above map with Cluster 0 in Violet, Cluster 1 in Cyan , Cluster 2 in Red.

DISCUSSIONS

•Most of the Indian restaurants are concentrated in the central area of the city

•Highest number in cluster 2 and moderate number in cluster 0

•Cluster 1 has no Indian restaurants in the neighbourhoods

RECOMMENDATIONS

• Most of the Indian restaurants are in cluster 2 which is around Green Field , Huntington Beach, Rocklin, Cupertino and Nevada City lowest in Cluster 1 areas which are in Auburn, Apple Valley, Adelanto and Barstow areas. Looking at nearby venues it seems cluster 0 might be a good location as it is a business area and there are not a lot of Indian restaurants in the areas like Redlands, Roseville, Seaside and Dana Point.

CONCLUSION

•The neighborhoods in cluster 0 are the most preferred locations to open a new Indian 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 Indian Restaurant.

Thank You!!