



COURSERA CAPSTONE

OPENING A NEW RESTAURANT IN DENVER CO

BY: MOHANDAS PALATSHAHA

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AGENDA

- **Business Problem**
- **Data**
 - Data Sources
 - Data Gathering and Data Cleansing
- **Methodologies used**
- **Outcome**
- **Recommendations and Way Forward**
- **References**



BUSINESS PROBLEM

- Indian food is one of the most famous dining items in the world .We are planning to open up a new Indian Restaurant in Denver CO
- We observe that there are several well-established Indian Restaurants across the city of Denver
- To be successful in the business, we need to analyze the most suitable place to face least competition
- The project aims at analyzing and selecting the best location in Denver CO for opening a new Indian restaurant



DATA

- Data Sources:
 - Denver sub urbs wiki page:
https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Denver
 - Geocoder library to obtain latitude and longitude data
 - Foursquare APIs to pull up venues in Denver neighborhood



DATA GATHERING AND CLEANSING

- Sub urb information for Denver city is pulled up from WIKI page using web scrapping methodology
- This scraped data is then converted into data frame using BeautifulSoup Python library
- Latitude and Longitude information is collected from Geocoder library from Python
- Venue information is being pulled from Foursquare APIs

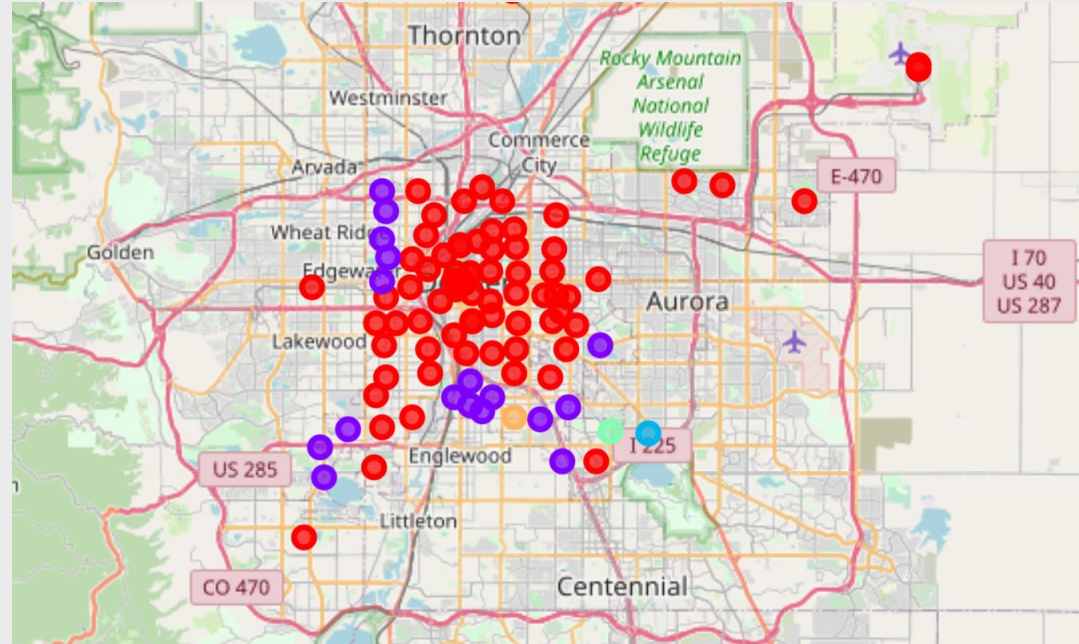


METHODOLOGIES USED

- Denver neighborhood data pulled from web scrapping of Wikipedia page for Sub Urbs in Denver area
- The data is cleansed and converted to pandas data frame using BeautifulSoup library
- Latitude and longitude data for the gathered data supplemented using Geocoder.
- Used Foursquare APIs to pull up top 50 venues within Denver city.
- The venues pulled henceforth are filtered to check only Indian restaurants within Denver
- The filtered data is used to for clustering.
- K-means clustering used to cluster Indian Restaurants across the city
- Data is divided into 5 clusters



OUTCOME



- Most of the Indian Restaurants are concentrated in Cluster 0 and I i.e. around central and northern part of the city
- We hardly see any Indian Restaurant near outskirts of the city i.e. Englewood and Centennial area
- Opening restaurant in outskirts of Denver could be beneficial in regards with the competition



RECOMMENDATIONS & WAY FORWARD

- Based on the clustering results, we should think about opening Indian restaurants near to cluster 2,3 or 4 i.e. Englewood or Centennial area
- The analysis done here took into consideration only one variable i.e. frequency of Indian Restaurants at given geography
- For better results we should consider additional variables such as population spread , favorite tastes of the people living across, ease of transportation to the site



REFERENCES

- [https://en.wikipedia.org/wiki/List of neighborhoods in Denver](https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Denver)
- <https://developer.foursquare.com/docs>

THANK YOU

MOHANDAS PALATSHAHA

MOHANDAS.PALATSHAHA@GMAIL.COM