APPLIED DATA SCIENCE CAPSTONE PROJECT

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AGENDA

- ❖ INTRODUCTION
- ❖ DATA
- ❖ METHODOLOGY
- ❖ VISUALIZATIONS
- ❖ RESULTS AND DISCUSSION
- ❖ CONCLUSION

INTRODUCTION

❑ PROBLEM DESCRIPTION:

Delhi, the capital of india is known for its food culture and rich lifestyle. It is influenced by the food habits of its residents and is where mughlai cuisine originated. It includes a variety of international cuisines which are popular among the residents along with indian

cuisine.

So the aim of this project is to find a suitable location in delhi for a person who is looking to open his restaurant so that it gets people attention and can earn good profit to survive this competitive market and also for food delivering companies to look for popular food restaurants.

❑ BACKGROUND DISCUSSION:

Delhi ranks 62 in list of world's best cities. The dearth of food habits among the delhi's residents created a unique style of cooking which became popular throughout the world, with dishes such as kebab, biryani, tandoori. The city's classic dishes include butter chicken, dal makhani, shahi paneer, aloo chaat, chaat, dahi bhalla, kachori, gol gappe, samosa, chole bhature, chole kulche, gulab jamun, jalebi and lassi.

STAKEHOLDERS/TARGET AUDIENCE

This detailed analysis can be used by a person to find the food hotspots in delhi for opening his/her restaurants or by food delivering companies to look for popular food restaurants.

DATA

Data is the foundation of data science;

it is the material on which all the analyses are based.

DATA SOURCES

1. DELHI NEIGHBORHOODS DATASET FROM KAGGLE :
   - This <u>dataset</u> contains information about neighborhoods in the

     delhi such as their name, borough, location, etc.

2. CREATING A LOCATION DATASET USING FOURSQUARE API WHICH WILL GIVE US   THE MOST COM MON VENUES TO ESTABLISH/OPEN OUR RESTAURANT.

3. USING FOLIUM LIBRARY TO CREATE INTERACTIVE VISUALIZATION MAPS OF

   POPULAR OR MOST COMMON VENUES .

DATA CLEANING AND PRE-PROCESSING

- After performing this stage, we got our cleaned data frame:

|	Borough	Neighbourhood	Latitude	Longitude
0	North West Delhi	Adarsh Nagar	28.614192	77.071541
1	North West Delhi	Ashok Vihar	28.699453	77.184826
2	North West Delhi	Azadpur	28.707657	77.175547
3	North West Delhi	Bawana	28.799660	77.032885
4	North West Delhi	Dhaka	39.031714	-90.261223
...	...	...	...	...
158	West Delhi	Rajouri Garden	28.642152	77.116060
159	West Delhi	Shivaji Place	28.651657	77.121703
160	West Delhi	Tilak Nagar	28.639650	77.094039
161	West Delhi	Vikas Nagar	28.644009	77.054470
162	West Delhi	Vikaspuri	28.638419	77.070836

163 rows × 4 columns

METHODOLOGY

Methodology section is composed of two parts:

- Exploratory Data Analysis: Visualize the neighbourhood data of Delhi using location latitude and location longitude and after normalizing the data, we explored the 10 most common venues for setting up restaurant.

- Modelling: Helping stakeholders find the right neighborhood within a borough we will be clustering similar neighborhoods using KMeans clustering which is a form of unsupervised machine learning algorithm that clusters data based on predefined cluster size. We will use KMeans clustering to address this problem so as to group data based on existing venues which will help in the decision making process.
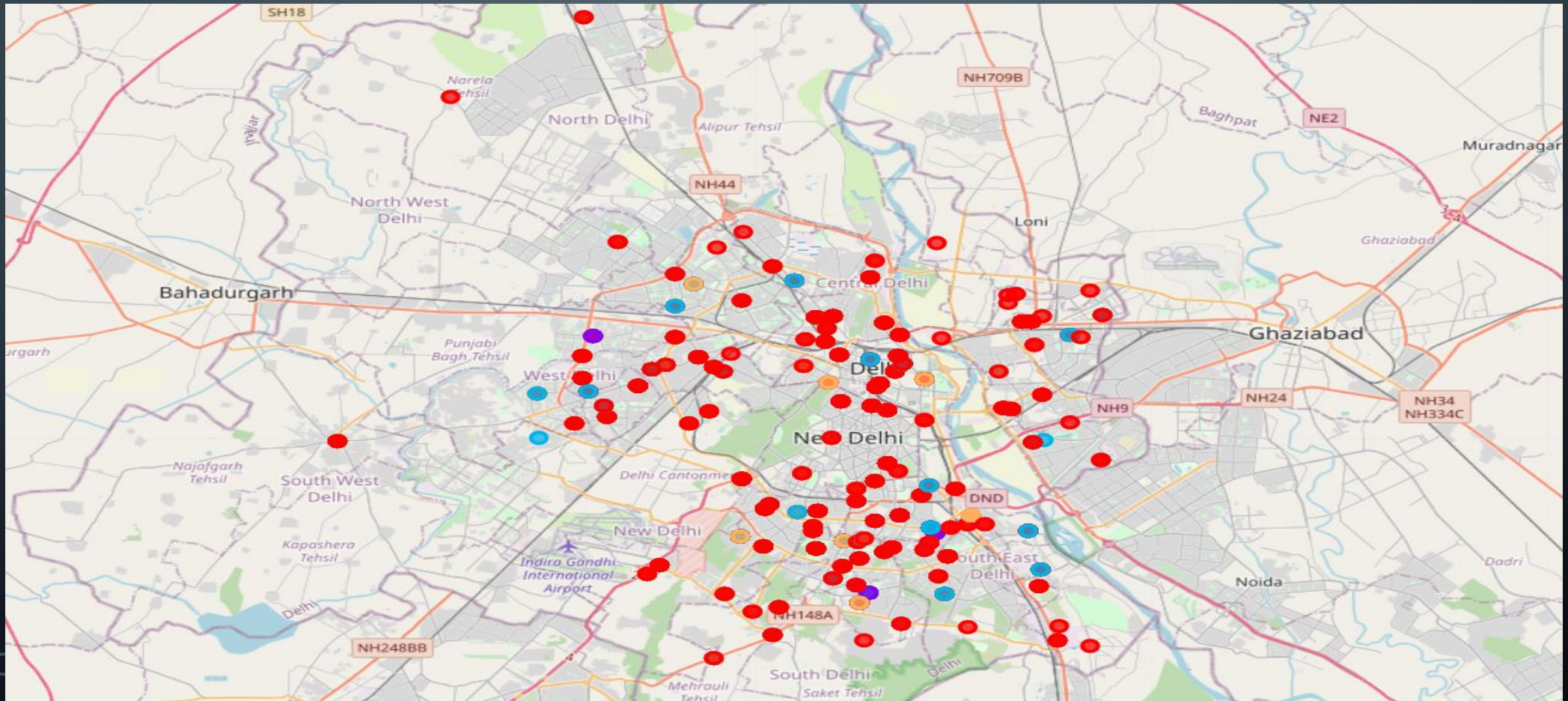
VISUALIZATIONS

❑ Delhi map using latitude and longitude
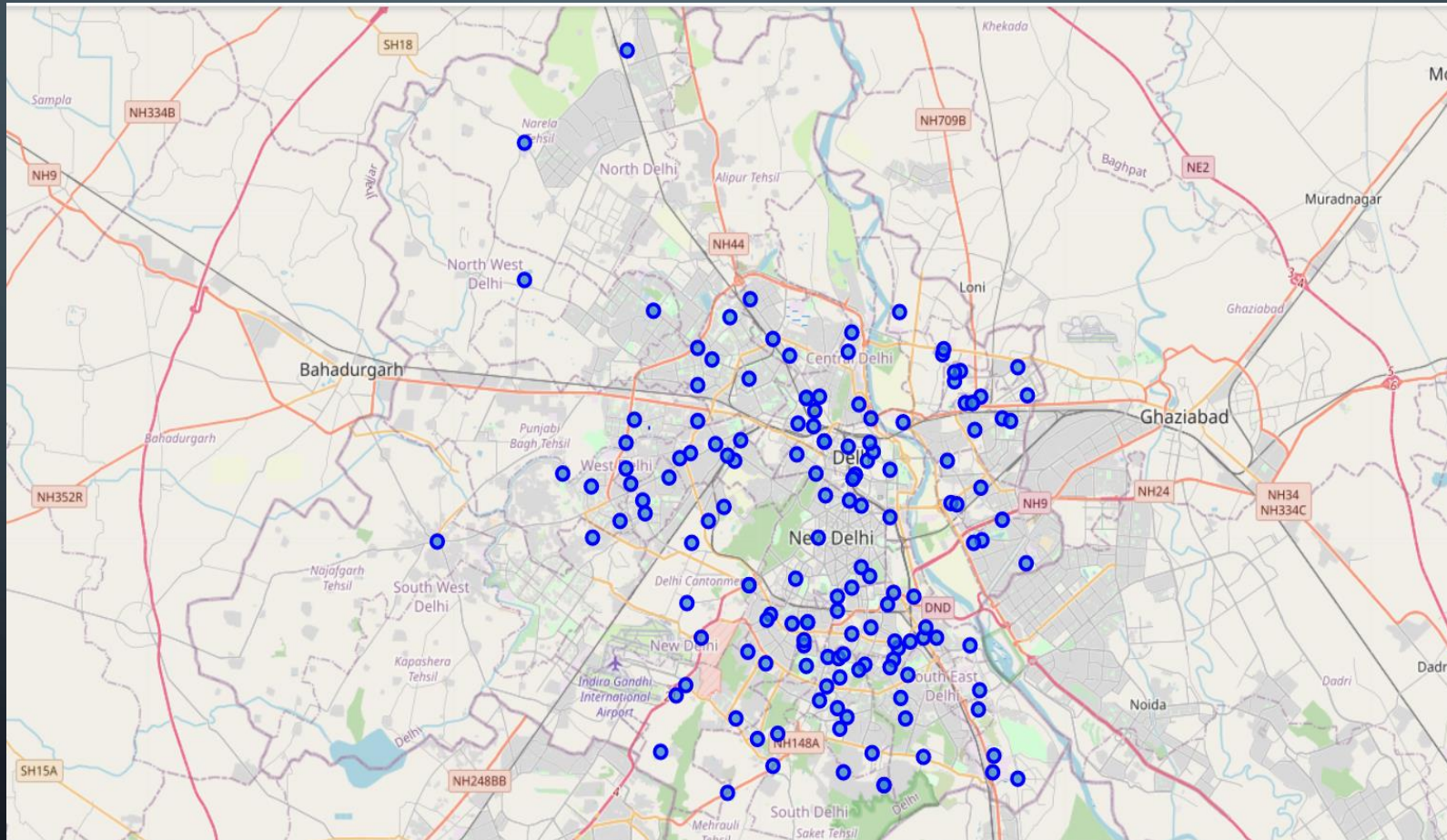
❑ CLUSTERED NEIGHBOURHOOD ON THE BASIS OF MOST COMMON VENUES IN DELHI

RESULTS AND DISCUSSION

The objective of this business problem was to identify a suitable location for the stakeholders to open a restaurant where they can gain huge profit and can survive the market. Here in the analysis, we found the 10 most common venues in neighbourhood in Delhi and with the help of KMeans clustering algorithm we made neighbourhood clusters of Delhi and visualized in the form of iteractive map to show us this venues and in a way helping the stakeholders to find a good place to set up their restaurant.

CONCLUSION

Through the analysis of neighbourhood data of delhi we found out the 100 top venues of neighbourhoods and after normalizing our data we found the 10 most common venues that are good and profitable for opening a restaurant.