

# Predicting Best Locality For Italian Resturant

## Introduction

New Delhi is the capital city of India. It is a part of the city of Delhi's 11 districts. The city itself has a population of 257,803. However, the much larger metro area has a population that exceeds 26 million.

New Delhi are used interchangeably to refer to the National Capital Territory of Delhi (NCT), these are two distinct entities, with New Delhi forming a small part of Delhi. The National Capital Region is a much larger entity comprising the entire NCT along with adjoining districts in neighboring states.

The official language of New Delhi and the one that is most widely spoken is Hindi. However, English is also spoken as a formal language within businesses and government agencies. Over last decades it is continuously grow because of the city's important role in government and commercial business.

With it's diverse culture , comes diverse food items. There are many restaurants in New Delhi City, each belonging to different categories like Chinese , Italian , French etc.

So as part of this project , we will list and visualize all major parts of New Delhi City .

## Data

For this project we need the following data :

New Delhi Resturants data that contains list Locality, Resturant name,Rating along with their latitude and longitude.

Data source : Zomato kaggle dataset :

"<https://www.kaggle.com/shrutimehta/zomato-restaurants-data>"

Description : This data set contains the required information. And we will use this data set to explore various locality of new delhi city.

Nearby places in each locality of new delhi city.

Data source : Fousquare API : "<https://developer.foursquare.com/>"

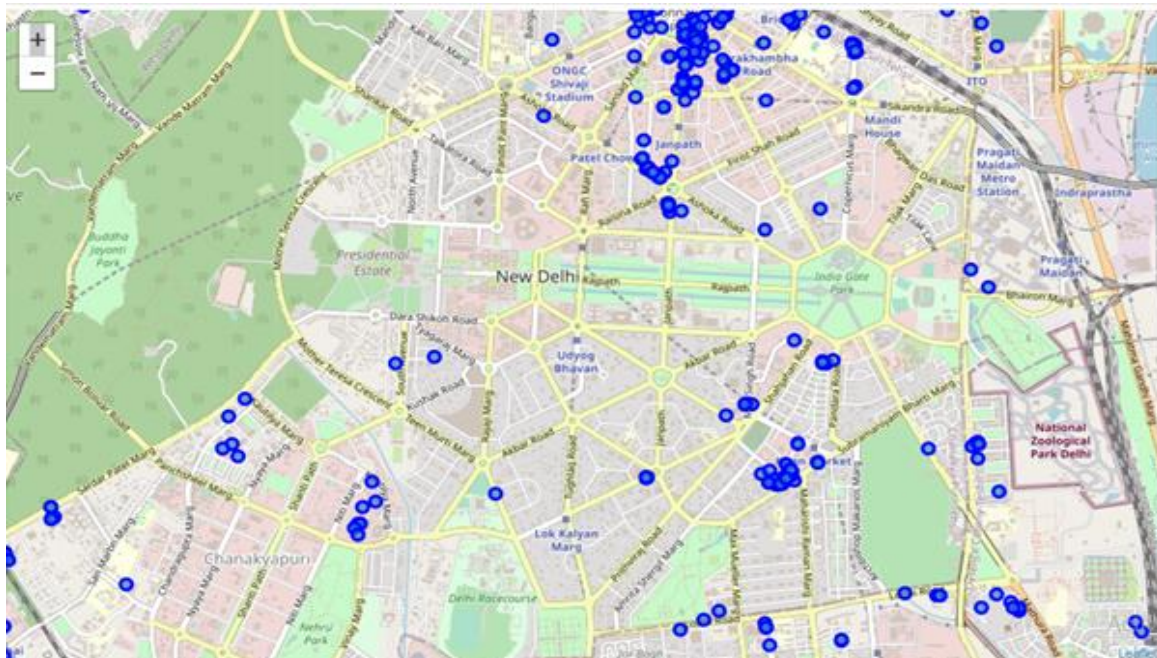
Description : By using this api we will get all the venues in each neighborhood.

## Exploratory Data Analysis

### 1.1 Explore Locality New Delhi

First we obtained the data from zomato.csv file in the form of dataframe. Then we obtained the location of New Delhi because we are not concerned about other cities and so we drop all rows excluding New Delhi.

Then we created a map of New Delhi with Restaurant Name and locality Superimposed on the top.



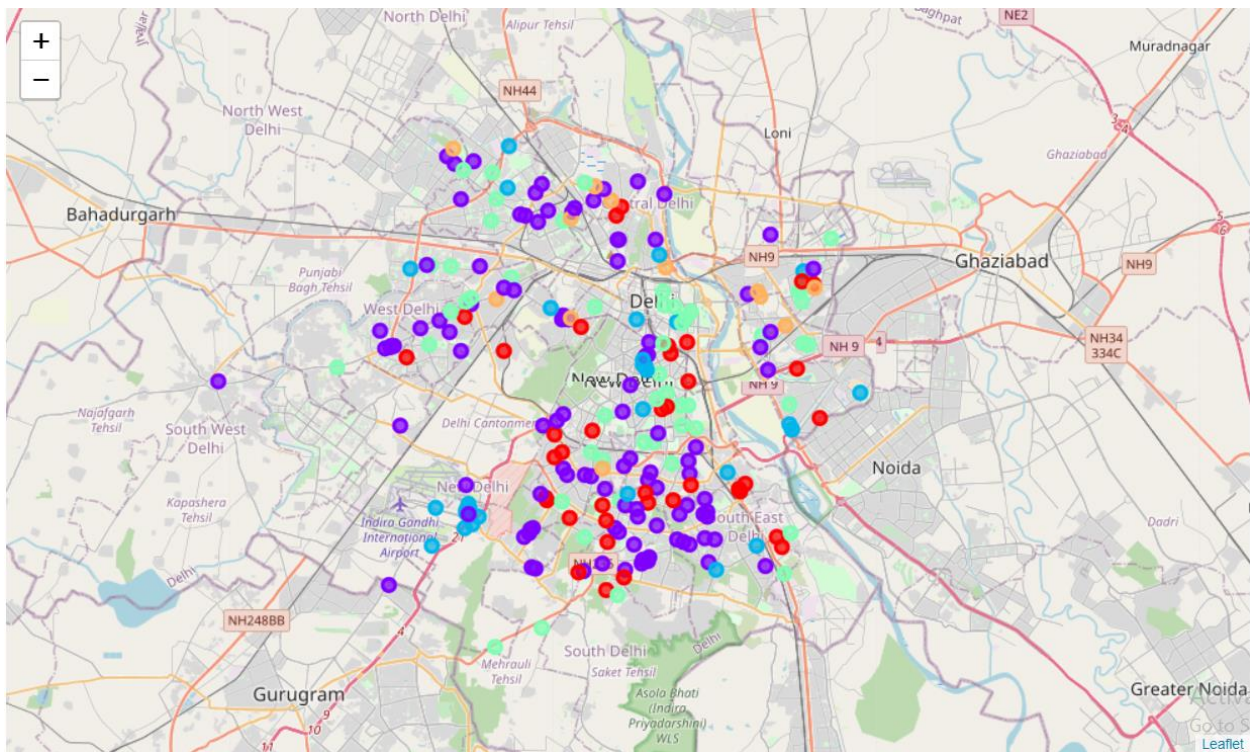
Map of New Delhi, India. Blue Marker Denotes Restaurant name and locality

## 1.2 Analyzing Each Locality

With the Help of foursquare api ,we were able to find coordinates of each locality and venue.Then we applied one hot encoding to the dataframe to see the type of venue in each locality. Next, we group rows by Locality and by taking the mean of the frequency of occurrence of each category.We print each locality with top 5 most common venues.

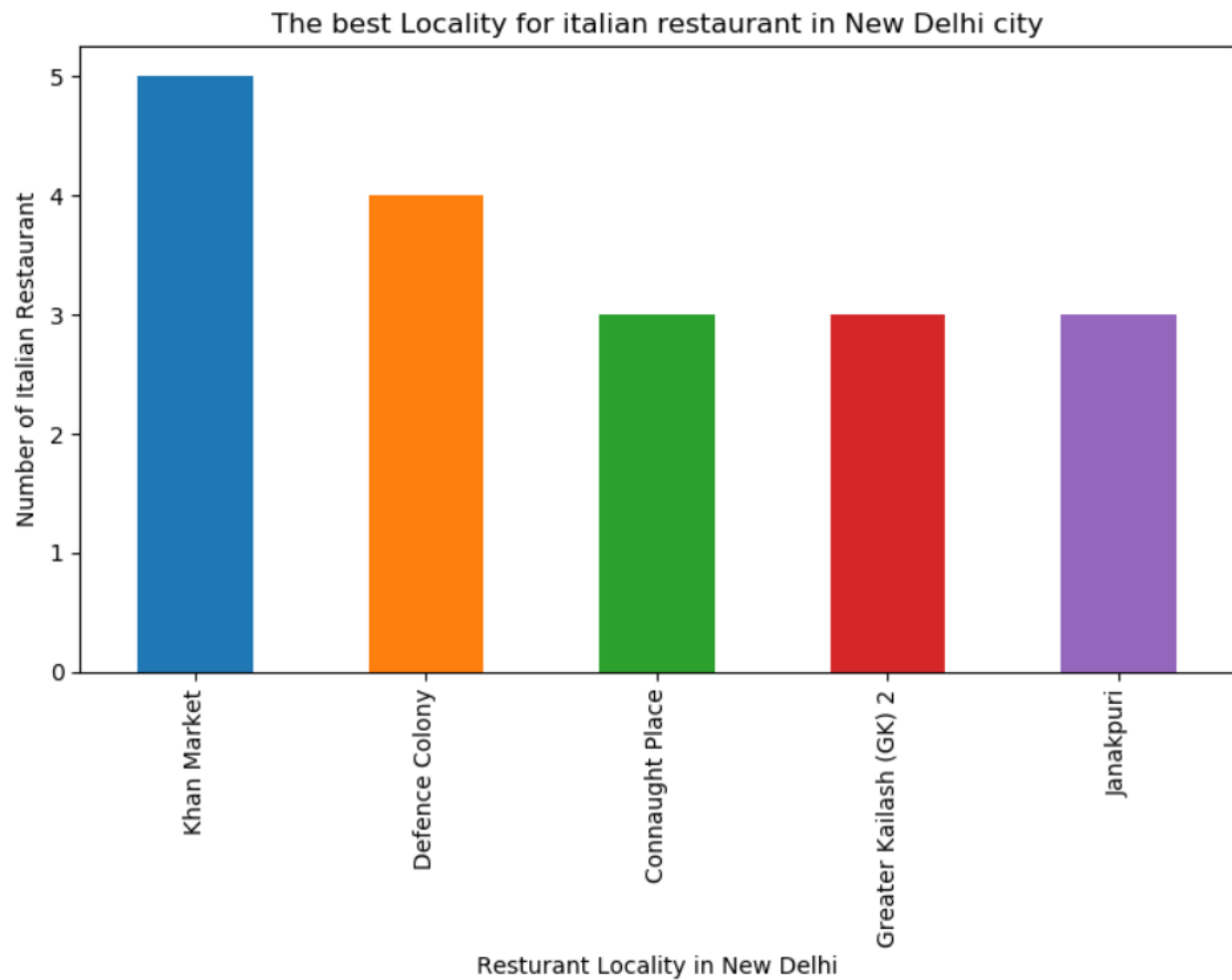
## 1.3 Cluster Localities

Run K-means to cluster the neighbourhood into 5 clusters and visualize the result.



Map of New Delhi.Each colour in locality denotes it belongs to particular cluster

We also visualized best locality of Italian restaurant with the help of bar graph.



## Result

Garden of Five Senses Saket, Sheikh Sarai, Shangri La's Eros hotel Janpath, Defence Colony, Sunder Nagar have common venues as italian resturant.

## Conclusion

Based on above results, it is clear that italian restaurants are not popular in New Delhi. By examining all the 5 clusters, it is concluded that indian restaurant, pizza place, Hotel and cafe are most common venue in New Delhi but as we want to start an italian restaurant i will decide the the best venue as i can based on above results<sup>1</sup>

Based on all the 5 clusters, Garden of Five Senses Saket, Sheikh Sarai, Shangri La's Eros hotel Janpath, Defence Colony, Sunder Nagar have common venues as italian restaurant. Based on Bar graph, Khan market is also the best locality for italian restaurant.