

# **An insight into the Italian Cuisine favoured localities in Hyderabad**

## **1. Introduction**

### ***Description and discussion of the background***

Hyderabad being one of the metropolitan cities of India has a population of about 9.7 million people [1]. Influenced by the Mughal rule, the Nizams city is known for an amalgam of South Indian and Mughals cuisines. The city of food lovers was listed as “creative city of gastronomy” by UNESCO [1]. Well known hyderabadi haleem and biryani carry the National Geographical Indications tag. Not just the Mughals, its cuisine has a great influence from the turkish, local telugu, Iranian and Marathwada cuisines [1].

Though there are varied cuisines preferred by the localities, the city is still adapting to the food influences from other far off countries such as Italy, Mexico, Korean, Chinese etc. To open an Italian restaurant in Hyderabad, it needs some in depth analysis of the current Italian restaurants in the cities and their localities to find out an ideal place to open a new Italian restaurant which can attract enough customers.

### ***Problem***

This analysis is being carried out to find out the areas in the city that have Italian restaurants, most favoured food items from these restaurants and ideal costs per two according to the locality. This analysis will help in zeroing in on an ideal place to open an Italian restaurant that would be accepted by the people living in those neighbourhoods.

## **2. Data**

### ***Data Sources***

For this analysis, I am considering the restaurant data in India from the Kaggle datasets (<https://www.kaggle.com/ngokulakannan/zomato-india-restaurants2-lakh-restaurants-data>).

The dataset has already information on the restaurants, area, latitude, longitude, favoured item, rating, etc.

To find the nearby neighbourhoods, I will be using the Foursquare location data. By using this api I will get all the venues in each neighborhood.

### **3. Methodology**

#### ***Data Cleaning***

From the dataset, only restaurant data of Hyderabad was selected and written into a new dataframe. Also columns that were not required for the analysis were dropped from the dataframe.

#### ***Exploratory Data Analysis***

The following questions were answered using the exploratory data analysis

1. What are the most famous cuisines available in Hyderabad restaurants?
2. What are the major areas with Italian restaurants?
3. Which areas have costly Italian restaurants?
4. Which areas have budget friendly Italian restaurants?

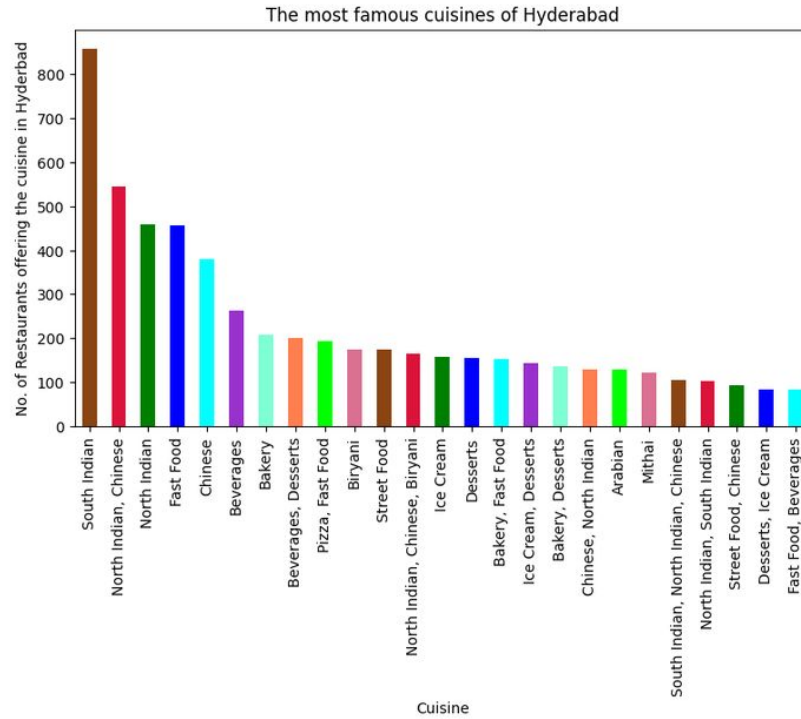
#### ***Modelling***

The following analysis was further performed on the areas with Italian restaurants. The analysis can be found here.

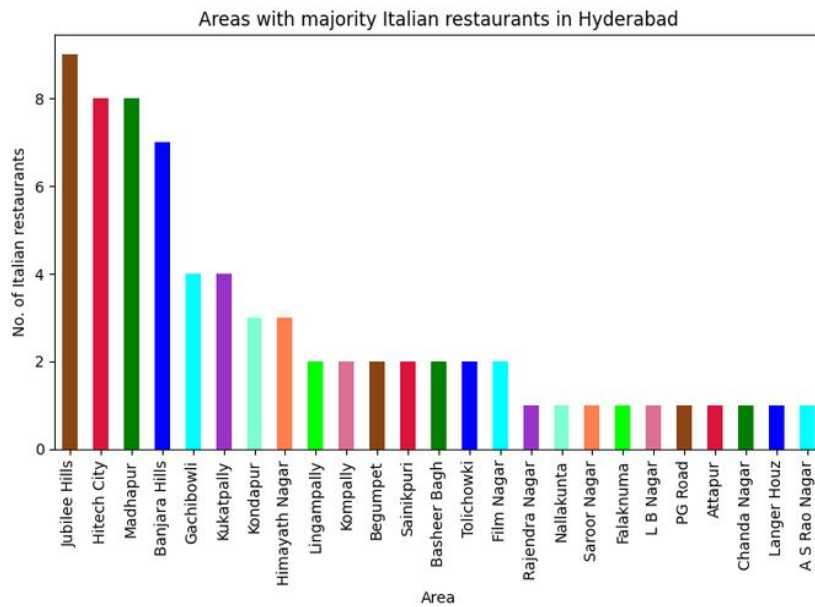
- Used FourSquare API to find out all venues for each of the areas with Italian restaurants .
- Filtered out all venues that are nearby by locality and then selected only restaurant related venues for further analysis
- Extracted the five most common restaurant venues for each of the areas
- Performed k-means clustering to cluster these areas based on the above data
- Visualized the clusters of areas with Italian restaurants using folium library(python)

## 4. Results

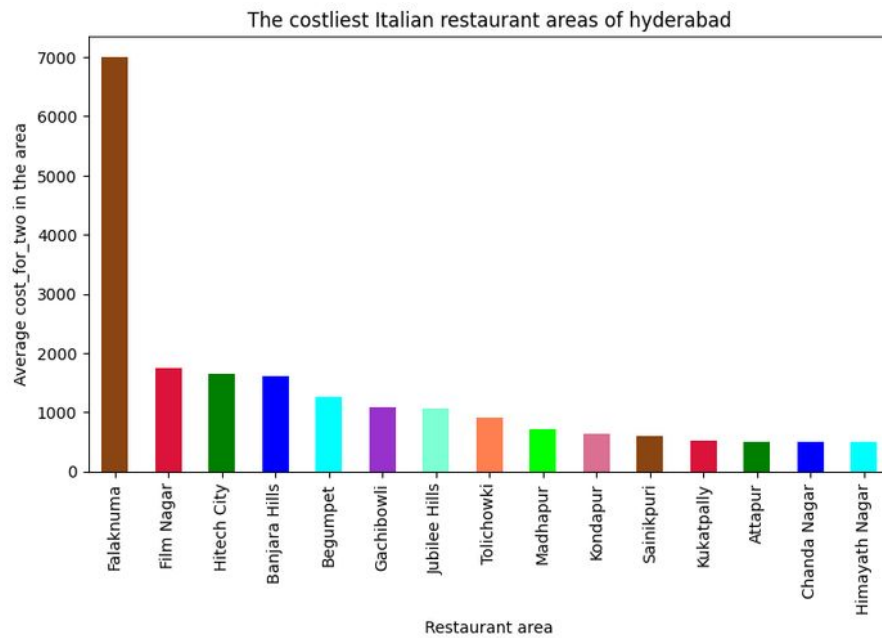
### *Most famous cuisines available in Hyderabad Restaurants*



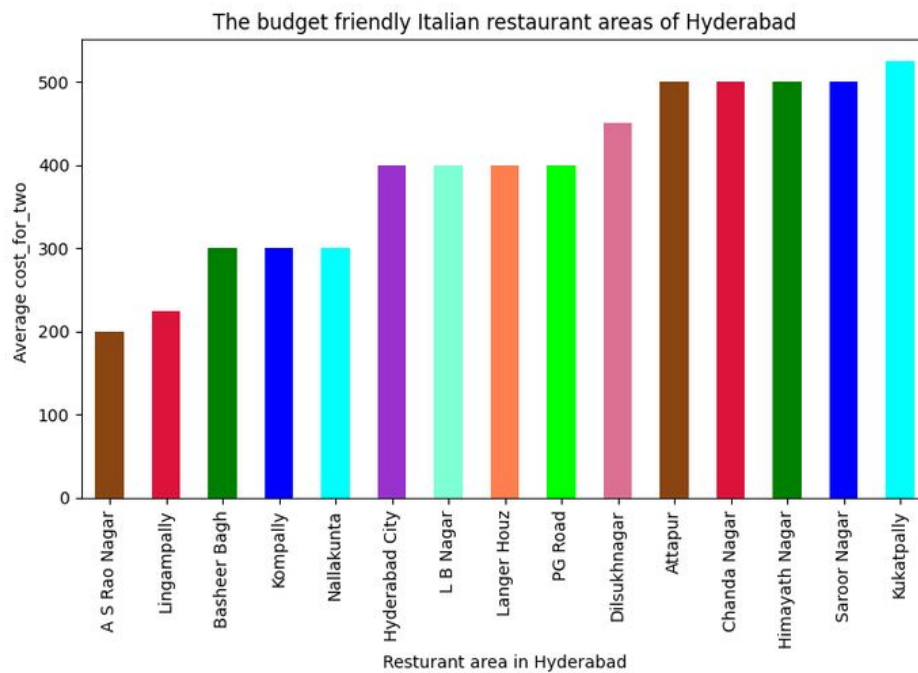
### *Major areas with Italian restaurants*



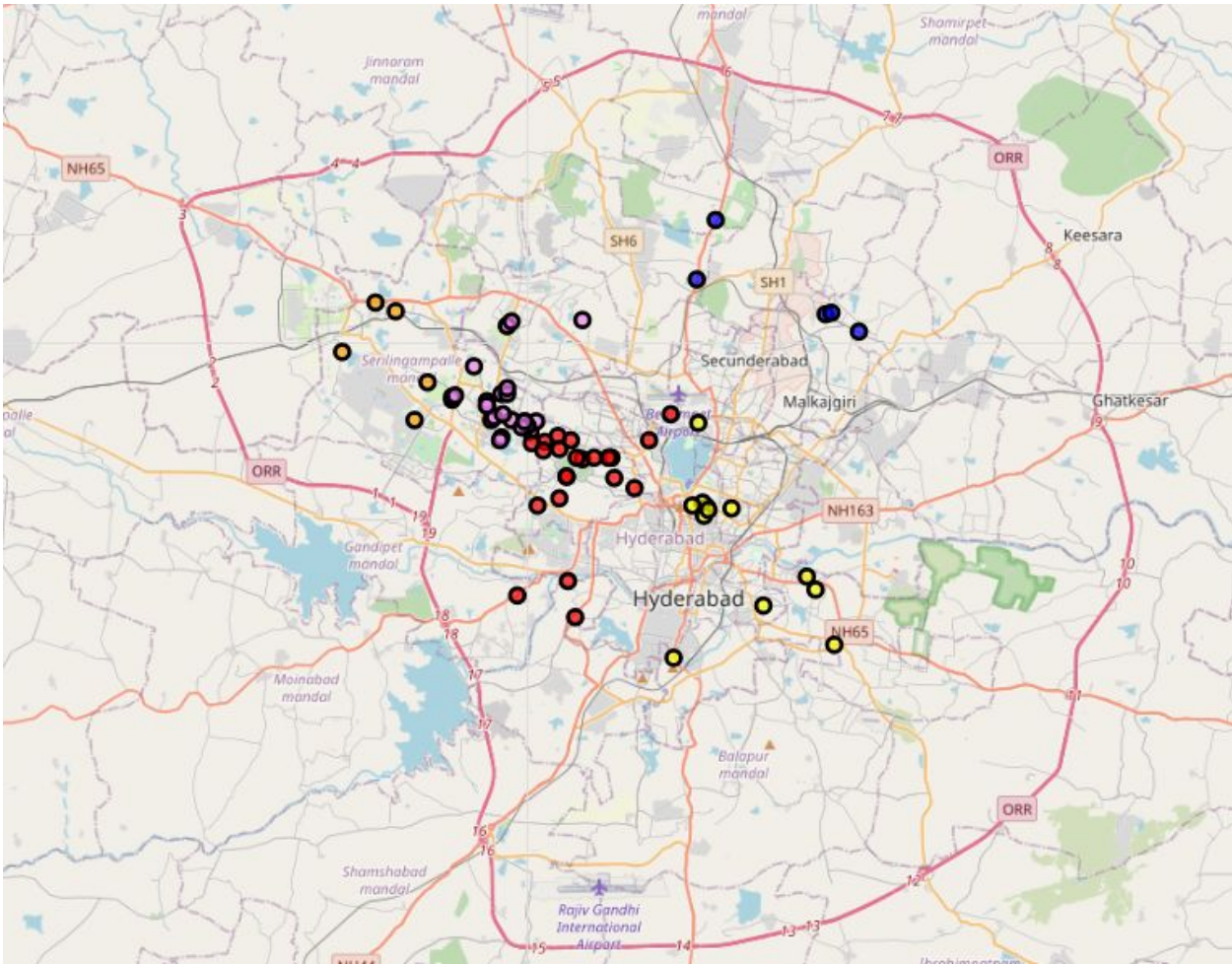
### *Areas with costly Italian restaurants*



### *Areas with budget friendly Italian restaurants*



Clusters of areas with Italian restaurants



Analyzing if Italian restaurants were favoured among the clusters

Cluster 1:

|    | latitude  | Avg_rating | Avg_cost_for_two | Cluster | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue         | 4th Most Common Venue         | 5th Most Common Venue          | 6th Most Common Venue    | 7th Most Common Venue          | 8th Most Common Venue    | 9th Most Common Venue | 10th Most Common Venue |
|----|-----------|------------|------------------|---------|-----------------------|-----------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------|-----------------------|------------------------|
| 13 | 17.459273 | 3.2000     | 633.333333       | 0       | Indian Restaurant     | BBQ Joint             | South Indian Restaurant       | Vegetarian / Vegan Restaurant | Multicuisine Indian Restaurant | Mediterranean Restaurant | Italian Restaurant             | Falafel Restaurant       | Chinese Restaurant    | Asian Restaurant       |
| 15 | 17.340229 | 2.9000     | 400.000000       | 0       | Indian Restaurant     | Asian Restaurant      | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant | Italian Restaurant             | Falafel Restaurant       | Chinese Restaurant    | BBQ Joint              |
| 17 | 17.443618 | 3.6375     | 712.500000       | 0       | Indian Restaurant     | Asian Restaurant      | Vegetarian / Vegan Restaurant | BBQ Joint                     | Afghan Restaurant              | South Indian Restaurant  | Multicuisine Indian Restaurant | Mediterranean Restaurant | Italian Restaurant    | Falafel Restaurant     |

Cluster 2:

|    | latitude  | Avg_rating | Avg_cost_for_two | Cluster | 1st Most Common Venue          | 2nd Most Common Venue         | 3rd Most Common Venue          | 4th Most Common Venue          | 5th Most Common Venue          | 6th Most Common Venue    | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|----|-----------|------------|------------------|---------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|------------------------|
| 1  | 17.369098 | NaN        | 500.0            | 1       | Vegetarian / Vegan Restaurant  | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant             | Indian Restaurant        | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 6  | 17.371278 | 3.40       | 450.0            | 1       | American Restaurant            | Vegetarian / Vegan Restaurant | South Indian Restaurant        | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Indian Restaurant     | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint              |
| 8  | 17.416143 | 4.25       | 1750.0           | 1       | Multicuisine Indian Restaurant | Mediterranean Restaurant      | Italian Restaurant             | Vegetarian / Vegan Restaurant  | South Indian Restaurant        | Indian Restaurant        | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 14 | 17.485548 | 3.30       | 525.0            | 1       | Vegetarian / Vegan Restaurant  | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant             | Indian Restaurant        | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 16 | 17.362136 | 2.60       | 400.0            | 1       | Vegetarian / Vegan Restaurant  | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant             | Indian Restaurant        | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 19 | 17.440171 | 3.30       | 400.0            | 1       | Chinese Restaurant             | Indian Restaurant             | Vegetarian / Vegan Restaurant  | South Indian Restaurant        | Multicuisine Indian Restaurant | Mediterranean Restaurant | Italian Restaurant    | Falafel Restaurant    | BBQ Joint             | Asian Restaurant       |
| 20 | 17.352782 | 3.10       | NaN              | 1       | Vegetarian / Vegan Restaurant  | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant             | Indian Restaurant        | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 22 | 17.357896 | 3.30       | 500.0            | 1       | Vegetarian / Vegan Restaurant  | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant             | Indian Restaurant        | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 23 | 17.404805 | NaN        | 900.0            | 1       | Vegetarian / Vegan Restaurant  | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant             | Indian Restaurant        | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |

Cluster 3:

|    | latitude  | Avg_rating | Avg_cost_for_two | Cluster | 1st Most Common Venue | 2nd Most Common Venue         | 3rd Most Common Venue   | 4th Most Common Venue          | 5th Most Common Venue    | 6th Most Common Venue | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|----|-----------|------------|------------------|---------|-----------------------|-------------------------------|-------------------------|--------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|
| 21 | 17.489838 | 4.2        | 600.0            | 2       | Falafel Restaurant    | Vegetarian / Vegan Restaurant | South Indian Restaurant | Multicuisine Indian Restaurant | Mediterranean Restaurant | Italian Restaurant    | Indian Restaurant     | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |

Cluster 4:

|   | latitude  | Avg_rating | Avg_cost_for_two | Cluster | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue         | 4th Most Common Venue   | 5th Most Common Venue          | 6th Most Common Venue    | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|---|-----------|------------|------------------|---------|-----------------------|-----------------------|-------------------------------|-------------------------|--------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|------------------------|
| 7 | 17.334312 | 4.4        | 7000.0           | 3       | Italian Restaurant    | Indian Restaurant     | Vegetarian / Vegan Restaurant | South Indian Restaurant | Multicuisine Indian Restaurant | Mediterranean Restaurant | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |

Cluster 5:

|    | latitude  | Avg_rating | Avg_cost_for_two | Cluster | 1st Most Common Venue         | 2nd Most Common Venue         | 3rd Most Common Venue         | 4th Most Common Venue          | 5th Most Common Venue          | 6th Most Common Venue    | 7th Most Common Venue | 8th Most Common Venue | 9th Most Common Venue | 10th Most Common Venue |
|----|-----------|------------|------------------|---------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|------------------------|
| 0  | 17.481570 | 3.800000   | 200.000000       | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 2  | 17.421390 | 4.114286   | 1007.142857      | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 3  | 17.400793 | 3.200000   | 300.000000       | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 4  | 17.438561 | 3.700000   | 1250.000000      | 4       | Vegetarian / Vegan Restaurant | Indian Restaurant             | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 5  | 17.494734 | 3.400000   | 500.000000       | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 9  | 17.402855 | 4.050000   | 500.000000       | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 10 | 17.365123 | 3.600000   | 400.000000       | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 11 | 17.433701 | 4.114286   | 1061.111111      | 4       | Indian Restaurant             | BBQ Joint                     | Vegetarian / Vegan Restaurant | South Indian Restaurant        | Multicuisine Indian Restaurant | Mediterranean Restaurant | Italian Restaurant    | Falafel Restaurant    | Chinese Restaurant    | Asian Restaurant       |
| 12 | 17.518492 | 2.900000   | 300.000000       | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |
| 18 | 17.401493 | NaN        | 300.000000       | 4       | Indian Restaurant             | Vegetarian / Vegan Restaurant | South Indian Restaurant       | Multicuisine Indian Restaurant | Mediterranean Restaurant       | Italian Restaurant       | Falafel Restaurant    | Chinese Restaurant    | BBQ Joint             | Asian Restaurant       |



## **5. Discussion**

It was observed by analyzing the famous cuisines of top restaurants in Hyderabad, Italian cuisine is yet to be accepted by the majority of the Hyderabadis. Nevertheless, further analysis has revealed that there are 72 Italian restaurants already established in the city.

Areas such as Gachibowli, Jubilee hills, Banjara hills, Hitech city and Madhapur have the highest number of Italian restaurants. These areas are usually occupied by IT employees and upper middle class and rich people.

While analyzing the average cost for two in these restaurants, it was observed that Falaknama, Film nagar, Hitech city, Banjara Hills etc have the costliest Italian restaurants in the city. Also, areas such as A.S.Rao Nagar, Bachupally, Lingampally and other few have budget friendly Italian restaurants

Analyzing the most commonly visited restaurants in these and further clustering these areas have revealed the following information. People from all clusters except 4 show that Italian restaurants are only 6th or 7th most common venues. Cluster 4 has Italian restaurant as the first common venue.

## **6. Conclusion**

To open an Italian restaurant in Hyderabad comes with lots of risk value as people here still prefer local Hyderabad, Indian and South Indian dishes. Though Chinese restaurants are also frequently visited in the city, Italian cuisine will take time to be adapted here. Establishing one will need a lot of marketing along with choosing a place where people are already favouring Italian restaurants. To establish a high end Italian restaurant, areas such as Falaknama, Gachibowli, Jubilee hills, Banjara hills and Hitech city can be chosen and the cost can be decided based on the average cost for two in these areas. Areas such as Bachupally, Lingampally and Kuakatpally can be chosen for budget friendly outlets.

## **7. References**

[1] <https://en.wikipedia.org/wiki/Hyderabad>