

Data Analysis of Restaurants in Bangalore

Introduction:

Bangalore, officially known as Bengaluru, is the capital of the Indian state of Karnataka. It has a population of over ten million, making it a megacity and the third-most populous city.

Bengaluru is sometimes referred to as the "Silicon Valley of India" (or "IT capital of India") because of its role as the nation's leading information technology (IT) exporter.

When it comes to the restaurants in Bangalore, you can scour cuisines from around the globe right within the city. Whether you're craving some spicy and fresh coastal fare, the pungent sting of Japanese wasabi, innovative gourmet fare, a freshly bakes pizza or a healthy Italian salad; the city has it all. From upmarket fine-dining eateries, to casual and affordable dining and everything in between—there's no dearth of restaurants to choose from

The failure rate in the restaurant industry is high but still the number of restaurants in Bangalore are increasing day by day .This made me little curious about analysing the data about restaurants in Bangalore.

I will be analysing the restaurant data for the city, Bangalore to know what is the best place to start a Chinese restaurant.

Data:

The dataset is taken from kaggle, you can find it [here](#) . , the data is accurate to that available on the Zomato website .Additional data is taken from [here](#) and [here](#)

Code :[here](#)

Analysis

- Places in Bangalore with more number of restaurants and least number of restaurants.
- The cost of food per head in the places with least number of restaurants.
- Four square API to know the restaurants location in bangalore.
- Comparing the locality rates of the places in Bangalore to best understand the expenses.

Questions to be addressed:

Choosing the locality with less restaurants/ restaurants and more specifically Chinese restaurants with affordable locality rates.

Dataset :

The dataset contains the following features :

- **url** : This feature contains the url of the restaurant on the Zomato website
- **address** : This feature contains the address of the restaurant in Bangalore
- **name** : This feature contains the name of the restaurant
- **online_order** : whether online ordering is available in the restaurant or not
- **book_table** : table book option available or not
- **rate** : contains the overall rating of the restaurant out of 5
- **votes** : contains total number of upvotes for the restaurant

- **phone** : contains the phone number of the restaurant
- **location** : contains the neighborhood in which the restaurant is located
- **rest_type** : restaurant type
- **dish_liked** : dishes people liked in the restaurant
- **cuisines** : food styles, separated by comma
- **approx_cost(for two people)** : contains the approximate cost of meal for two people
- **reviews_list** : list of tuples containing reviews for the restaurant, each tuple consists of two values, rating and review by the customer
- **menu_item** : contains list of menus available in the restaurant
- **listed_in(type)** : type of meal
- **listed_in(city)** : contains the neighborhood in which the restaurant is located

The dataset contains 51717 rows.

Data Pre-Processing:

For data analysis, we do not need the contact details of the restaurant so, deleting the following features :
url, *address* and *phone*.

Moving on to *reviews_list* feature. This feature contains the reviews for the restaurant, that were available on Zomato(Bangalore) website.

This feature also will hardly contribute for the analysis as it is pure text and we also have features like *rate* and *votes* that cover the necessary information.

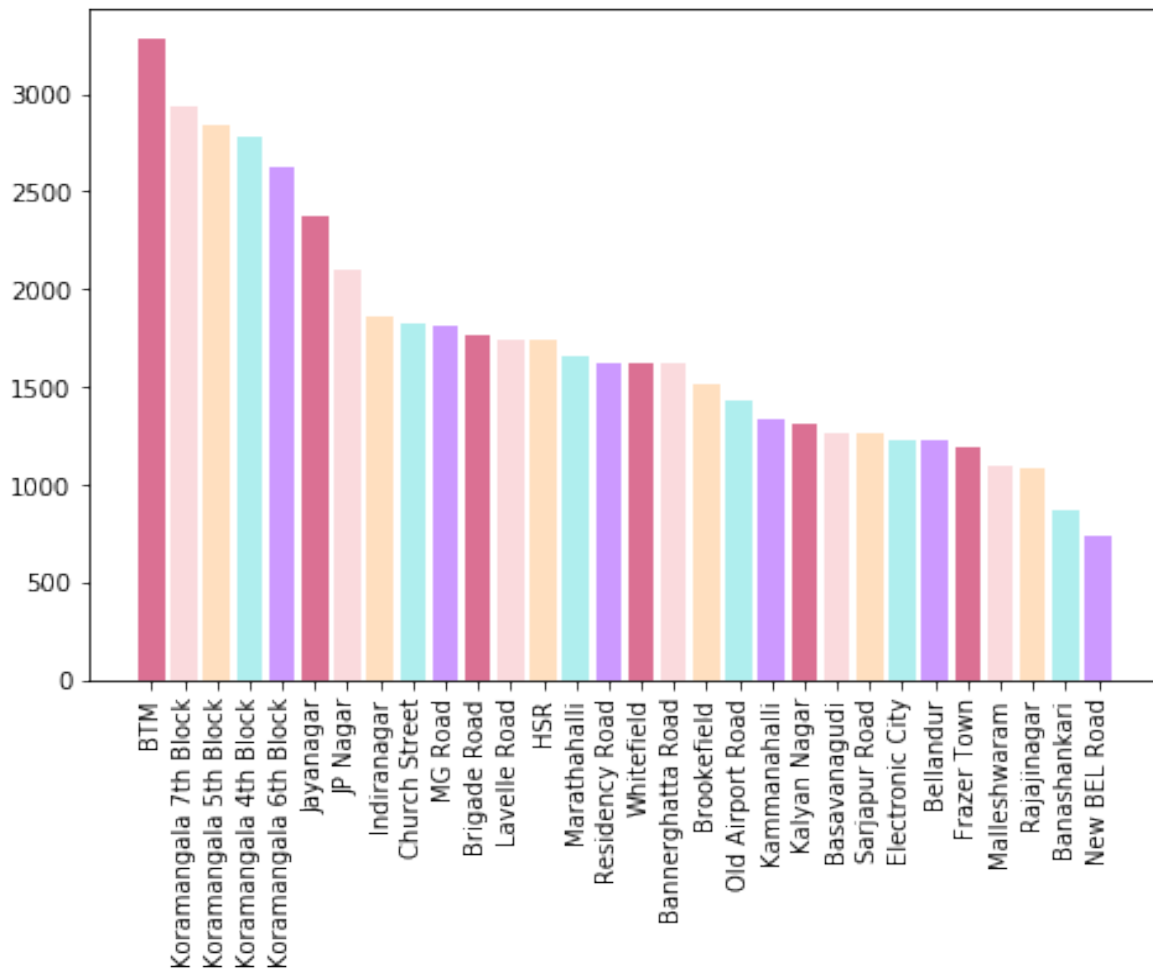
Now, let us consider the *menu_item* and *reviews_list* features. *menu_item* feature contains the names of the dishes available in the restaurant. This will hardly impact our analysis, as it is highly mathematics driven. Also, we have other features like *rest_type*, *cuisines*, *listed_in(type)* and *dish_liked* which give us a fair idea about what the restaurants have to offer, as we do not need to be very specific about what all dishes are available in the restaurant for the analysis. So, we will drop this feature as well.

After cleaning the data set the basic data frame looks like this :

	name	online_order	book_table	rate	votes	cuisines	approx_cost(for two people)	listed_in(city)
0	Jalsa	Yes	Yes	4.1/5	775	North Indian, Mughlai, Chinese	800	Banashankari
1	Spice Elephant	Yes	No	4.1/5	787	Chinese, North Indian, Thai	800	Banashankari
2	San Churro Cafe	Yes	No	3.8/5	918	Cafe, Mexican, Italian	800	Banashankari
3	Addhuri Udupi Bhojana	No	No	3.7/5	88	South Indian, North Indian	300	Banashankari
4	Grand Village	No	No	3.8/5	166	North Indian, Rajasthani	600	Banashankari

Number of restaurants in each location :

Once the data is cleaned, data frame is grouped by the locations and the number of restaurants in that location are counted and sorted in descending order to know which area has more number of restaurants and which area has least number.



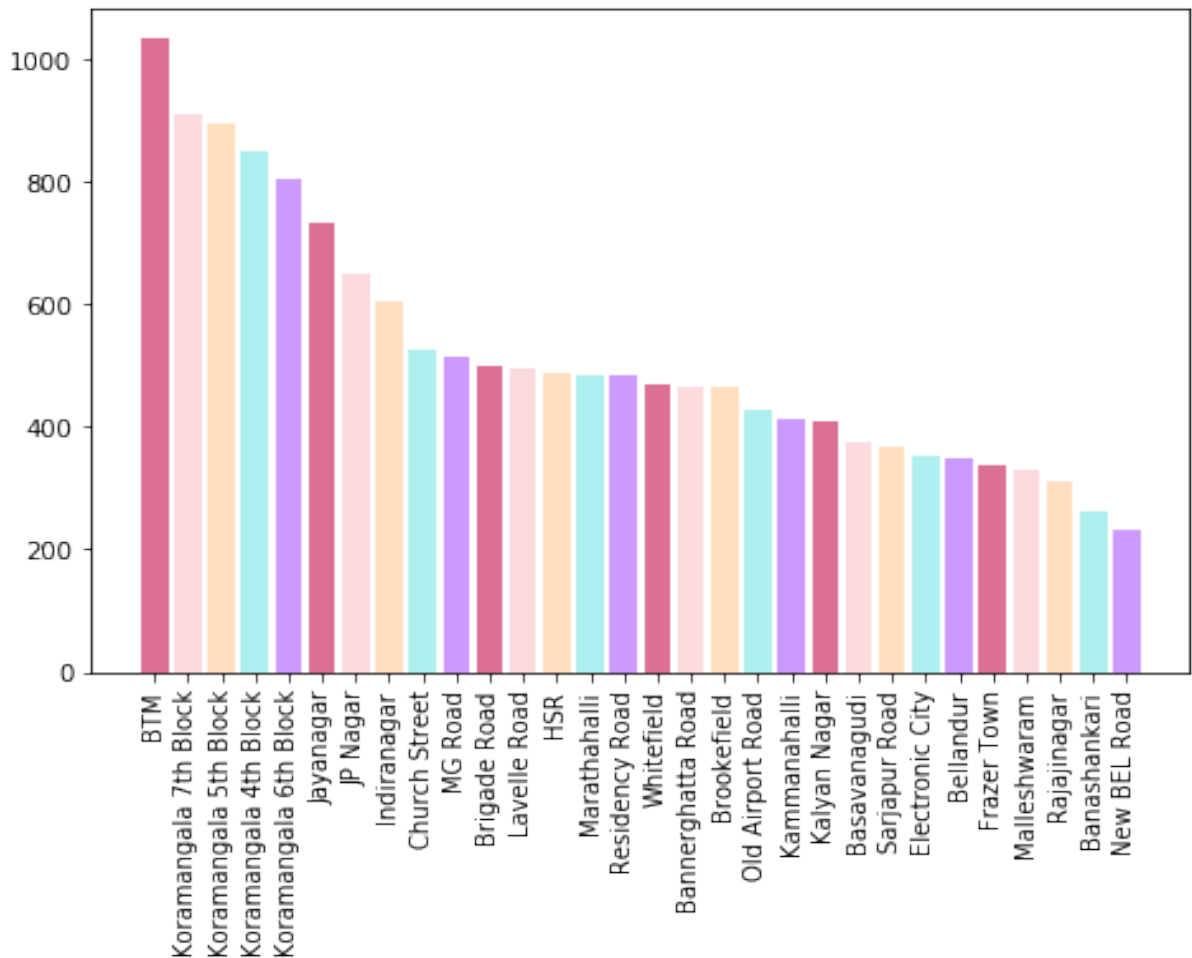
Bar plot :

From bar plot it is evident that BTM has the highest number of restaurants and new BEL Road has the least.

Apart from new BEL road there are other locations – Banashankari, Rajajinagar, Malleshwaram, Frazer Town, Bellandur and Electronic city which are having less number of restaurants compared to other locations.

Number of chinese restaurants in Bangalore

As we are more interested in Chinese restaurants rather than all cuisines, filtered only chinese restaurants in all the locations and bar plot is as follows:



The bar plot is similar to the one plotted above. There is no much difference except that the count of restaurants changed as it is more specific to Chinese cuisine.

Land cost of locations in Bangalore:

Apart from the number of restaurants we are also interested in the land cost in banglore. Hence this data is downloaded and the table is as follows.

	city	min	max	average
0	BTM	4060	6998	5529.0
1	Kammanahalli	7440	10724	9082.0
2	Cunningham Road	12240	13515	12877.5
3	Old Airport Road	6163	10773	8468.0
4	Indira Nagar	8568	13316	10942.0

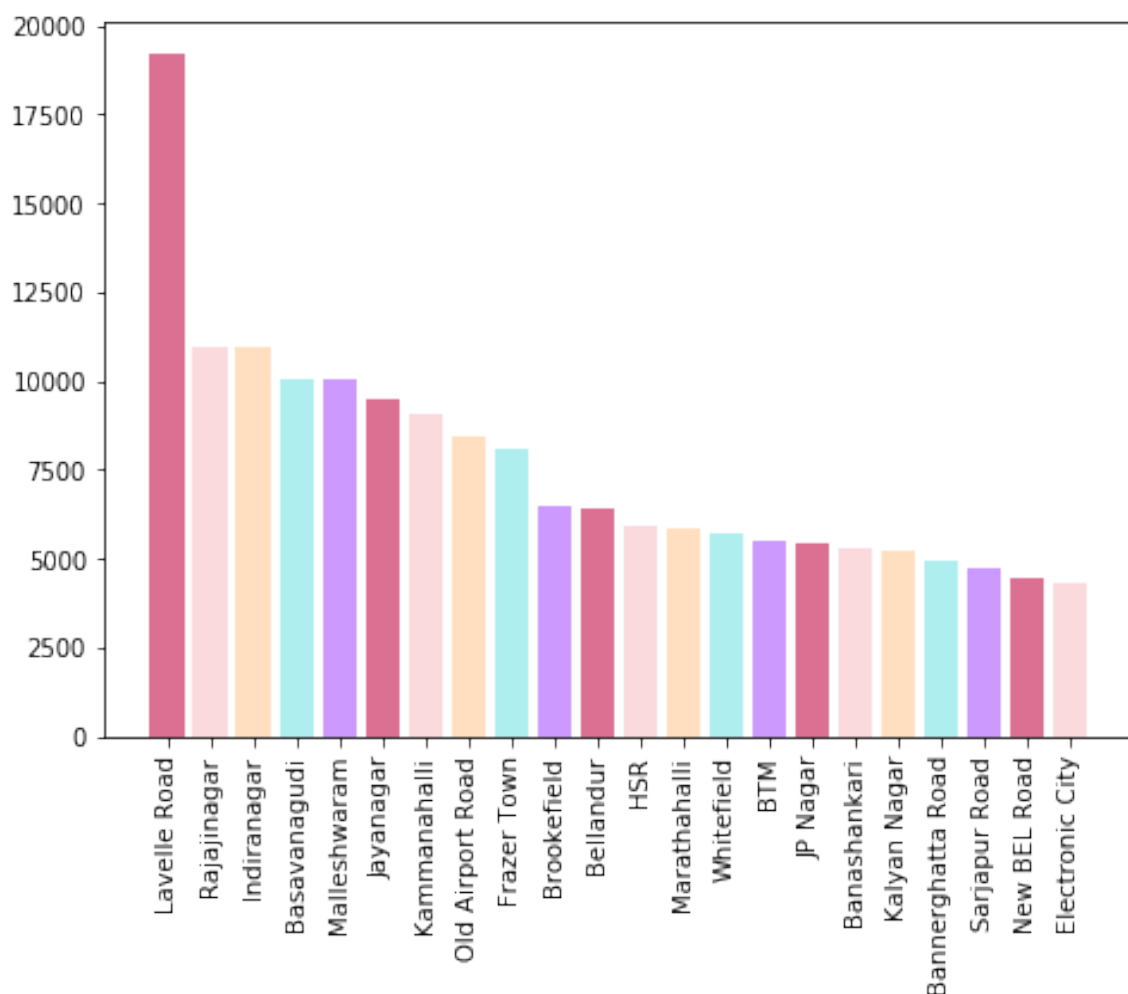
City : location in banglore

min: minimum price Rs/square feet

max: maximum price Rs/square feet

average : mean of min and max calculated manually

data is downloaded, cleaned and used as additional data source. The dataframe has 423 rows few with Nan values. The columns without price are removed. Bar plot of average land cost of locations in banglore :



From the plot it is evident that Electronic city is having least land cost and Lavella Road ,highest. There might be other locations having least or highest locality rates but the data for few locations is not available.

When we consider both the factors i.e Number of Chinese restaurants and land cost there are 5 locations which can be selected :

- Banashankari
- New BEL Road
- Bellandur
- Electronic city
- Sarjapur Road

But new BEL Road might also be less popular location as the land value and the number of restaurants are least in that area. It might also be an outlier.

List_of_neighbourhoods_in_Bangalore:

	Name	Image	Summary
3	Electronic City	NaN	Nicknamed "IT capital of India" and "Silicon Valley of India", Electronic City is a large industrial area on the outskirts of the city. With hundreds of IT companies' offices located in the area, including the headquarters of Infosys and Wipro, Electronic City also houses auto manufacturing and financial companies. A flyover on Hosur Road connects Bangalore with Electronic City.

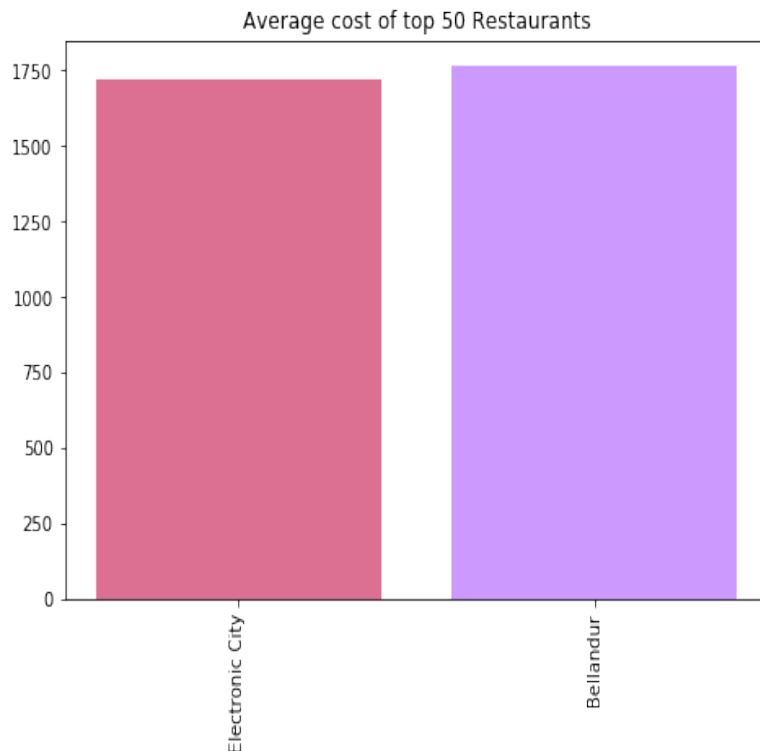
	Name	Image	Summary
0	Bellandur	NaN	Located along the Outer Ring Road, Bellandur is an IT hub and home to multiple tech parks/SEZs such as RMZ Ecospace. It is also known for the Bellandur Lake.

To further analyse the locations in banglore the neighbourhood data(location descriptions) were taken from wiki page. Out of all

the 4 places Bellandur and Electronic city are most popular and have lot of IT hubs and companies.

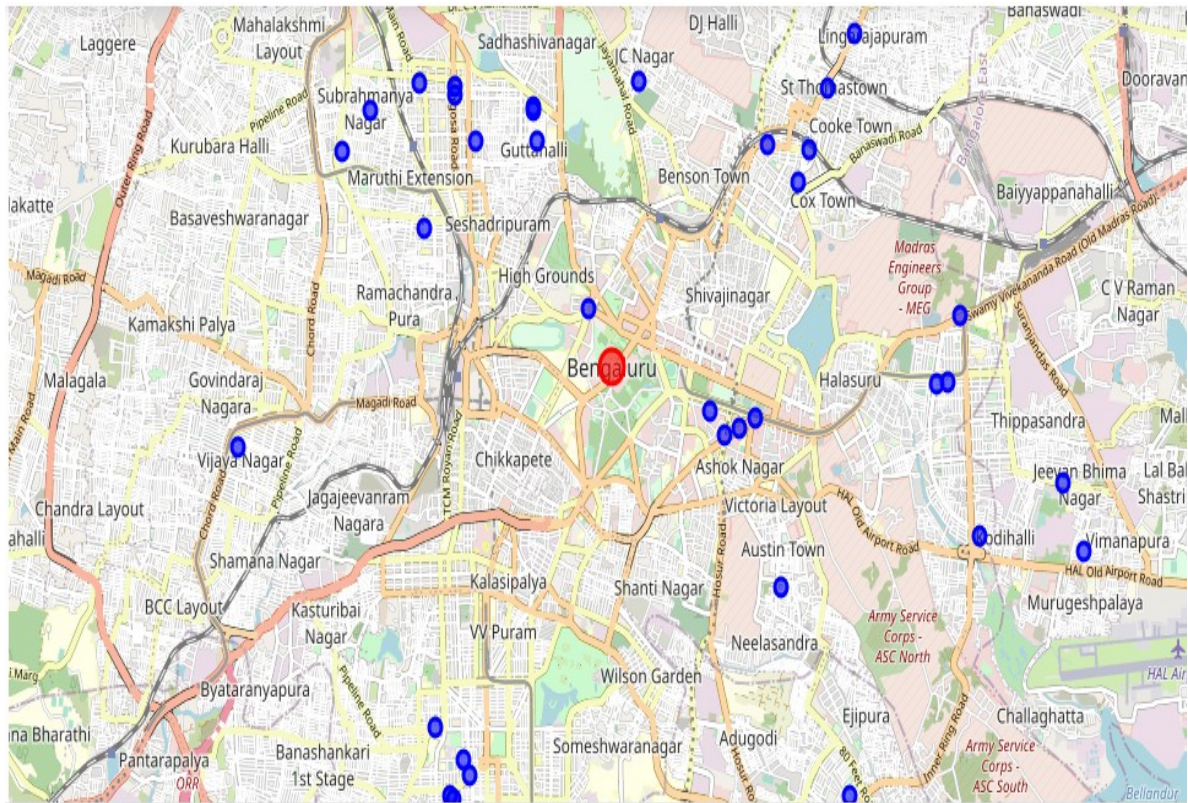
Average cost of 2 people in Electronic city v/s Bellandur:

All the restaurants in Bellandur and Electronic city are groped by location, sorted and top 50 restaurants average cost of food for 2 pople was calculated.This data is represented as bar plot as below:



Folium Map of restaurants :

To know further about the location of restaurants and explore the restaurants in banglore Four square api is used and folium map is constructed around banglore.



Conclusions :

Electronic city can be selected as the primary option to start a chinese restaurant.

Future directions:

Apart from the ones which are taken into consideration there are other factors which can be considered to further analyse the locations like the number of votes, reviews, rates, issues in that location.