

The Battle of Neighborhoods - Week 5

Title: Restaurant Recommender System for Chennai

Data Requirements:

To build a Restaurant Recommender model for Chennai location, we need below data:

1. Chennai's geographical coordinates (latitude and longitude) to find neighborhood details.
2. Population of the neighborhood where the restaurant is located.
3. Restaurant details in locality and its cuisines.

Let's take detail look at each of these:

1. To access each restaurants in neighborhood location, we need it's Latitude and Longitude so that we can point at its coordinates and create a map displaying all the restaurants with its labels respectively.
2. Population of a neighborhood is very important factor to determine a restaurant's growth. More people visit, better the restaurant will be rated because it is accessed by different people with different taste.
3. Income level of a neighborhood is also very important factor. If people in a neighborhood earns more than an average income, then it is likely that they will spend more. So restaurant can access market demand to income of a neighborhood.

Data Collection:

I have used Zomato's Chennai restaurant 2020 details for this project. This dataset have list of all restaurants which were served by zomato delivery team along with location and ratings details.

Dataset will looks like below:

	Zomato URL	Name of Restaurant	Address	Location	Cuisine	Top Dishes	Price for 2	Dining Rating	Dining Rating Count
0	https://www.zomato.com/chennai/yaa-mohaideen-b...	Yaa Mohaideen Briyani	336 & 338, Main Road, Pallavaram, Chennai	Pallavaram	['Biryani']	['Bread Halwa', 'Chicken 65', 'Mutton Biryani...']	500.0	4.3	1500
1	https://www.zomato.com/chennai/sukkubhai-biry...	Sukkubhai Biryani	New 14, Old 11/3Q, Railway Station Road, MKN ...	Alandur	['Biryani', 'North Indian', 'Mughlai', 'Des...']	['Beef Biryani', 'Beef Fry', 'Paratha', 'Pa...']	1000.0	4.4	3059
2	https://www.zomato.com/chennai/ss-hyderabad-bi...	SS Hyderabad Biryani	98/339, Arcot Road, Opposite Gokulam Chit Fun...	Kodambakkam	['Biryani', 'North Indian', 'Chinese', 'Ara...']	['Brinjal Curry', 'Tandoori Chicken', 'Chick...']	500.0	4.3	1361
3	https://www.zomato.com/chennai/kfc-	KFC	10, Periyar Nagar, 70	['Burger', 'Fast Food', 'I'Zinger

Data Pre-processing

Preprocess the Data to clean the dataset and impute with NaN values.

Preprocess summary was shown below:

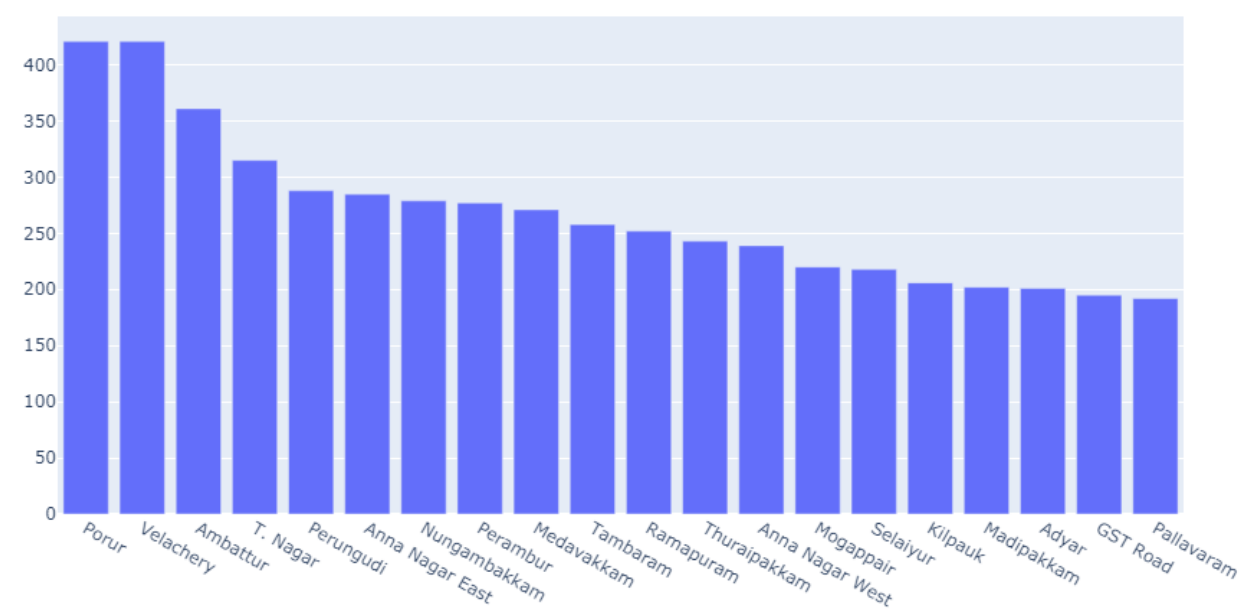
```

Zomato URL          0
Name of Restaurant  0
Address             0
Location            0
Cuisine             0
Top Dishes          9641
Price for 2         0
Dining Rating       5351
Dining Rating Count 5351
Delivery Rating     5851
Delivery Rating Count 5851
Features            0
dtype: int64

```

Pre-processing Reports

Chennai Restaurants - Location wise



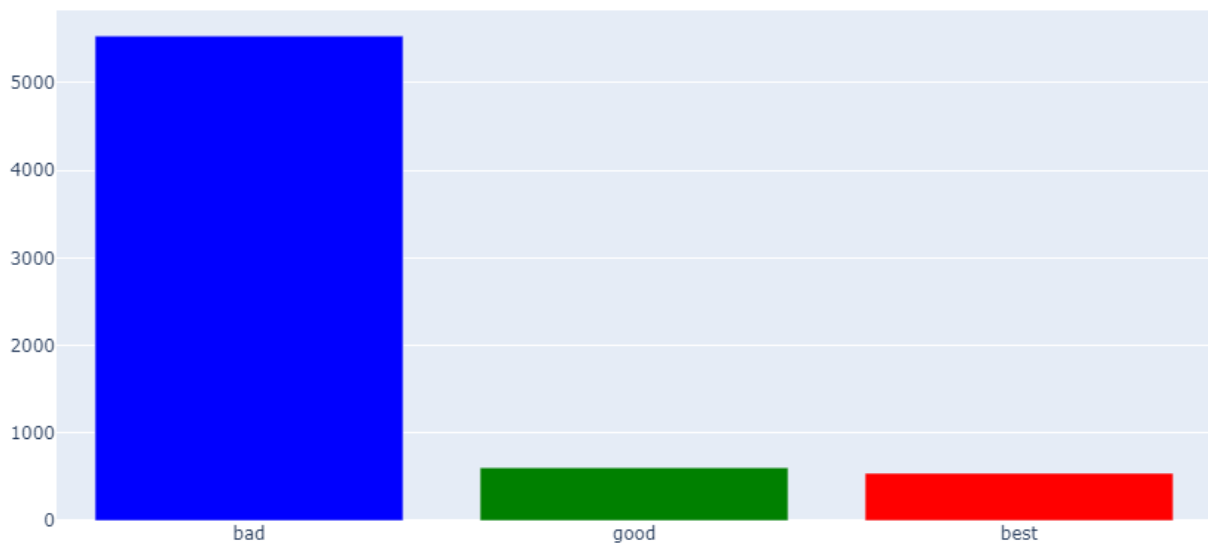
Restaurants Franchise Details

```
df['name of restaurant'].value_counts()[:25]
```

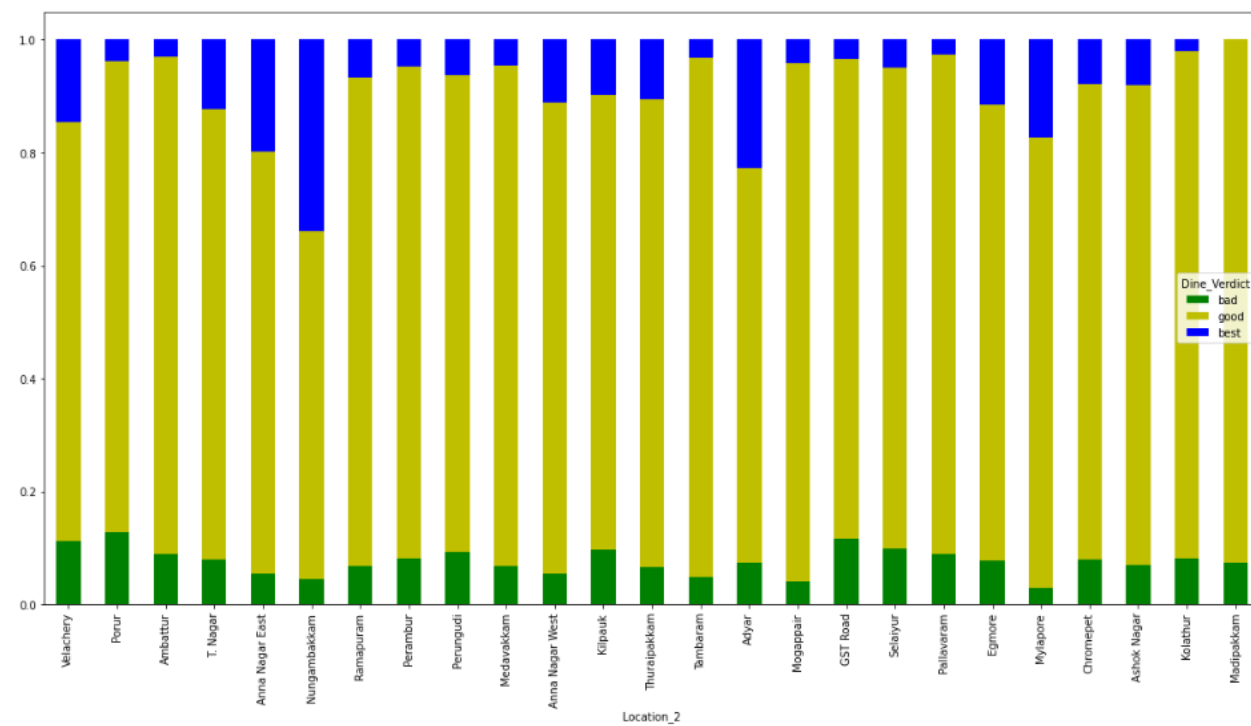
ck's bakery	83
amma unavagam	78
domino's pizza	66
oyalo	59
lassi shop	58
cafe coffee day	51
five star chicken	50
meat and eat	48
a2b - adyar ananda bhavan	45
ibaco	44
hyku foods	41
mcrennett	39
the cake world	39
faasos	38
the biryani life	38
ovenstory pizza	38
sweet truth	38
subway	38
firangi bake	37
the good bowl	37
cake square	36
behrouz biryani	36
mumbai kulfi	36
pizza square	34
sri krishna sweets	33

Name: name of restaurant, dtype: int64

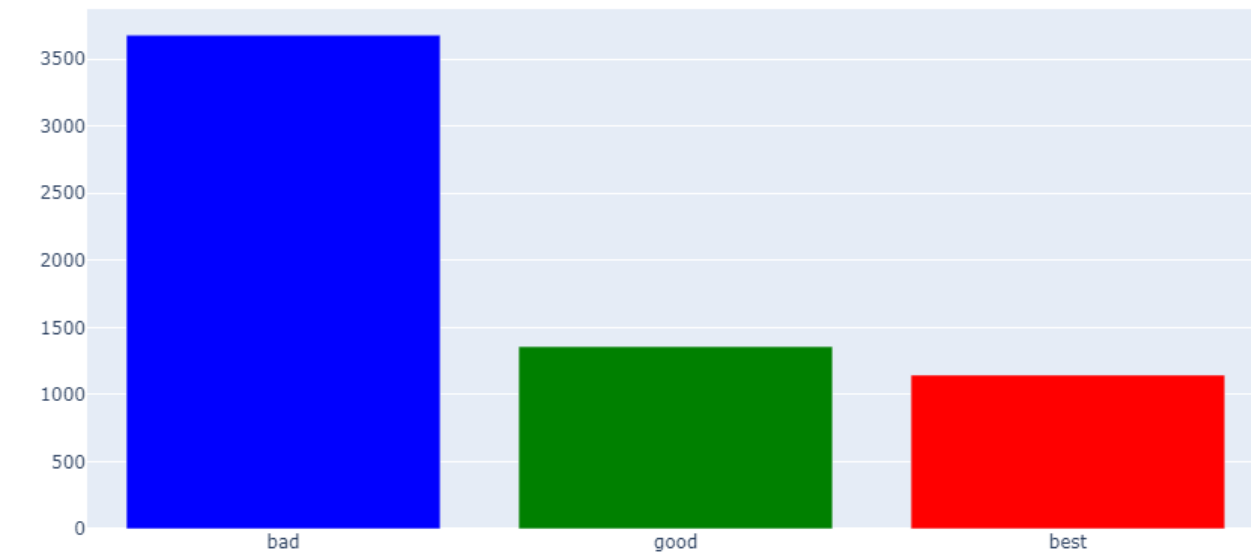
Rating Distribution wise - Dine only Ratings



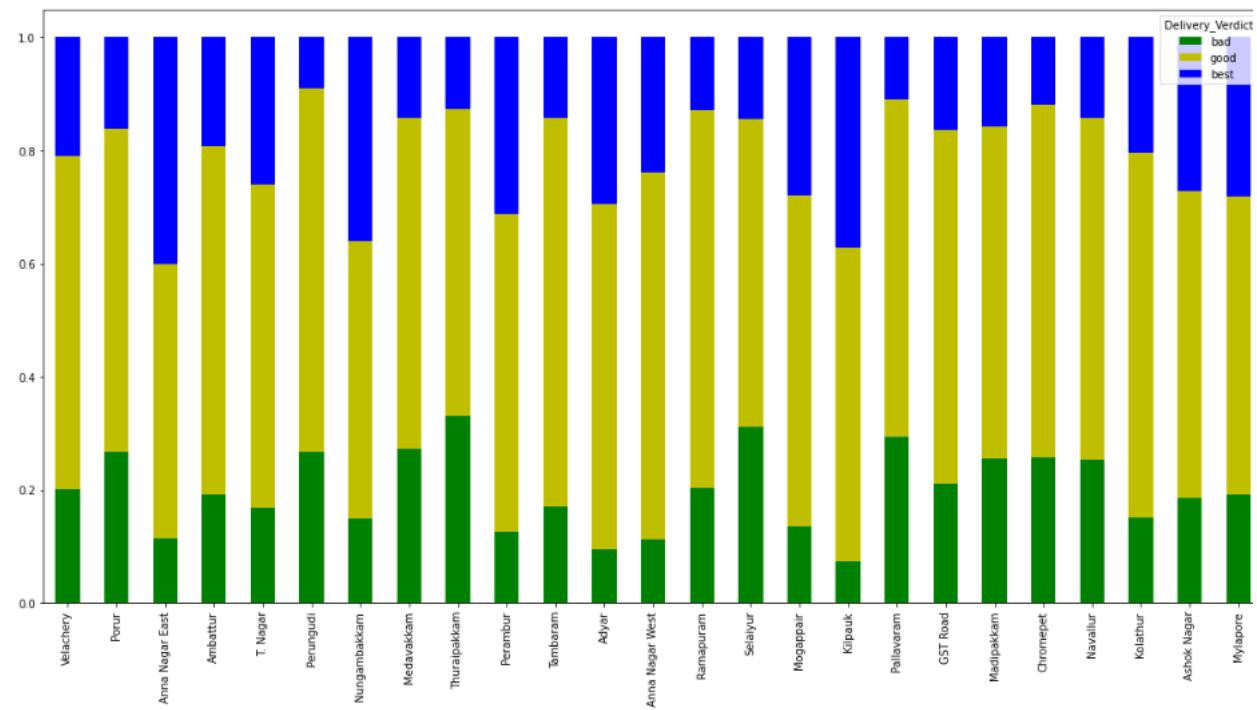
Location wise Ratings - Dine only Ratings



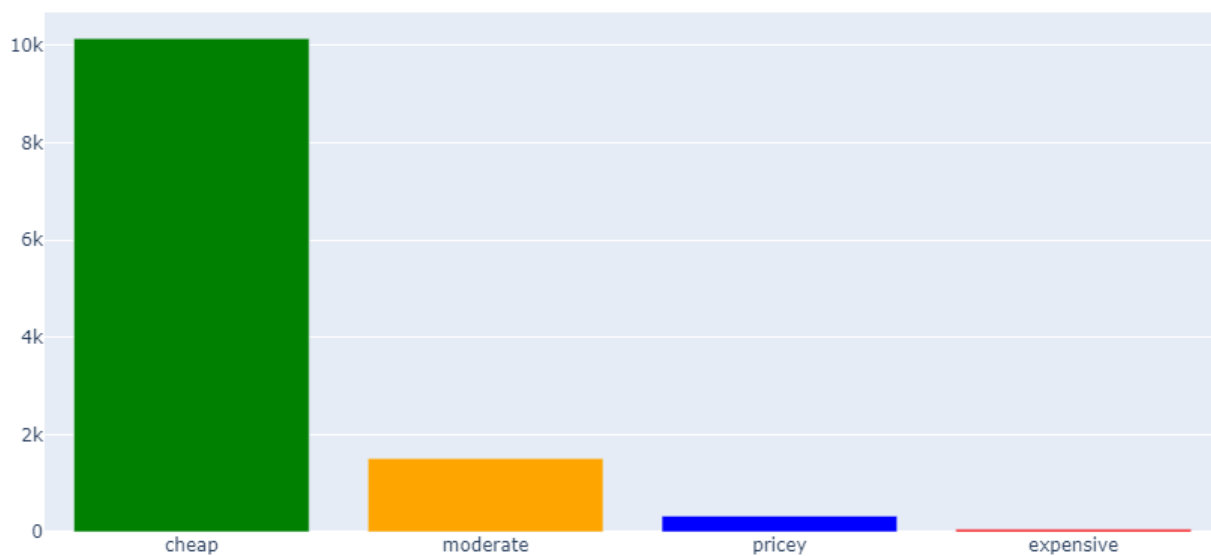
Rating Distribution wise - Delivery only Ratings



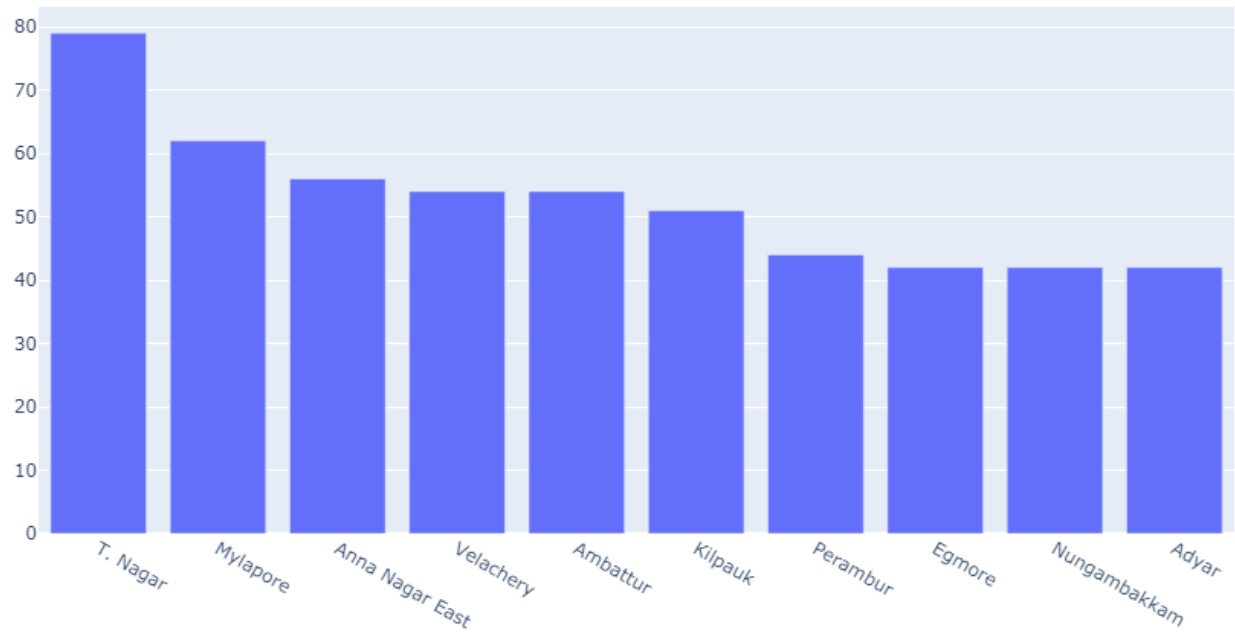
Rating Distribution wise - Location wise



Price Comparison Distribution wise - Location wise



Price Comparison - Location wise



Most Popular Restaurants in Chennai

	Name of Restaurant	Location_2	Dining Rating Count	Delivery Rating Count
89	Coal Barbecues	Velachery	9410.0	NaN
9233	Barbeque Nation	T. Nagar	5821.0	NaN
74	Onesta	Semmancheri	5407.0	4375.0
9030	Paradise Biryani	Perungudi	5317.0	18200.0
9026	Copper Kitchen	Porur	5073.0	26800.0
9038	Palmshore	Ramapuram	4805.0	17300.0
9040	Palmshore	Ashok Nagar	4478.0	19800.0
8757	Yaa Mohaideen Biryani	Pallavaram	3414.0	NaN
1	Sukkubhai Biryani	Alandur	3059.0	39200.0
9039	Palmshore	Santhome	3056.0	11100.0