

Zomato Restaurant Clustering and Sentiment Analysis

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- Problem Statement
- EDA and Feature engineering
- Data preparation
- Implementation of model
- Evaluation of Model

Problem Statement

AI



The Project focuses on Customers and Company, to analyze the sentiments of the reviews given by the customer in the data and make some useful conclusions in the form of Visualizations. Also, cluster the zomato restaurants into different segments. The data is visualized as it becomes easy to analyze data at an instant. The Analysis also solve some of the business cases that can directly help the customers find the best restaurant in their locality and for the company to grow up and work on the fields they are currently lagging in.

- **Data processing-1:** At first phase checked for null values and changed the datetime containing column in Zomato Restaurant names and Metadata.
- **EDA:** Exploratory analysis was done on the features selected in the first phase.
- **Data processing-2:** Checked for null values in Zomato Restaurant reviews dataset and dropped features having more null values.
- **EDA:** Combined the both datasets and made eda on the above selected features.
- **Create a model:** Finally in this part created models, trained and tested it on the available dataset.



Attribute Information:

Zomato Restaurant names and Metadata.

- Name : Name of Restaurants
- Links : URL Links of Restaurants
- Cost : Per person estimated Cost of dining
- Collection : Tagging of Restaurants w.r.t. Zomato categories
- Cuisines : Cuisines served by Restaurants
- Timings : Restaurant Timings

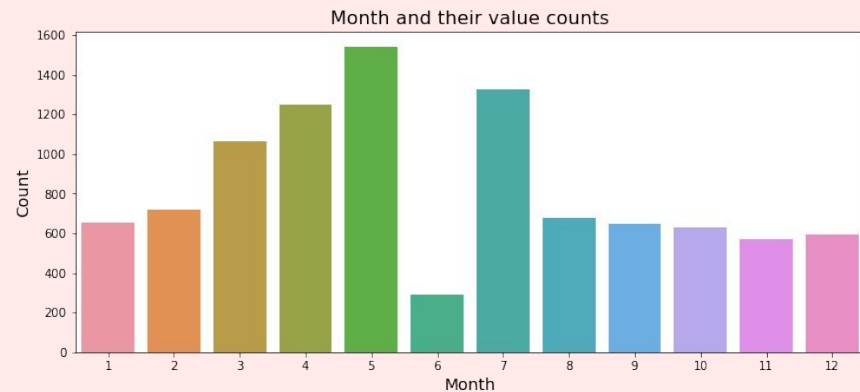
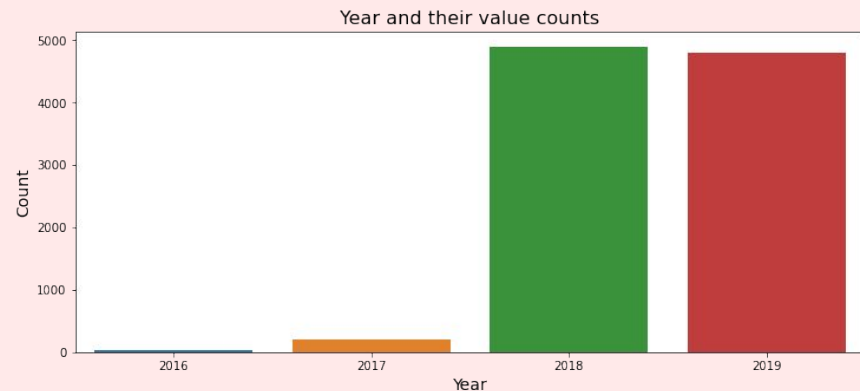
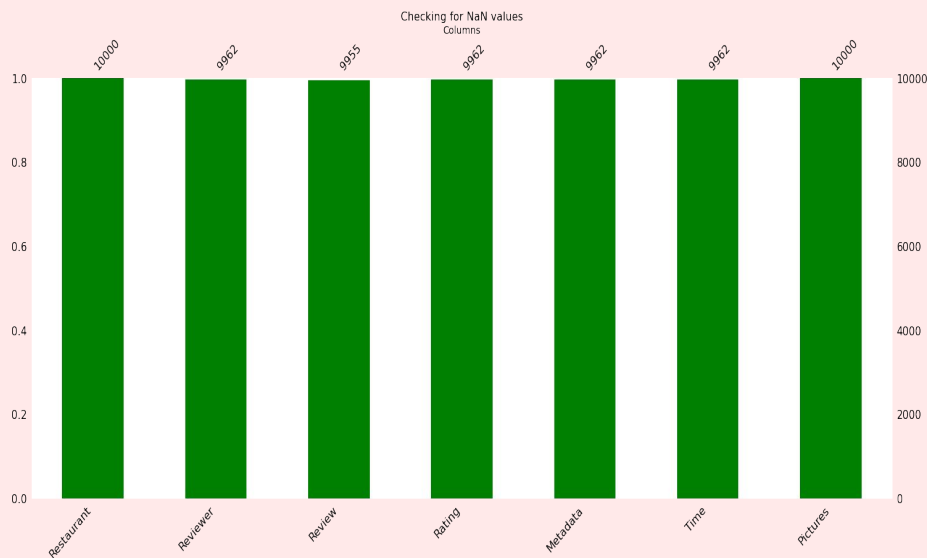
Zomato Restaurant reviews.

- Restaurant : Name of the Restaurant
- Reviewer : Name of the Reviewer
- Review : Review Text
- Rating : Rating Provided by Reviewer
- MetaData : Reviewer Metadata - No. of Reviews and followers
- Time: Date and Time of Review
- Pictures : No. of pictures posted with review

Exploratory Data Analysis



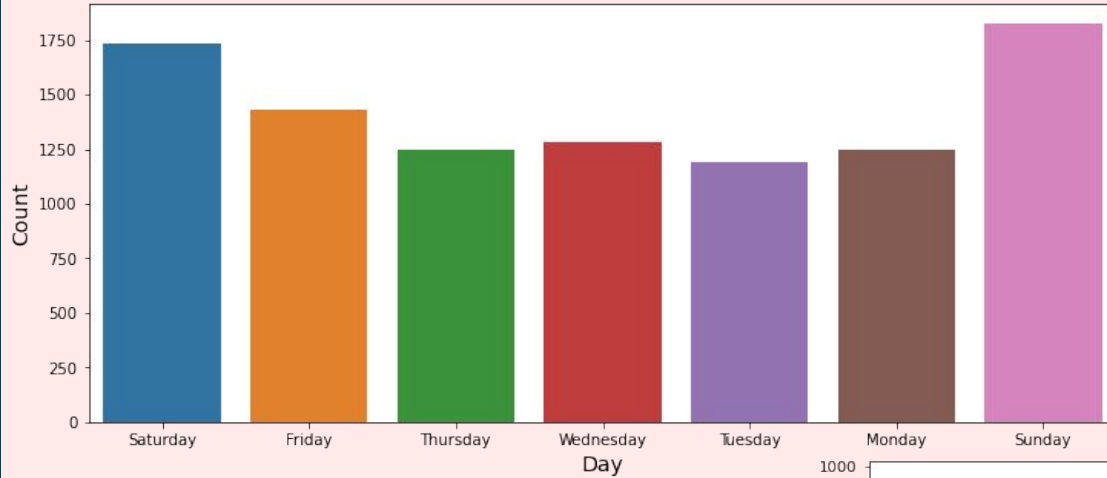
- Cleaning the null values.
- Conversion of data type of features.
- Exploratory Analysis.



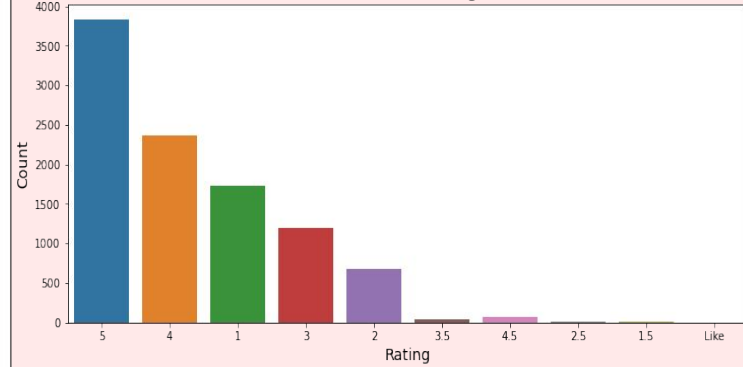
Exploratory Data Analysis

AI

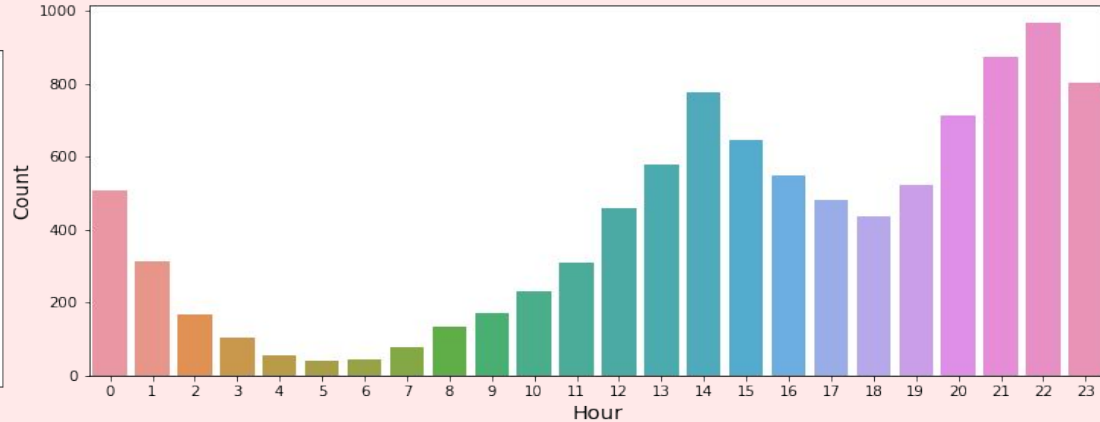
Day and their value counts



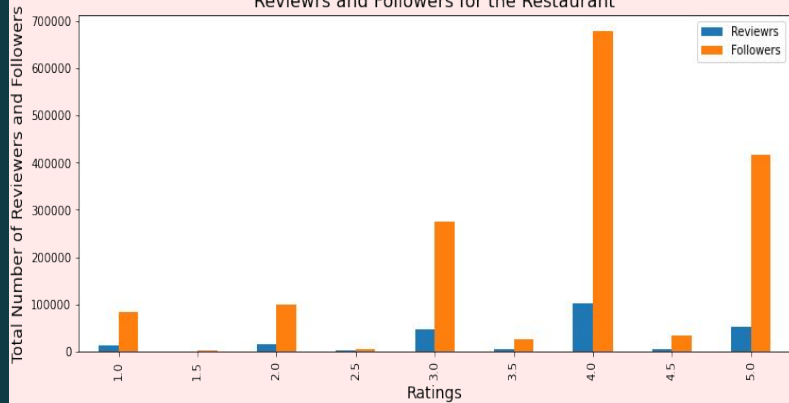
Restaurant Ratings



Hour and their value counts

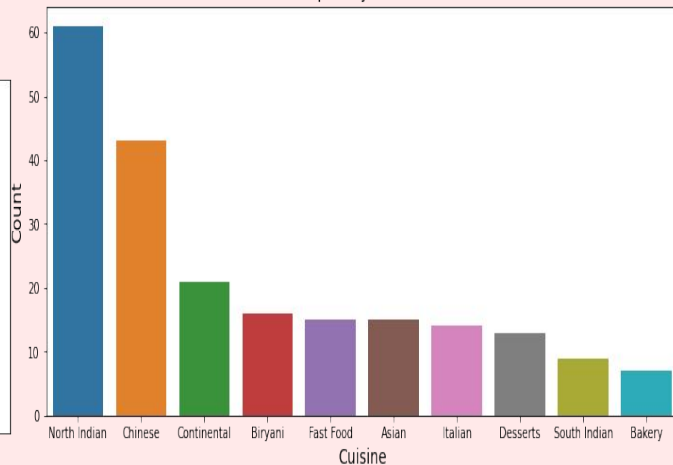
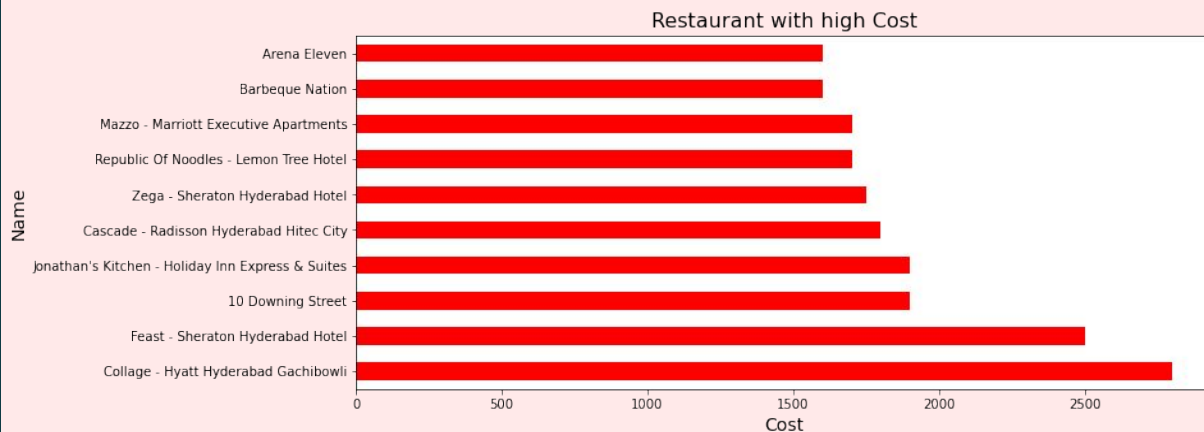
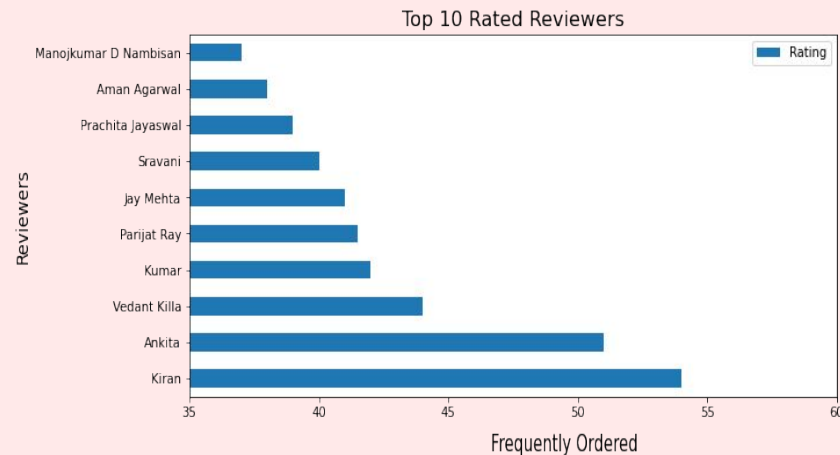
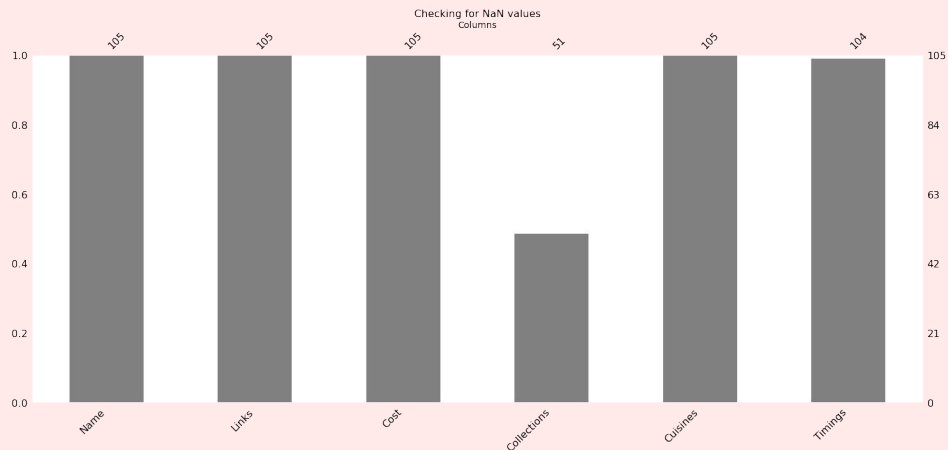


Reviews and Followers for the Restaurant



Exploratory Data Analysis

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Data Preparation

- Merged datasets
- Features are dropped

Recommendation System

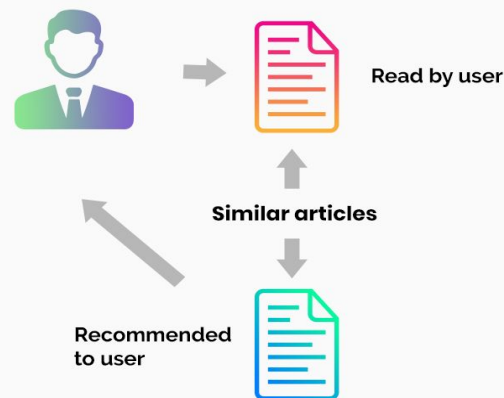
Seeks to predict a user's interest in available items and give recommendations accordingly.

- Content Based Filtering
- Collaborative Filtering

TFIDF Vectorizer

It converts a collection of raw documents to a matrix of TF-IDF features

Content-based filtering



Cosine Similarity

TOP 10 RESTAURANTS LIKE Pista House WITH SIMILAR REVIEWS:

	Cuisines	Rating	Cost	Timings
Owm Nom Nom	Chinese, Biryani, Andhra, North Indian	5.0	900	12Noon to 11:30PM (Mon-Sun)
The Fisherman's Wharf	Seafood, Goan, North Indian, Continental, Asian	5.0	1500	12Noon to 3:30PM, 4PM to 6:30PM, 7PM to 11:30P...
Hyderabad Chefs	North Indian, Chinese	5.0	600	12 Noon to 10:30 PM
Shah Ghouse Hotel & Restaurant	Biryani, North Indian, Chinese, Seafood, Bever...	5.0	800	12 Noon to 2 AM
Paradise	Biryani, North Indian, Chinese	5.0	800	11 AM to 11 PM
Kritunga Restaurant	Andhra, Biryani, Hyderabad, North Indian	5.0	500	12 Noon to 4 PM, 7 PM to 11 PM
Hitech Bawarchi Food Zone	Biryani, North Indian, Chinese	5.0	500	12 Noon to 11 PM
Royal Spicy Restaurant	North Indian, South Indian	5.0	700	10:30 AM to 11 PM
Pista House	Bakery, North Indian, Mughlai, Juices, Chinese	4.0	1000	11 AM to 12 Midnight
Hitech Bawarchi Food Zone	Biryani, North Indian, Chinese	4.0	500	12 Noon to 11 PM

Sigmoid Kernel

TOP 10 RESTAURANTS LIKE Paradise WITH SIMILAR REVIEWS:

	Cuisines	Rating	Cost	Timings
Mohammedia Shawarma	Street Food, Arabian	5.0	150	1 PM to 1 AM
Khaan Saab	North Indian, Mughlai	5.0	1100	12 Noon to 3:30 PM, 7 PM to 11:30 PM
Shah Ghouse Hotel & Restaurant	Biryani, North Indian, Chinese, Seafood, Bever...	5.0	800	12 Noon to 2 AM
Shah Ghouse Spl Shawarma	Lebanese	5.0	300	12 Noon to 12 Midnight
Kritunga Restaurant	Andhra, Biryani, Hyderabad, North Indian	5.0	500	12 Noon to 4 PM, 7 PM to 11 PM
Amul	Ice Cream, Desserts	5.0	150	10 AM to 5 AM
Al Saba Restaurant	North Indian, Chinese, Seafood, Biryani, Hyder...	5.0	750	6 AM to 11:30 PM
Hyderabad Chefs	North Indian, Chinese	5.0	600	12 Noon to 10:30 PM
Paradise	Biryani, North Indian, Chinese	4.0	800	11 AM to 11 PM
Biryanis And More	North Indian, Biryani, Chinese	4.0	500	11 AM to 11 PM

Conclusion

- Among all the years we have more orders in the year 2018.
- We have more orders in May and less in June.
- Restaurants are having more demand during weekends.
- We have more orders from 12 pm – 4 pm and from 8 pm – 11 pm.
- Absolute Barbecues is ranked first and Hotel Zara Hi-Fi is ranked last based on ratings given by the users.
- Pista House is having most of the followers and Shree Santosh Dhaba Family Restaurant is having fewer followers.
- Good, good, nice, very good and excellent are the words most used by the reviewers in writing reviews.
- College Hyatt Hyderabad Gachibowli is the costly restaurant and Mohammedia Shawarma is the restaurant the cheapest.
- North Indian varieties are ordered frequently and Malaysian are the least.

Thank You