BIGBAZAAR

SALES PREDICTION

PRESENTED BY,
SWATHI M
9922146017
M.SC.DATA SCIENCE

ABSTRACT

In the era of the internet, shopping malls like Big bazaar keep the track of their sales data of each and every individual item for predicting future demand of the customer and update the inventory management as well. These data stores basically contain a large number of customer data and individual item attributes in a data warehouse.

The dataset which I used is Big bazaar Sales Data can be used for predicting future sales volume with the help of different machine learning techniques. In this Project I have propose a predictive model that is Linear Regression and Random Forest Regression and Xgboost Regressor for predicting the sales of a company and found that the model produces better performance as compared to existing models.

OBJECTIVE

- To predict the future sales
- To determine the amount of product that will be required in future.
- To compare and evaluate the performance of prediction algorithms.

DATASET DESCRIPTION

- Data of 30 outlets of bigbazaar between 2017 to 2019.

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8523 entries, 0 to 8522
Data columns (total 12 columns):
 #   Column                     Non-Null Count  Dtype
---  ------                     --------------  -----
 0   Item_Identifier            8523 non-null   object
 1   Item_Weight                7060 non-null   float64
 2   Item_Fat_Content           8523 non-null   object
 3   Item_Visibility            8523 non-null   float64
 4   Item_Type                  8523 non-null   object
 5   Item_MRP                   8523 non-null   float64
 6   Outlet_Identifier          8523 non-null   object
 7   Outlet_Establishment_Year  8523 non-null   int64
 8   Outlet_Size                6113 non-null   object
 9   Outlet_Location_Type       8523 non-null   object
 10  Outlet_Type                8523 non-null   object
 11  Item_Outlet_Sales          8523 non-null   float64
dtypes: float64(4), int64(1), object(7)
memory usage: 799.2+ KB
```

METHODOLOGY

1. Data Collection and Pre-processing
2. Feature Engineering
3. Model Selection
4. Model Training
5. Model Evaluation
6. Model Optimization
7. Model Prediction
    - Linear Regression
    - Random Forest Regression
    - Xgboost Regressor

SYSTEM REQUIREMENTS

HARDWARE REQUIREMENTS:

1. System : Pentium i3 Processor.
2. Hard Disk : 500 GB.
3. Monitor : 15"" LED
4. Input Devices : Keyboard , Mouse.
5. Ram : 4 GB

SOFTWARE REQUIREMENTS:

1. Operating system : Windows 10.
2. Coding Language : Python
3. Web Framework : Flask

EXPERIMENTAL RESULTS

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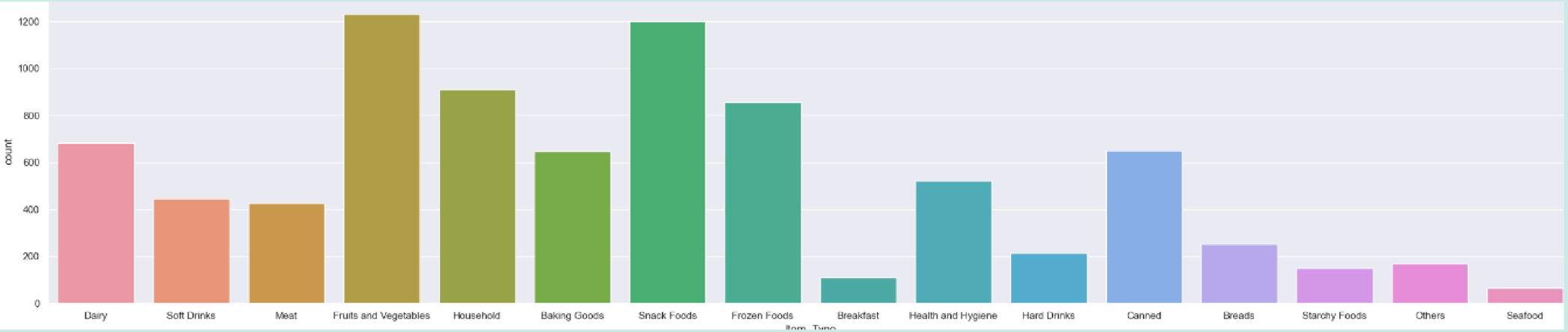
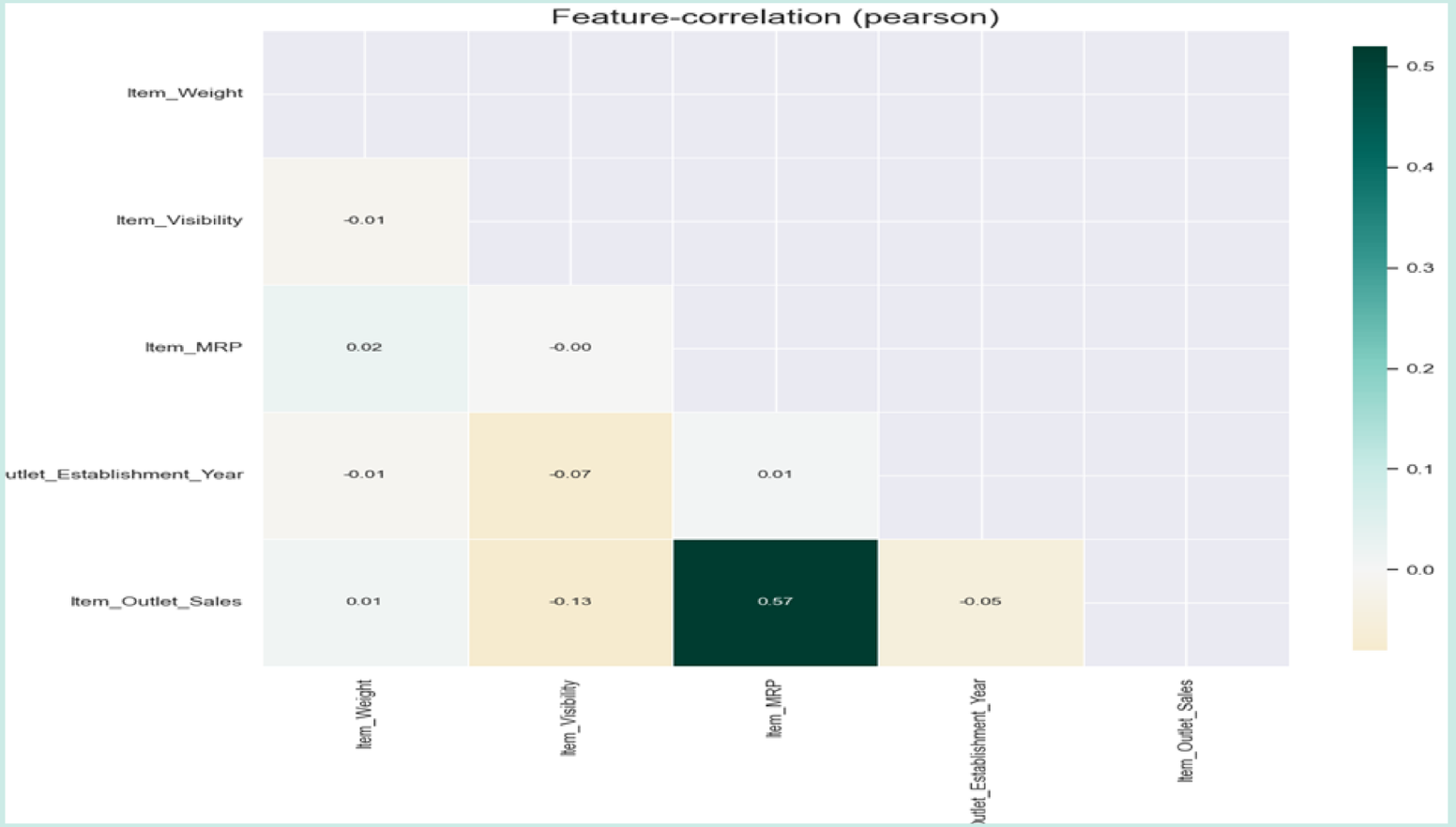
sales prediction



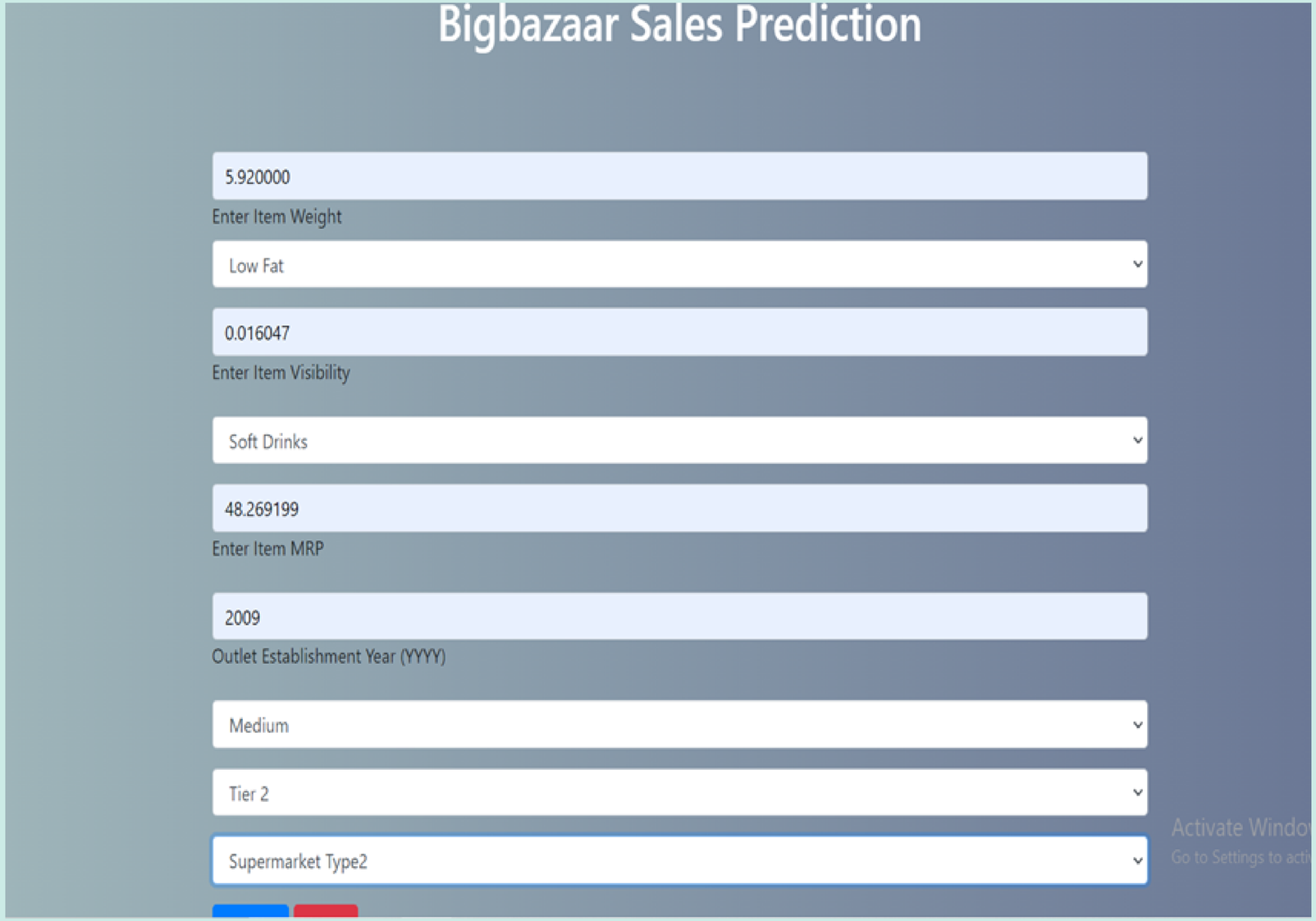
EXPERIMENTAL RESULTS

08

sales prediction



WEBPAGE RESULTS



CONCLUSION

The final best fit model is used to forecast the sales, the best performance-algorithm, Random Forest Regressor machine learning algorithm, which is used in this project I got a accuracy of 94.04% on train set so we implemented this algorithm. here propose software to using regression approach for predicting the sales centered on sales data from the past the accuracy of linear regression prediction can be enhanced with this method, and Random Forest Regression can be determined. So, we can conclude Random Forest Regression gives the better prediction with respect to Accuracy.

BASE PAPER 1 : PREDICTION OF BIGMART SALES USING MACHINE LEARNING ALGORIHMS

ABSTRACT

Nowadays shopping malls and Big Marts keep the track of their sales data of each and every individual item for predicting future demand of the customer and update the inventory management as well. These data stores basically contain a large number of customer data and individual item attributes in a data warehouse. Further, anomalies and frequent patterns are detected by mining the data store from the data warehouse. The resultant data can be used for predicting future sales volume with the help of different machine learning techniques for the retailers like Big Mart. In this paper, we propose a predictive model using XG boost Regressor technique for predicting the sales of a company like Big Mart and found that the model produces better performance as compared to existing models.

BASE PAPER 2 : D MART SALES PREDICTION

Abstract: Nowadays shopping malls and D Marts keep the track of their sales data of each and every individual item for predicting future demand of the customer and update the inventory management as well. These data stores basically contain a large number of customer data and individual item attributes in a data warehouse.
Further, anomalies and frequent patterns are detected by mining the data store from the data warehouse. The resultant data can be used for predicting future sales volume with the help of different machine learning techniques for the retailers like D Mart. In this paper, we propose a predictive model using Xgboost technique for predicting the sales of a company like D Mart and found that the model produces better performance as compared to existing models. A comparative analysis of the model with others in terms performance metrics is also explained in details.The aim is to build a predictive model and find out the sales of each product at a particular store.Using this model, D Mart will try to understand the properties of products and stores which play a key role in increasing sales.

REFERENCES

- **PREDICTION OF BIGMART SALES USING MACHINE LEARNING ALGORIHMS**

  SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY (DEEMED TO BE UNIVERSITY) Accredited with Grade “A” by NAAC JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119 MARCH - 2022.

- **D MART SALES PREDICTION**

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THANK YOU!