

Big Mart Sales Prediction

The dataset is downloaded from:

<https://www.kaggle.com/datasets/shivan118/big-mart-sales-prediction-datasets>

Variable Description

Independent Features:

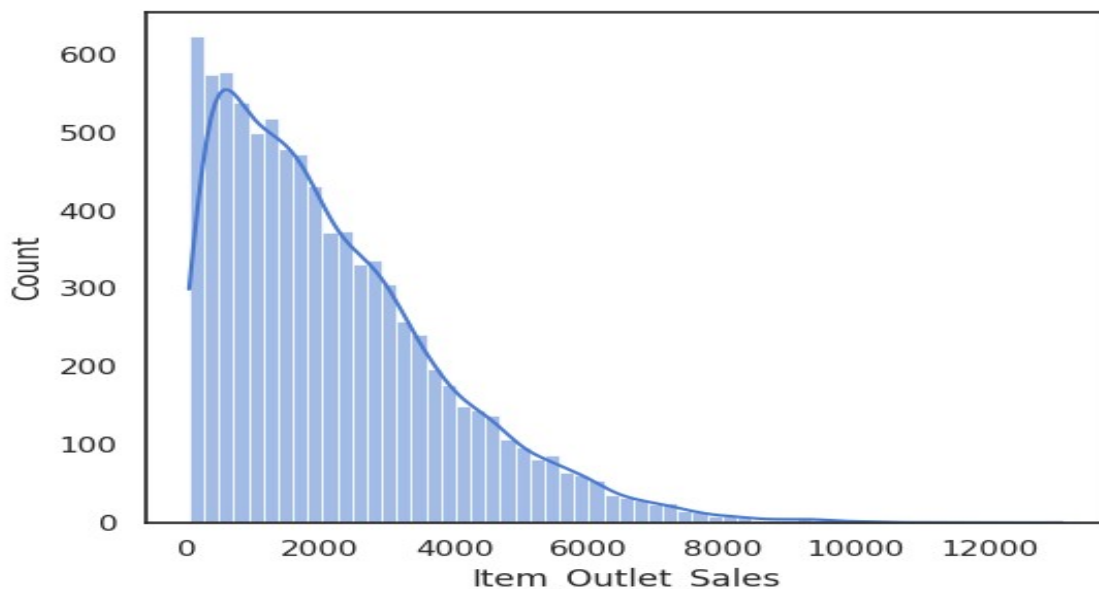
- Item_Identifier ---- Unique product ID
- Item_Weight ---- Weight of product
- Item_Fat_Content ---- Whether the product is low fat or not
- Item_Visibility ---- The % of the total display area of all products in a store allocated to the particular product
- Item_Type ---- The category to which the product belongs
- Item_MRP ---- Maximum Retail Price (list price) of the product
- Outlet_Identifier ---- Unique store ID
- Outlet_Establishment_Year ---- The year in which the store was established
- Outlet_Size ---- The size of the store in terms of ground area covered
- Outlet_Location_Type ---- The type of city in which the store is located
- Outlet_Type ---- Whether the outlet is just a grocery store or some sort of supermarket

Dependent Feature:

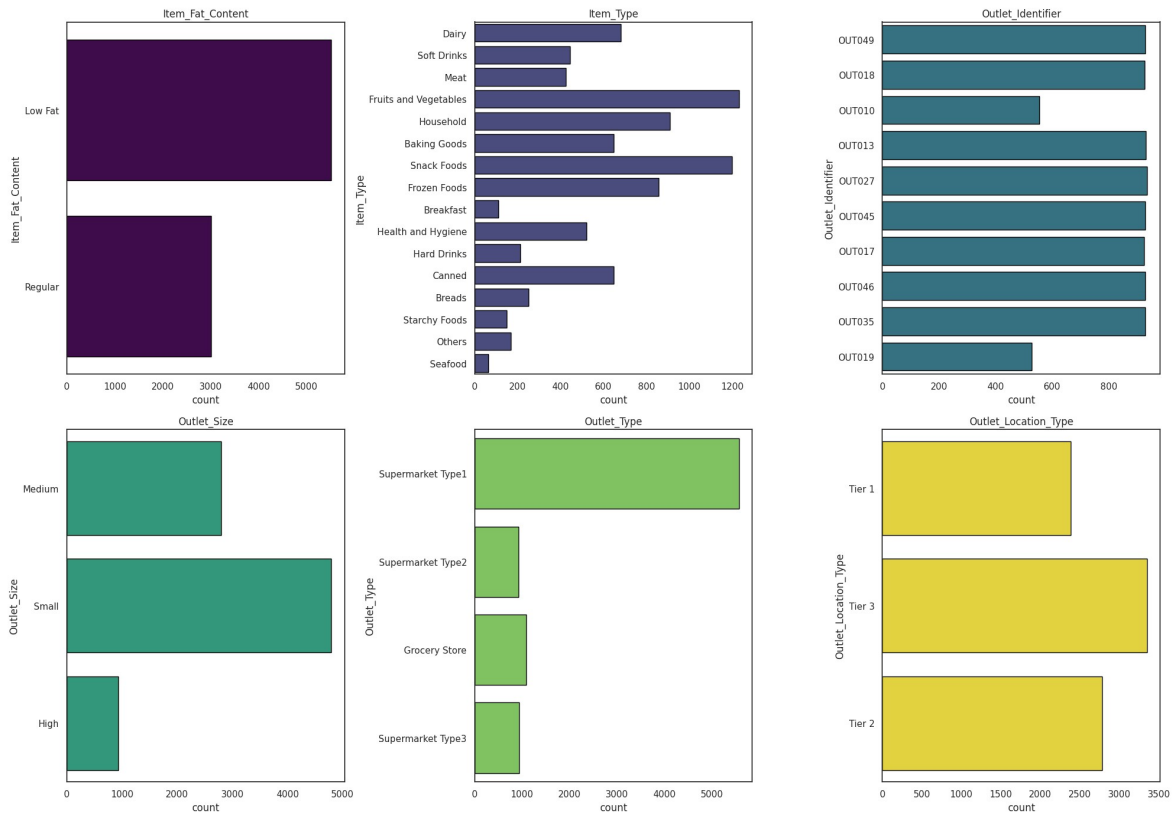
Item_Outlet_Sales ---- sales of the product in t particular store. This is the outcome variable to be predicted.

Descriptive Statistics

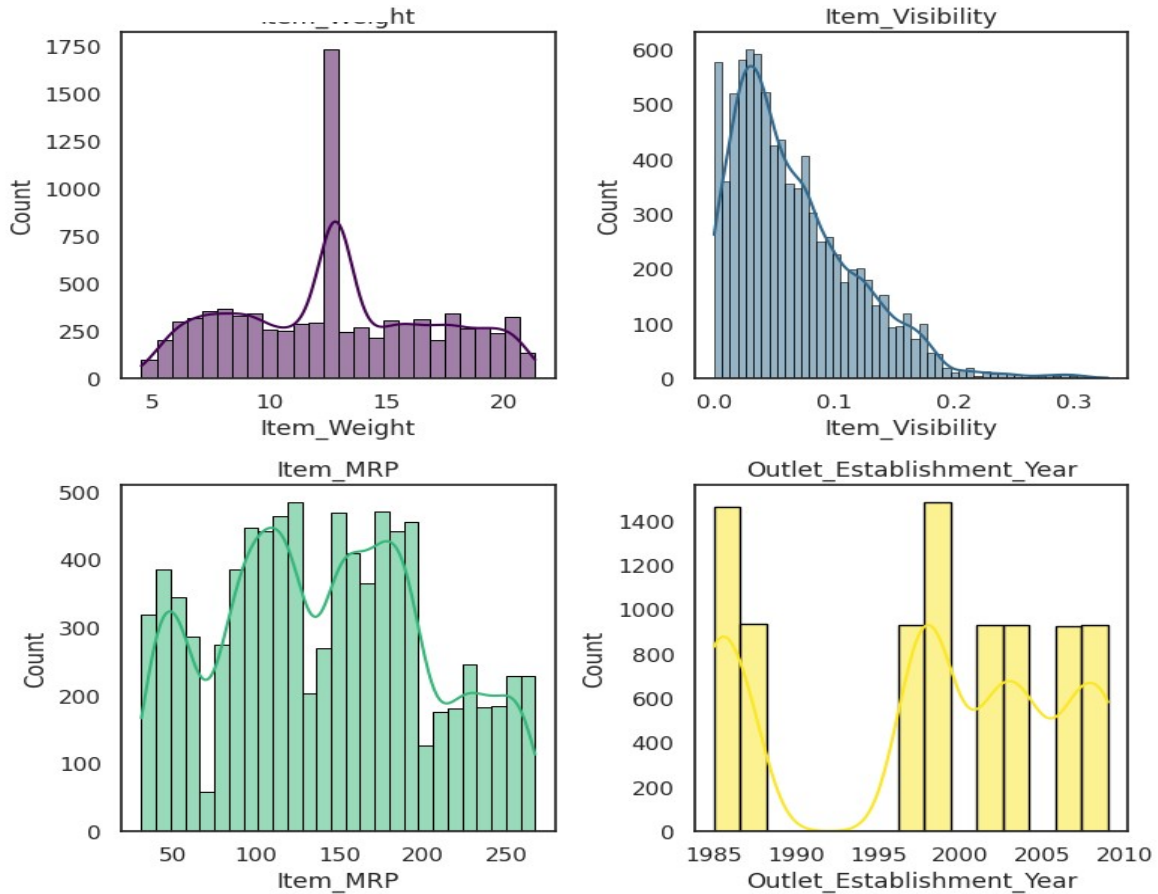
Dependent Feature



Categorical Features



Numerical Features



Machine Learning

Table 1: Metrics of different classifiers

| Classifiers | Best CV | MSE | RMSE | MAE | R ² |
|-------------|-------------|-------------|----------|---------|----------------|
| XGB | 1206267.708 | 124134.819 | 1060.252 | 749.347 | 0.599 |
| LR | - | 1209515.003 | 1099.780 | 810.075 | 0.568 |
| KNN | 1528070.907 | 1445075.050 | 1202.113 | 864.266 | 0.484 |

