Machine Learning With Python

Sales forecasting with walmart:

Analysis:

What is Forecasting in Machine Learning?

Machine Learning forecasting algorithms often use techniques that involves more complex features and predictive methods, but the objective of machine learning forecasting methods is the same as that of traditional methods to improve the accuracy of forecasts while minimizing a lose of functions.

WALMART

Sales are the lifeblood of business. With an accurate sales forecast in hand,one can plan for the future wisely.If the sales forecast predicts that during Match,one could make 30 percent of one's entire yearly sales,then production needs to be ramped up in September itself. Perhaps a smarter company would also invest in more seasonal salespeople.

In this specific project, Walmart is seeking help from the Kaggle community to better forecast sales for 45 stores located across the USA. Each store is home to several departments,and this challenge requires us to project the sales for each department in each store, for all 45 stores.To add to the challenge, selected holiday markdown events are included in the dataset which is known to addect sales.

Dataset Understanding:
We are provided with three tables namely like Sales, Features and Stores.

Sales:
Store- the store number
Dept- the department number
Date- the week
Weekly_Sales- sales for the given department in the given store
Holiday_Flag- Whether the week is a special holiday week.

Features:
Store- the store number
Date- the week
Temperature- the average temperature in the region
Fuel_Price- the cost of the fuel in the region
CPI- the consumer price index
Unemployment- the unemployment rate
Holiday_Flag- whether the week is a special holiday week.

Stores:
Store- the store number
Type- three types of stores ‘A’,’B’,’C’
Size- Sets the size of a no.of products available in the particular store ranging from 34,000 to 2,10,000.

We start the process with downloading the sales forecasting with walmart dataset.And upload the dataset in jupyter.Next import the required libraries for the programmes.

Next import the dataset into our program.Read the dataset now start our operations on dataset.After reading the dataset we get the total information about the dataset.Now perform the head operation on the dataset we get the output of the like as print the first 5 rows in the dataset.

Here we using the Decision Tree Algorithm we perform the info operation we get the basic information about the dataset .The describe() of method is used for calculating some statistical data like percentile,mean and std of the numerical values of the Series or Dataframe.It analyzes both numeric and object series and also the dataframe column sets of mixed datatypes.We perform the shape operation on data set.Now train our model with walt dataset.We perform training and testing on the dataset.We perform the training perform operation isnull and sum.

Training dataset for we get the datatypes

```
Store             int64
Date             object
Weekly_Sales    float64
Holiday_Flag      int64
Temperature     float64
Fuel_Price      float64
CPI             float64
Unemployment    float64
dtype: object
```

We perform the operations on this below information.

Store	Date	Weekly_Sales	Holiday_Flag	Temperature	Fuel_Price	CPI	Unemployment

We are training and testing for take the some information like as year&week.Testing year for we get information for start the in 2010 and sales upto year 2012.We use the normalization and tail operation we perform the train dataset for we count the values of week of last 5 rows in the dataset.We draw the barplot for the given dataset of store with weekly sales.we observe the graph the stores are increases the weekly sales also increases simultaneously.4,13,14,20 are stores for weekly sales are more increases.We perform the training dataset for group the year&weekly sales take the average we draw the barplot.We get the information the 3 years for weekly sales are increases simultaneously. We draw the line plot it give the information weekly sales are increases we observe that. The walmart dataset for we observe the sales are forecasting with machine learning Algorithms we know the stores are increase and the sales also be increases.In the 2010 to 2012 year for the stores are expand and the weekly sales also expanded .These are the store and the count of minimum is 23.00000 and the weekly sales are 1.046965e+06 .All the walmart dateset will describe Unemployment will decreases .The walmart is expand the stores and forecast the all conditions and increases there sales with respect to the conditions.

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