

# Sales Prediction Using Machine Learning

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## Initiation

Sales Prediction System is used to predict Sales of different products sold at different cities of a company.

As the volume of products and outlets are growing exponentially predicting them

by hand becomes difficult. Predicting the right demand for the product is an important phenomenon in terms of time and money for the sellers. Therefore, the demand of a product depends on many factors such as price, popularity, time and location.

Forecasting sales become hard when the number of factors increases.

Demand prediction is also relating to sales revenue. Thus, sales prediction also helps the companies to store products according to expected sales for the region and outlet type.

## Project Plan

A Sales major problem in mobile search is that the interactions between the users and search engines are limited by the small form factors of the mobile devices. As a result, for these models in which the Amazon application which will displays the sales items irrelevant what user searching. Based on these model users have to select the predict the items through outfits displayed the products.

It is uneasy to the user that customers not be able to select the sales items that they are interested.

## Status and Execution

### Testing

Software Testing is a critical element of software quality assurance and represents the ultimate review of specifications and coding.

#### White Box Testing

White box testing is a method of testing software that tests internal structures or working of an application.

#### Black Box Testing

Black Box testing is a method of software testing that examines the functionality of an application without peering into its internal structures or workings.

## Performance and Control

XGBoost stands for extreme Gradient Boosting.

This enhances the computing time and memory resources of system.

It is a sequential ENSEMBLE technique.

It combines a set of weak learners and improves prediction accuracy.

XGBoost's split finding a greedy algorithm

Input: Dataset with proper input and output labels.

Output: Predict sales value and store in csv file.

## Conclusion

In this project, we examine the problem of demand forecasting on an e-commerce web site.

We have also tested results of single classifiers separately together with the general model.

Our approach predicts the demand even with less training data set (i.e., <20%).

