**SALES PREDICTION USING MACHINE LEARNING**

**Team Members:**

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**Motivation:**

We are all aware that firms nowadays keep track of sales data for each and every individual item in order to forecast client demand in the future. In a data warehouse, there is a significant volume of client data that is stored. Furthermore, by mining the data stored in the data warehouse, we may find abnormalities and common trends. With the use of several machine learning approaches, it predicts future demand for the commodities as well as future sales volume. In this research, we present a predictive model for predicting sales using the XG boost Regressor approach, and we find that the model outperforms existing models.

**Significance:**

For developing supervised regression models, XGBoost regression is a superior option. The objective function includes a loss function and a regularization term. It indicates how far the findings deviate from the true values. This allows us to produce the finest results possible.

**Objectives:**

The objective of this project :-

* The goal of this project is to forecast future sales from supplied data from past years using Machine Learning Techniques.
* The goal is to find the optimal model that will meet the customer's future requirements.
* Is to determine the characteristics that can boost their sales and what adjustments to the product could be made.

**Features:**

The following XG Boost parameters should be noted:

**General parameters:**

It is related to the type of booster we are utilizing for boosting; typically, a tree or linear model is employed for this.

**Booster parameters:**

This is determined by the type of booster used.

**Learning task parameters:**

It determines the learning scenario based on the parameters of the learning task.

**Command line parameters:**

This refers to the behavior of the XGBoost CLI version that is being utilized.

**References:**

1. Makridakis, S., Wheelwright, S.C., Hyndman, R.J.: Forecasting methods and applications. John wiley & sons (2008).

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3. C. M. Wu, P. Patil and S. Gunaseelan: Comparison of Different Machine Learning Algorithms for Multiple Regression on Black Friday Sales Data (2018).

4. Das, P., Chaudhury: Prediction of retail sales of footwear using feed forward and recurrent neural networks (2018)

5. Das, P., Chaudhury, S.: Comparison of Different Machine Learning Algorithms for Multiple Regression on Black Friday Sales Data (2007)