|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PROJECT  TITLE | STOCK PREDICTION | | | Group Number | 23 |
| Team Leader Name and Roll No | | Team Members Name and Roll No | Learning Project-I Status Till Date | Tentative Date of Submission of Project | |
| 1.UDDHAB CHARAN DAS  (23CSEAIML087) | | 1.N UDIT NARAYAN CHOUDHURY(23CSEAIML091)  2.BIKASH COUDHURY(23CSEAIML095) | **14th Dec 2024 to 8th Feb 2025** | **10th to 16th April 2025** | |

PROJECT SUMMARY: - **Stock Price Prediction App** is a machine learning-based application that forecasts stock prices using historical market data and technical indicators. It integrates **Bollinger Bands, MACD, EMA, SMA, and RSI** to analyze trends and momentum. The app employs **Linear Regression, K-Nearest Neighbors (KNN), XGBoost, Random Forest, and Extra Trees Regressor** for accurate predictions. It preprocesses data using **StandardScaler**, splits it into training and testing sets, and evaluates models using **R² score and Mean Absolute Error (MAE)**. Built with **Streamlit**, the app provides real-time stock analysis, data visualization, and user-friendly insights to assist investors in making informed trading decisions.

PROJECT OVERVIEW:-

|  |  |  |  |
| --- | --- | --- | --- |
| CATEGORY\* | PRESENT STATUS  OF PROJECT | PERCENTAGE  OF WORK  COMPLETED | PENDING WORK |
| Machine Learning | Fetching stock data using **Yahoo Finance**  Implemented Linear Regression, KNN, XGBoost, Random Forest, and Extra Trees; evaluated using R² Score and MAE. | 40% | The **visualization is not properly** in Streamlit, requiring improvements usin**Matplotlib**. **Prediction accuracy** needs enhancement through **hyperparameter tuning, GridSearchCV, and additional features** like trading volume. **Performance optimization** with data normalization and model comparison is essential for better results. These improvements will refine stock price forecasting and user experience. |

**Comments of Proctors/Class Teacher:**

**Class Teacher Project Coordinator, 2nd Year**