**Gold Price Prediction Project**

**Introduction** The Gold Price Prediction project aims to analyze historical gold prices and develop a machine learning model to predict future prices. Gold prices are influenced by various factors such as market trends, economic conditions, and currency values. This project leverages data science techniques to build an accurate predictive model.

**Data Collection and Processing** The dataset used in this project was obtained from publicly available sources and contains historical gold price records. The data was loaded using pandas, cleaned to handle missing values, and preprocessed to ensure consistency. Exploratory Data Analysis (EDA) was conducted to understand trends, distributions, and correlations among different variables.

**Model Development** A machine learning model was developed using the Random Forest Regression algorithm. The dataset was split into training and testing sets, and the model was trained to learn patterns in historical prices. The performance of the model was evaluated using metrics such as Mean Absolute Error (MAE) and Root Mean Squared Error (RMSE).

**Results and Conclusion** The trained model demonstrated good predictive accuracy, capturing key trends in gold price movements. While some level of error remains due to market volatility, the model provides useful insights for price forecasting. Further improvements can be achieved by incorporating additional economic indicators and optimizing the model parameters.

This project highlights the potential of data-driven approaches in financial forecasting and can be extended for real-time price prediction applications.