

Problem Statement:

This project aims to leverage a comprehensive dataset of daily gold prices spanning from January 19, 2014, to January 22, 2024, obtained from Nasdaq. The dataset encompasses key financial metrics for each trading day, including the opening and closing prices, trading volume, as well as the highest and lowest prices recorded during the day.

Dataset Description:

1. Date: A unique identifier for each trading day.
2. Close: Closing price of gold on the respective date.
3. Volume: Gold trading volume on the corresponding date.
4. Open: Opening price of gold on the respective date.
5. High: The highest recorded price of gold during the trading day.
6. Low: The lowest price recorded for gold in the trading day.

Project Objectives:

1. Time Series Analysis:
 - Explore historical trends and patterns in gold prices over the specified time period.
 - Identify seasonality, cyclicity, and any discernible long-term trends in the gold market.
2. Advanced Modeling:
 - Develop predictive models to forecast future gold prices based on historical data.
 - Evaluate and compare the performance of different forecasting algorithms.
3. Trading Strategy Development:
 - Formulate and backtest trading strategies based on the provided price and volume information.
 - Explore the feasibility of reverse trading strategies for profit maximization.
4. Market Sentiment Analysis:

- Investigate the impact of market events on gold prices.
- Assess market sentiment and its influence on short-term and long-term price movements.

5. Statistical Analysis:

- Conduct statistical tests and analyses to gain insights into the characteristics of gold price movements.
- Explore correlations with external factors and macroeconomic indicators.

Considerations:

- Users are advised to validate the accuracy and reliability of the information.
- Be aware of limitations and biases inherent in financial databases.
- Acknowledge the potential impact of external events on gold prices.

Expected Deliverables:

- Time series visualizations illustrating trends and patterns.
- Predictive models for future gold price forecasting.
- Back-tested trading strategies with performance metrics.
- Market sentiment analysis reports highlighting key events and their impact.
- Statistical analyses providing insights into the characteristics of gold price movements.

This project caters to researchers, analysts, and data enthusiasts seeking to gain a deep understanding of historical gold price trends and patterns, enabling them to make informed decisions, develop trading strategies, and contribute to the broader understanding of market behavior.