

# Gold Price Prediction Using Machine Learning

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# INTRODUCTION

## → GOLD IS A GLOBALLY TRUSTED INVESTMENT ASSET

- Gold prices fluctuate due to inflation, USD index, stock market, and crude oil prices.
- Predicting gold prices helps investors reduce financial risk.
- Machine Learning helps analyze complex historical patterns.





# PROBLEM STATEMENT

→ **FINANCIAL MARKETS ARE HIGHLY VOLATILE.**

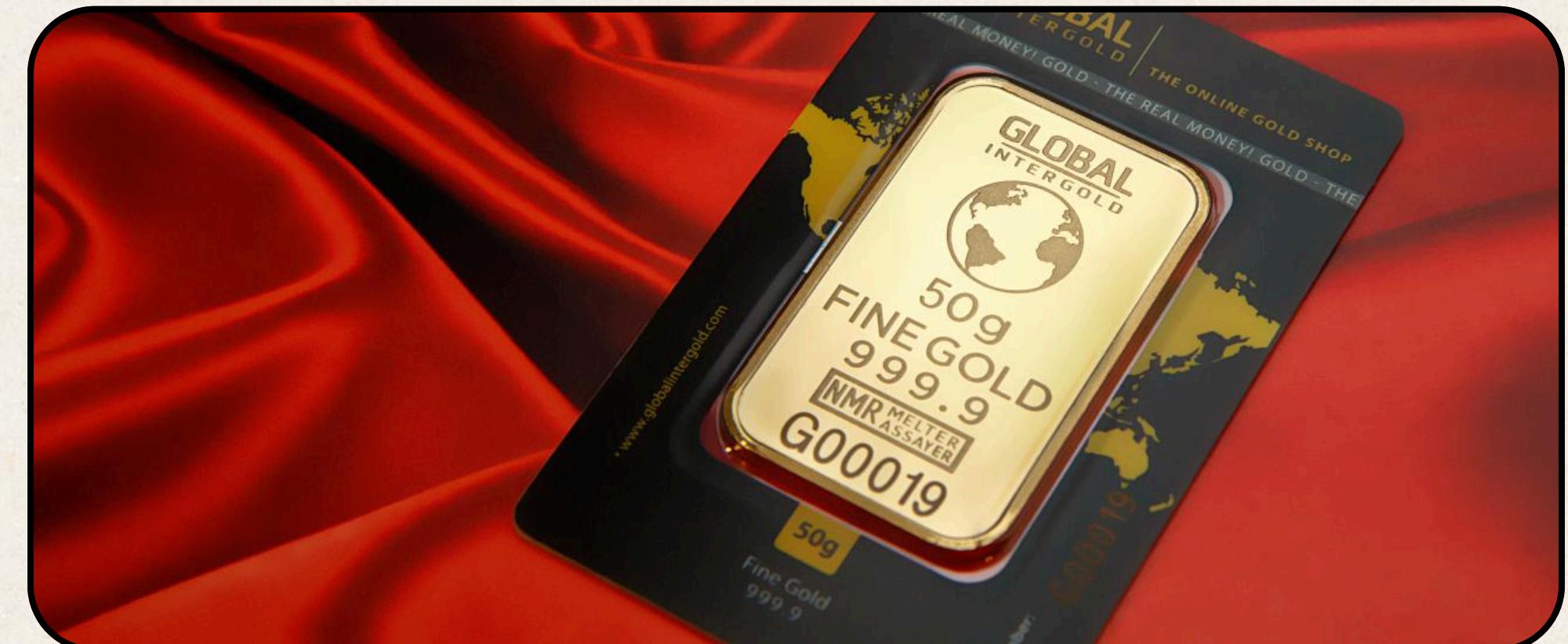
- Need an *intelligent regression model* to forecast gold prices accurately.
- Goal: Improve prediction accuracy using ML algorithms.
- Manual prediction is inaccurate and risky.

# DATASET OVERVIEW

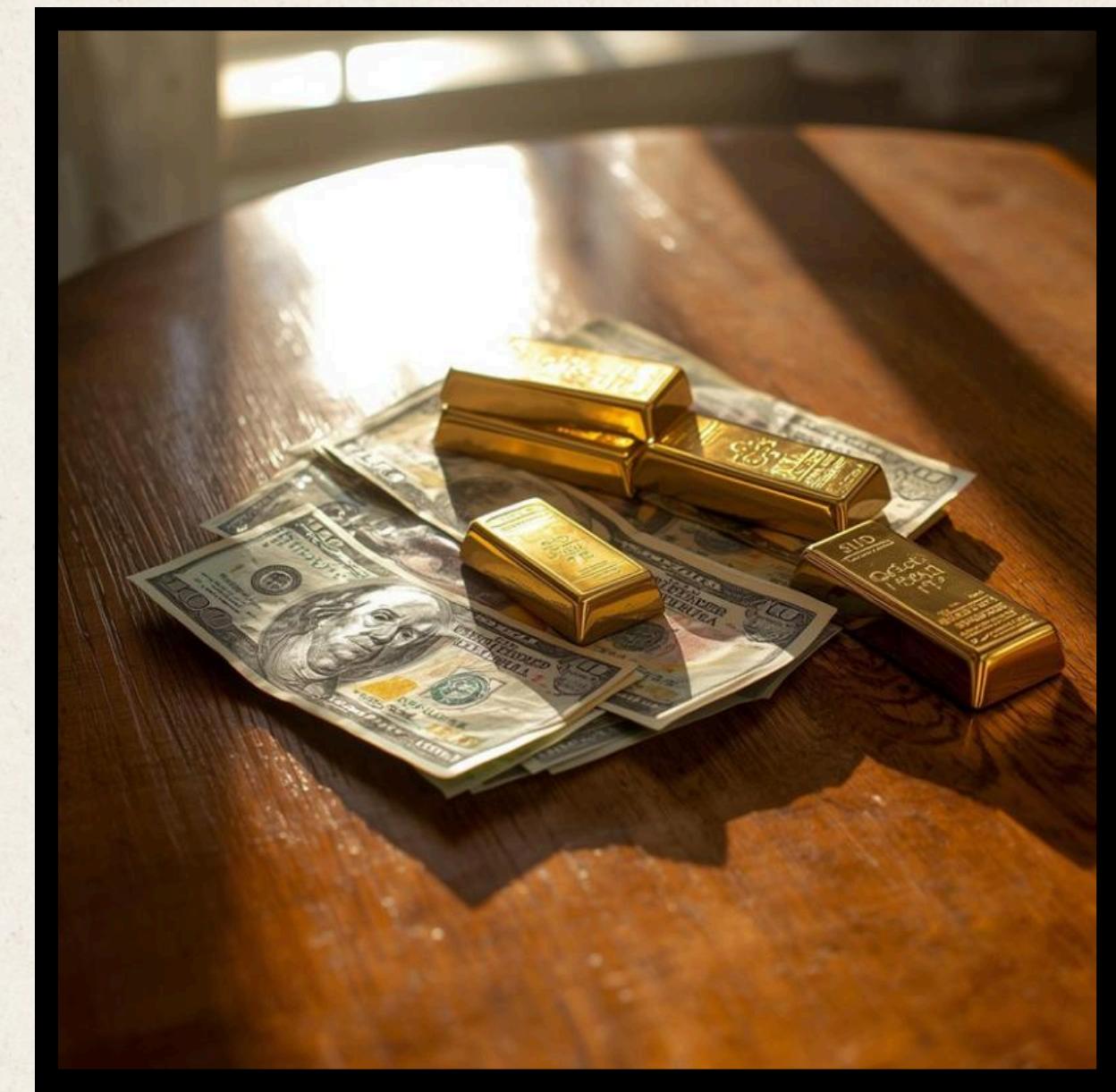
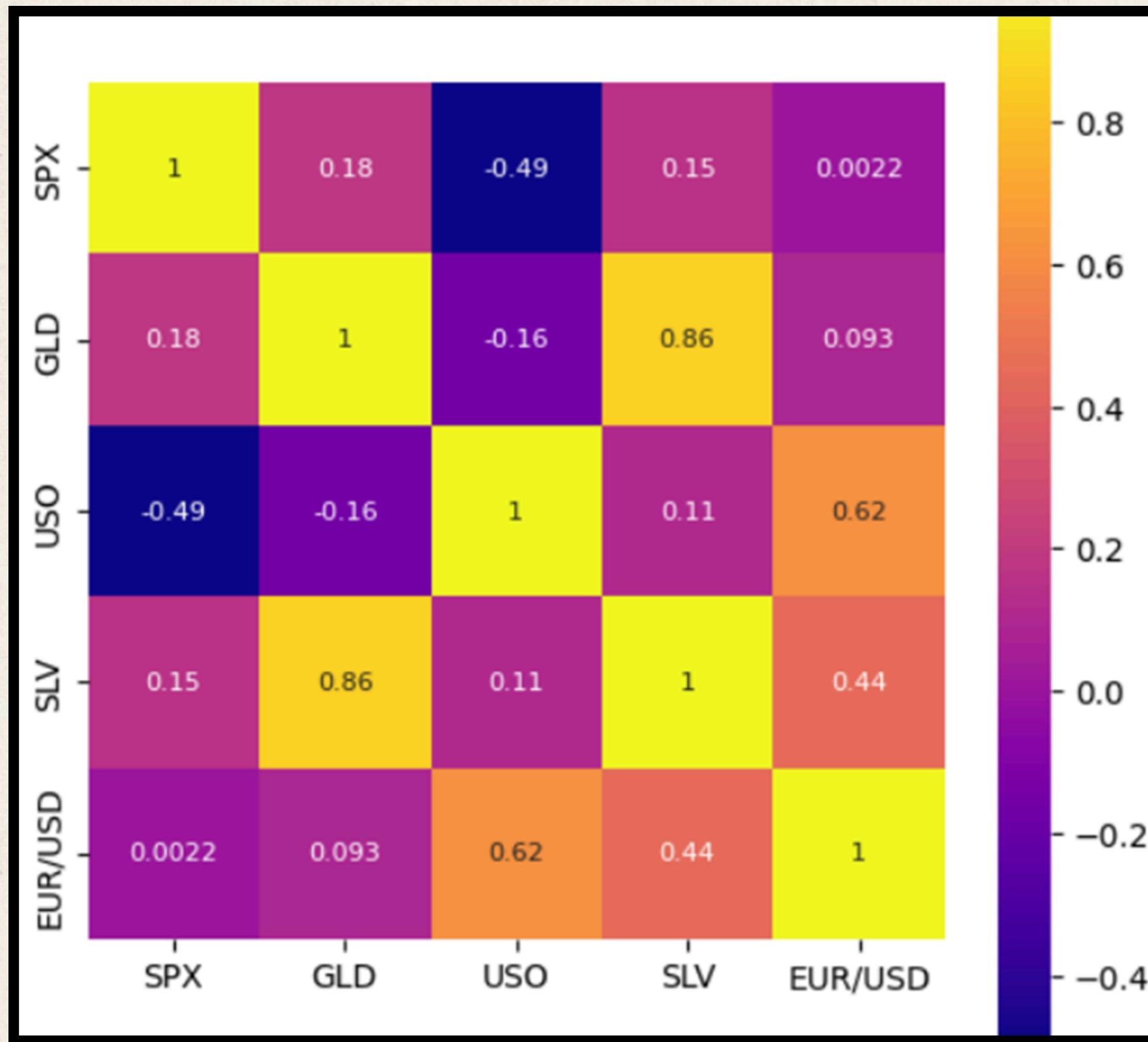


•Dataset includes SPX, GOLD, USO, SLV, EUR/USD features.

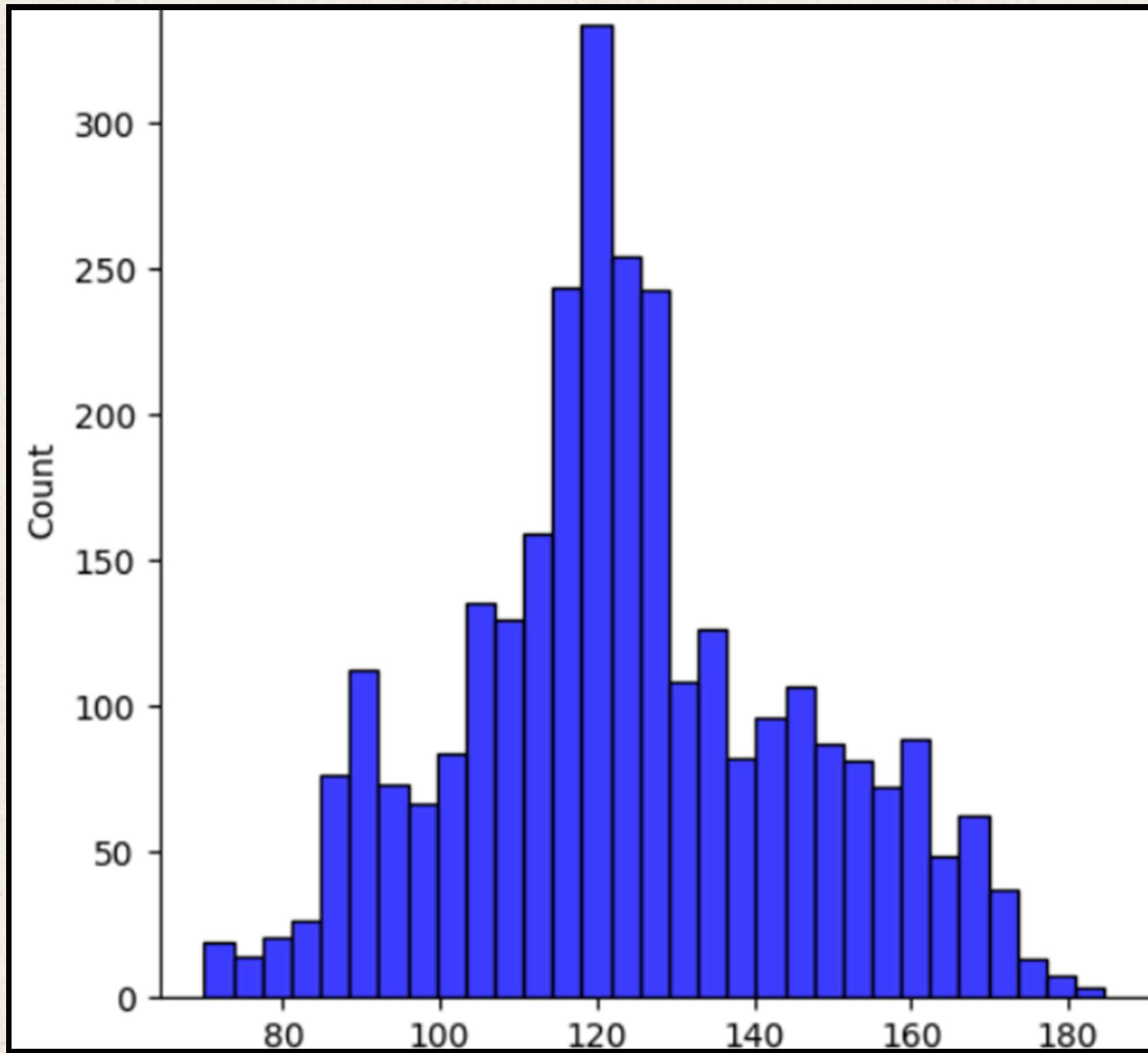
- GOLD represents gold price.
  - Multiple economic indicators influence gold trends.
  - Data cleaned and split into training and testing sets.



# → EARLY ADUANTAGE



# → DISTRIBUTION OF GOLD PRICES (GLD)

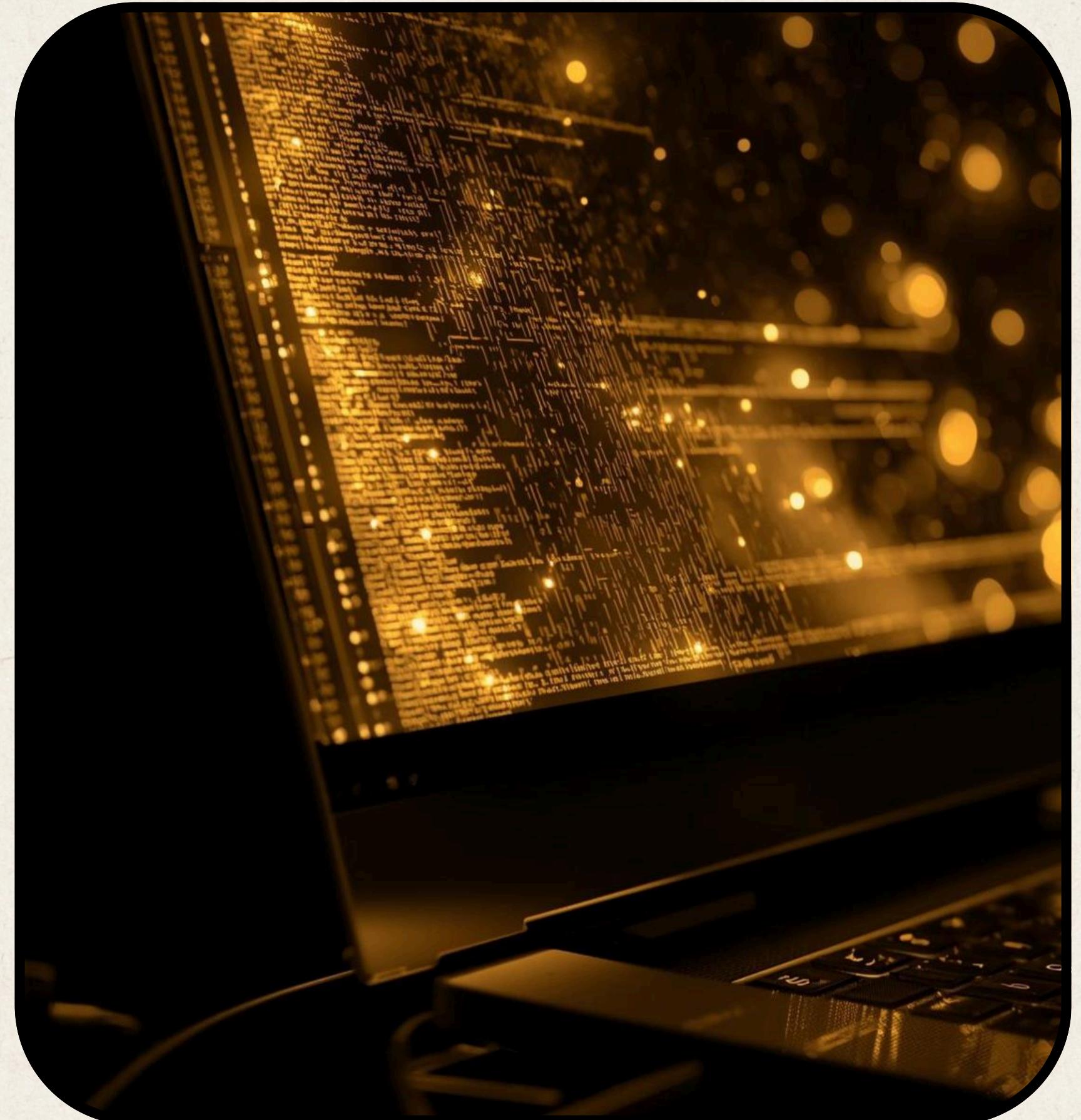


# MACHINE LEARNING MODEL

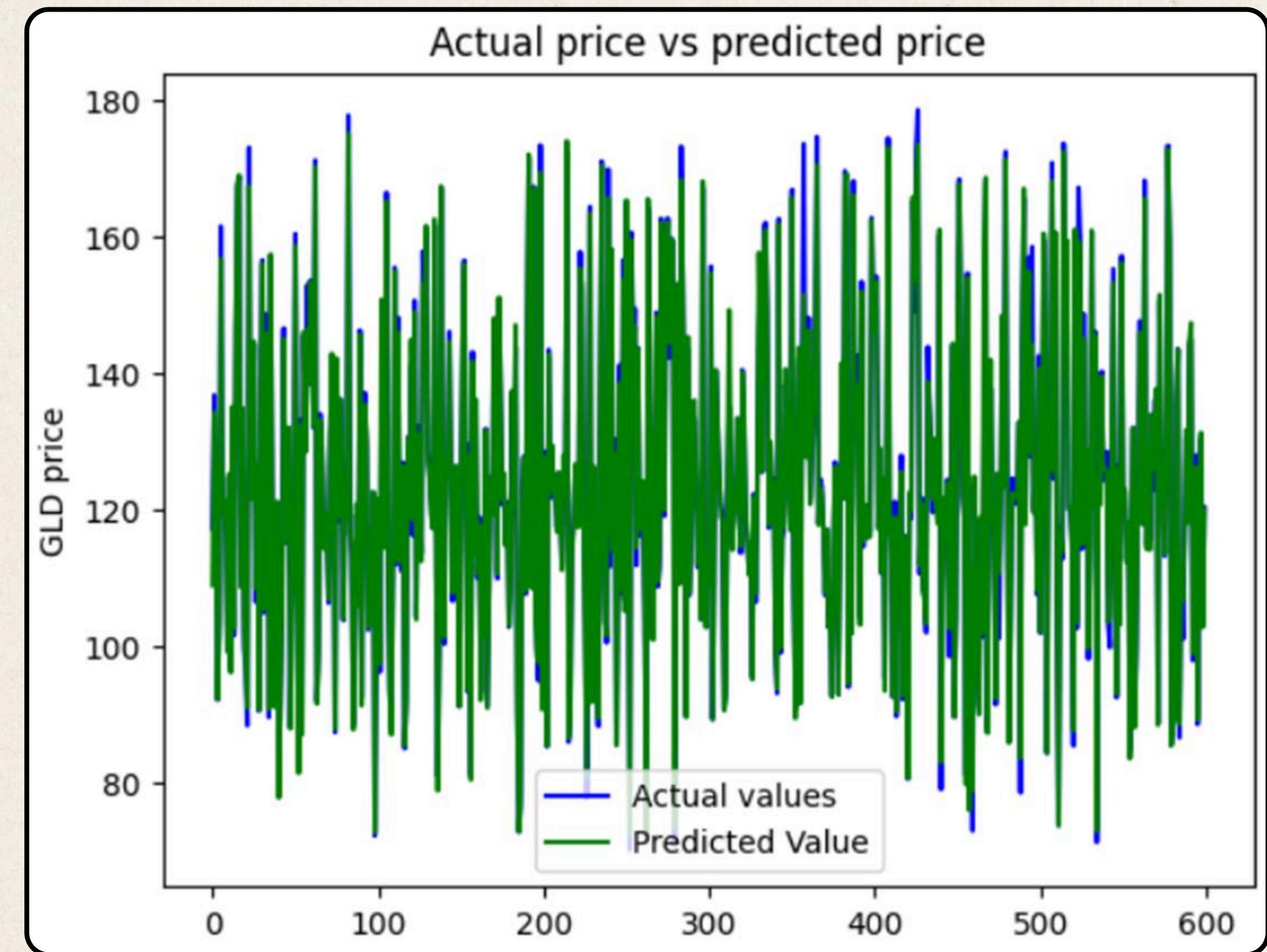
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## Applied Regression Algorithm for prediction

- Training data used to fit the model.
  - Testing data used for evaluation.
- Performance evaluated using  $R^2$  Score & Error metrics.



# Actual vs Predicted Gold Prices





# CONCLUSION

- ***Successfully built a predictive model.***
- *Strong correlation observed between actual and predicted values.*
- *Machine Learning improves financial forecasting.*
- *Model performance depends on data quality.*



# FUTURE SCOPE →

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- Implement Deep Learning models (LSTM).
  - Use real-time gold price API integration.
  - Deploy as Web Application.
- Enhance feature engineering for better accuracy*

Future in the past



# THANK YOU

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