Project Title:

“Comparative Analysis of Stock Price Prediction Models: A Study Using Linear Regression, LSTM, and GRU”

Research Question:

How do traditional linear regression models compare with deep learning models like LSTM and GRU in predicting stock prices, and which model offers the best accuracy and performance in different market conditions?

Dataset:

https://uk.finance.yahoo.com/

Using **yfinance** library

Short Description:

This project aims to conduct a comparative analysis of three popular models—Linear Regression, Long Short-Term Memory (LSTM), and Gated Recurrent Unit (GRU)—for predicting stock prices. By leveraging historical stock price data, the study will assess the performance of these models in forecasting future stock trends. Linear Regression serves as a baseline model, representing traditional statistical approaches, while LSTM and GRU, as deep learning models, are used to capture complex temporal dependencies in the data. The project will evaluate these models based on prediction accuracy, computational efficiency, and their ability to handle volatile stock market conditions.