CAPSTONE PROJECT

STOCK PRICE PREDECTION USING RNN

Final Project

Presented By

LOSHIFA JOTHI R S
711721244031
III B.Tech CSBS
KGiSL Institute of Technology

PROJECT TITLE

STOCK PRICE PREDECTION USING RNN

AGENDA

1. Problem Statement
2. Project Overview
3. End Users
4. Solution and Value Proposition
5. The Wow Factor in Your Solution
6. Modelling
7. Results

PROBLEM STATEMENT

- Developing a predictive model to forecast future stock prices accurately is crucial for effective decision-making in financial markets.

- Utilizing historical stock price data and relevant features, we aim to train a robust RNN model for precise predictions.

- Assessing model performance using metrics such as Mean Absolute Error (MAE) and Mean Squared Error (MSE) will ensure reliable forecasting outcomes, aiding investors and traders in their market strategies.

PROJECT OVERVIEW

- The primary goal of this project is to implement an efficient system for accurately predicting future stock prices.

- Leveraging Recurrent Neural Networks (RNN) and historical stock price data, the project aims to capture temporal dependencies and patterns to enhance forecasting capabilities.

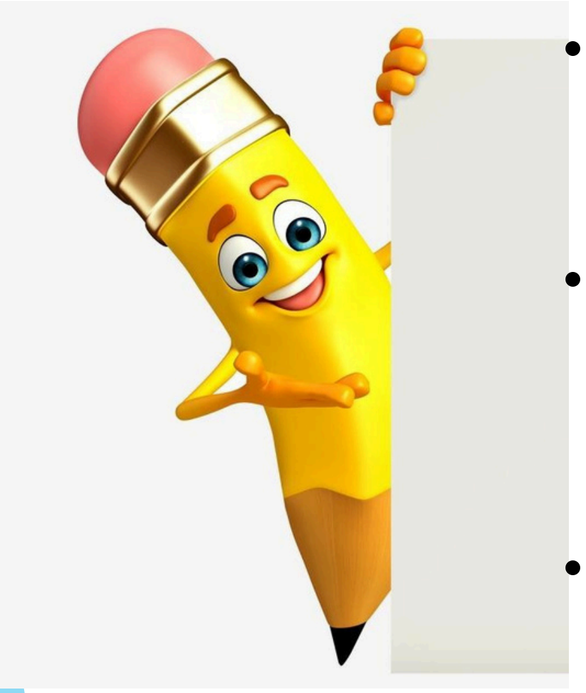
WHO ARE THE END USERS?

- The end users of this stock price prediction system would primarily include investors, traders, and financial analysts who rely on accurate forecasts for making informed decisions in the stock market.

- Furthermore, financial institutions, hedge funds, and investment firms could also benefit from such predictions to optimize their investment strategies and manage portfolio risks effectively.

- Additionally, regulatory bodies and government agencies may utilize these predictive models to monitor market trends and ensure compliance with financial regulations.

YOUR SOLUTION AND ITS VALUE PROPOSITION



- Our solution utilizes a comprehensive methodology for stock price prediction, encompassing data preprocessing, feature selection, and Recurrent Neural Network (RNN) modeling.
- The value proposition of our solution lies in its capacity to provide accurate and timely forecasts of future stock prices, empowering investors and traders with actionable insights for making informed decisions in the financial markets.
- By leveraging historical stock price data and capturing complex patterns using RNNs, our system facilitates proactive decision-making, thereby optimizing investment strategies and potentially maximizing returns on investments.
- Deploying our system enables stakeholders to navigate market volatility with greater confidence, mitigate risks, and capitalize on emerging opportunities, ultimately enhancing their overall performance and competitiveness in the financial landscape.

THE WOW IN YOUR SOLUTION

- Our solution leverages advanced RNN technology, continually learning from market data to provide up-to-date predictions, ensuring adaptability to evolving market conditions.

- With a user-friendly interface and seamless integration capabilities, our solution easily integrates into existing financial systems, simplifying deployment across diverse platforms and institutions.

- Powered by sophisticated machine learning algorithms, our solution delivers accurate and timely stock price predictions, empowering investors with actionable insights for informed decision-making in the financial markets.

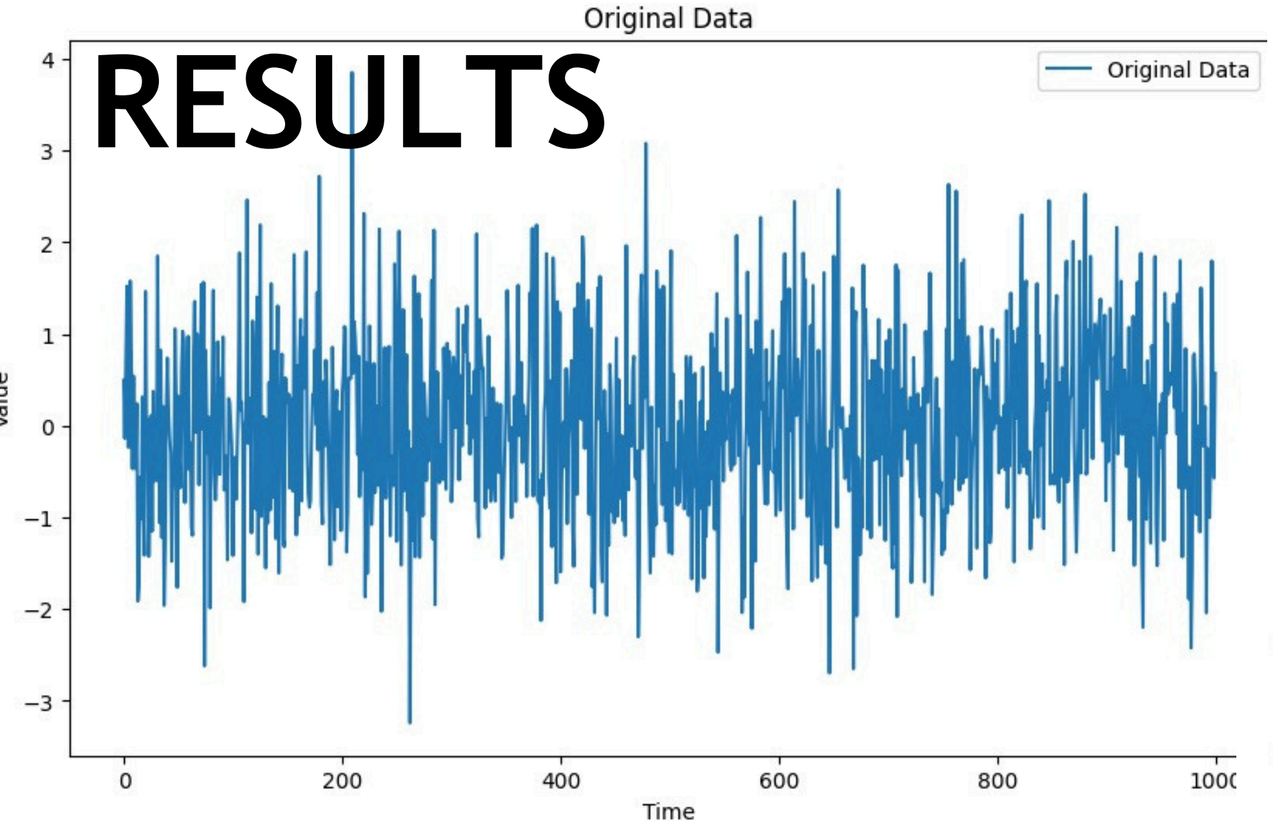
MODELLING

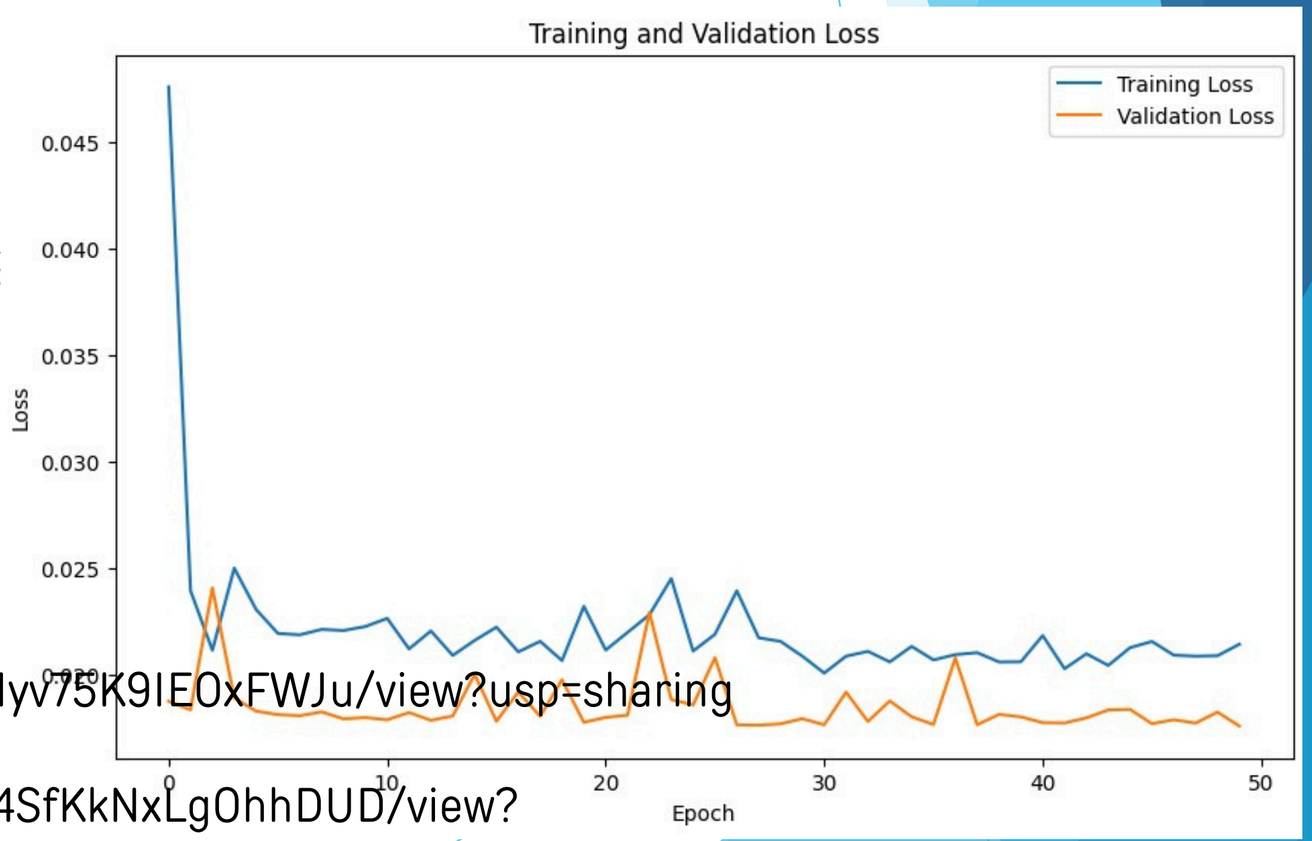
During the modeling phase, we begin with data preprocessing to clean and prepare the dataset, followed by feature selection to identify relevant predictors for our RNN model.

The RNN model is trained on historical stock price data, learning temporal dependencies and patterns crucial for accurate predictions.

Evaluation of the model's performance is conducted using a separate test dataset, where metrics like Mean Absolute Error (MAE) and Mean Squared Error (MSE) are calculated to assess prediction accuracy.

RESULTS





https://drive.google.com/file/d/174_CpN2tI56xB3FcTHyv75K9IE0xFWJu/view?usp=sharing

https://drive.google.com/file/d/1rtLE9Hm_GEa8jkKdq4SfKkNxLgOhhDUD/view?usp=sharing