

Welcome to StockFlux - Stock Trend Prediction Made Simple!

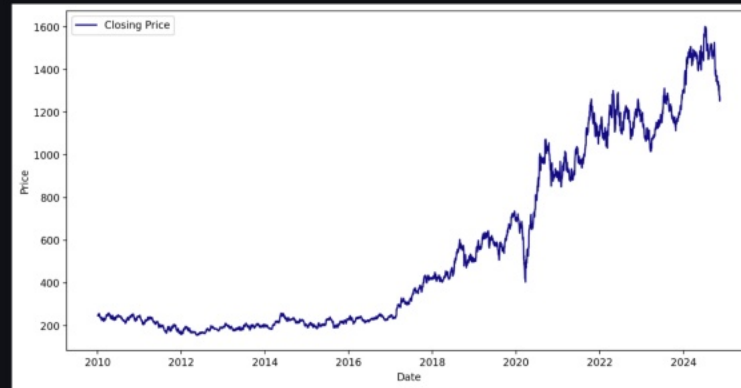
Developed by - Riddhi
Chaplot(E23CSEU0425)
Akinchan Jain(E23CSEU0423)



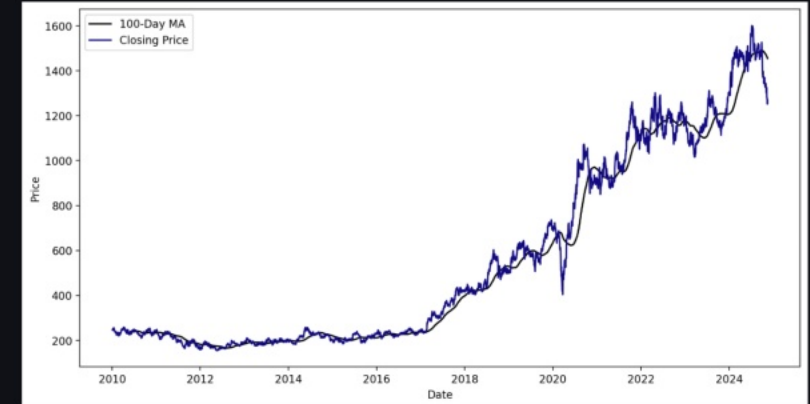
Submitted to - Dr. Susmita Das

Features

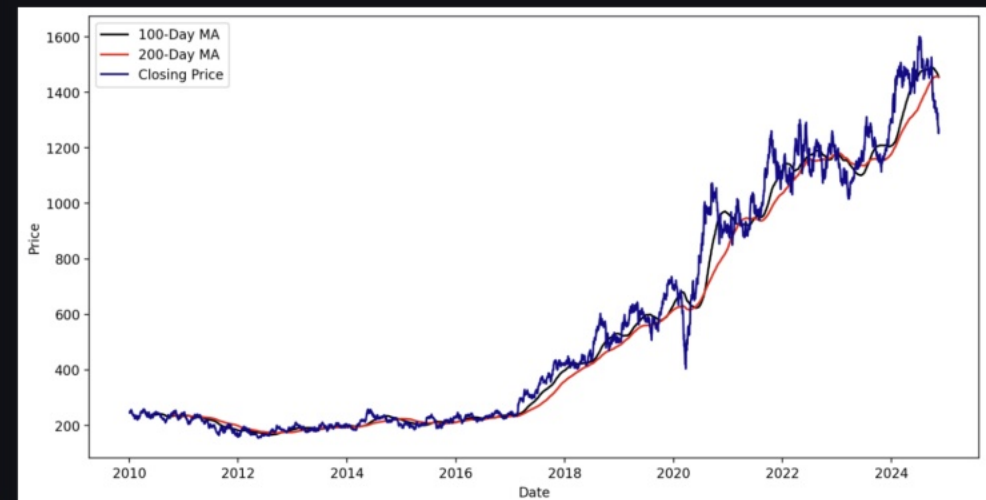
Closing Price vs Time



Closing Price vs Time with 100-Day Moving Average



Closing Price vs Time with 100-Day & 200-Day Moving Averages

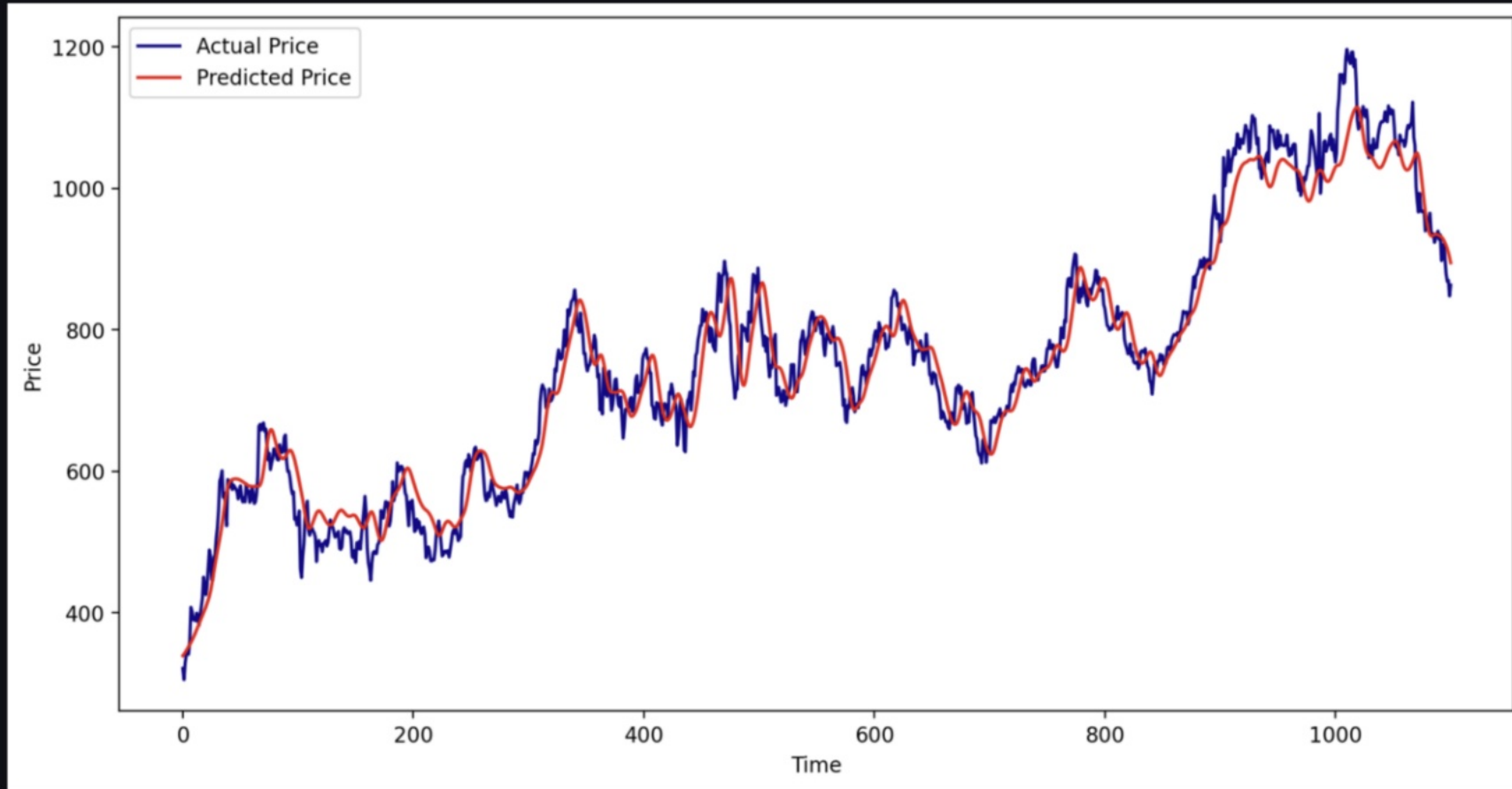


Feature 1: Stock Trend Prediction

- Uses advanced Machine Learning models to predict stock trends.
- Provides visualizations of closing prices, 100-day moving averages, and 200-day moving averages for clearer insights.
- Helps investors anticipate market movements and plan accordingly.

Model implementation for Reliance India.

Predicted vs Actual Prices



Features

Feature 2: 50-Day Candlestick Stock Data

- Visualize 50 days of stock price movement with candlestick charts.
- Offers insights into opening, closing, high, and low prices for each trading day.
- Empowers users to identify patterns like trends, reversals, and consolidations.

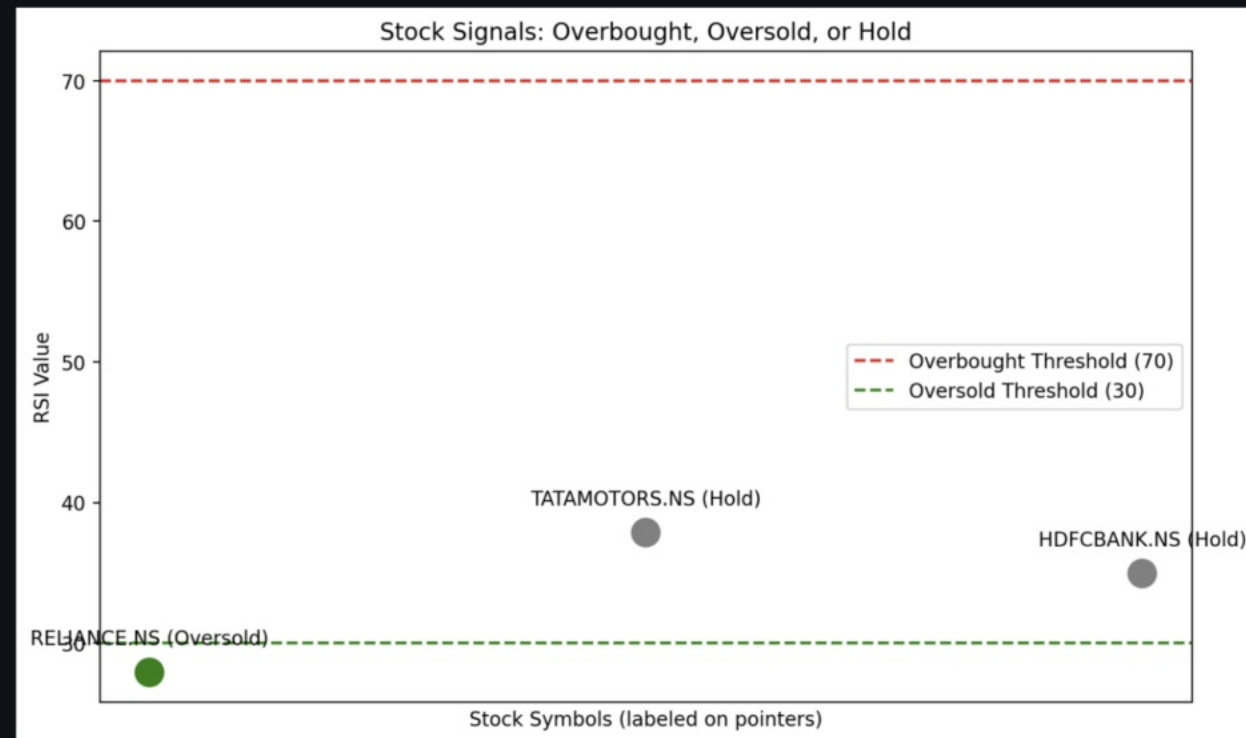


Features

Feature 3: RSI-Based Portfolio Prediction Optimize Your Portfolio Using RSI Insights

- Calculates the Relative Strength Index (RSI) to assess stock momentum.
- Categorizes stocks as Overbought, Oversold, or Hold based on RSI thresholds.
- Assists in optimizing investments and reducing risks.

Stock Signal Chart (Based on RSI)



RSI Signal Summary

RELIANCE.NS: Oversold (RSI: 27.91)

TATAMOTORS.NS: Hold (RSI: 37.86)

Why StockFlux Matters?

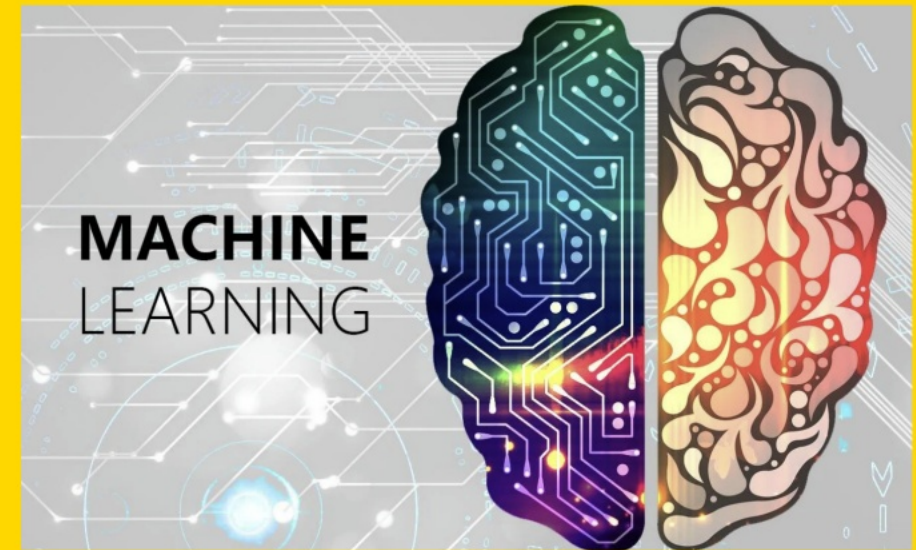
- Informed Decision-Making: Empowers users to make data-backed investment decisions.
- Risk Management: Minimizes risks with accurate stock predictions and RSI signals.
- Visualization: Simplifies complex stock data with clear visual tools.
- Accessibility: Makes high-level financial analysis available to all users, not just experts.



ML Models and AI Technologies Used

The Power Behind StockFlux.

- Recurrent Neural Networks (RNN): Used for time-series data prediction.
- LSTM (Long Short-Term Memory): To model sequential data trends and predict closing prices.
- Data Normalization: Achieved using Min-Max Scaler for consistent model performance.
- Interactive Libraries: Leverages Streamlit for UI and Plotly for interactive charts.



Areas of Use

Who Can Benefit from StockFlux?

- Individual Investors: For smarter personal investments.
- Financial Analysts: Simplifies data interpretation for client portfolios.
- Traders: Identifying short-term opportunities using candlestick patterns.
- Educational Purposes: Demonstrates AI applications in finance.



Project Overview

- Objective: Create a comprehensive tool for stock prediction and analysis.
- Core Features: Trend prediction, candlestick charts, RSI signals.
- Technologies Used: ML algorithms, Streamlit, Plotly, Yahoo Finance API.
- Result: A user-friendly platform that simplifies stock analysis.



StockFlux - Stock Trend Prediction

By Riddhi Chaplot (E23CSEU0425) & Akinchan Jain (E23CSEU0423)



Stock Trend Prediction

Analyze stock trends with a data-driven approach

Enter Stock Symbol (e.g., RELIANCE.NS)

RELIANCE.NS

Show Data and Prediction

Work Distribution

Riddhi Chaplot:

- Designed UI/UX with Streamlit.
- Integrated APIs for real-time stock data.

Akinchan Jain:

- Developed prediction models using LSTM and RNN.
- Visualized stock trends and RSI charts.

Thank You!

"Transforming Data into Decisions"



We hope StockFlux inspires confidence in your investment journey!

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