# PyPred

An Investment Strategy Project using RSI , Candlestick model and EMA Model with python

An investment strategy that combines RSI ,candlestick and EMA models along with a stock predictor can provide insights into when to buy or sell securities, creating significant returns for investors.

Introduction to Investment Strategy

Investment strategy is the process of selecting the right mix of securities to achieve the desired investment objective. It requires a thorough understanding of market trends, economic indicators, and company financials to identify opportunities that can help investors grow their portfolio.
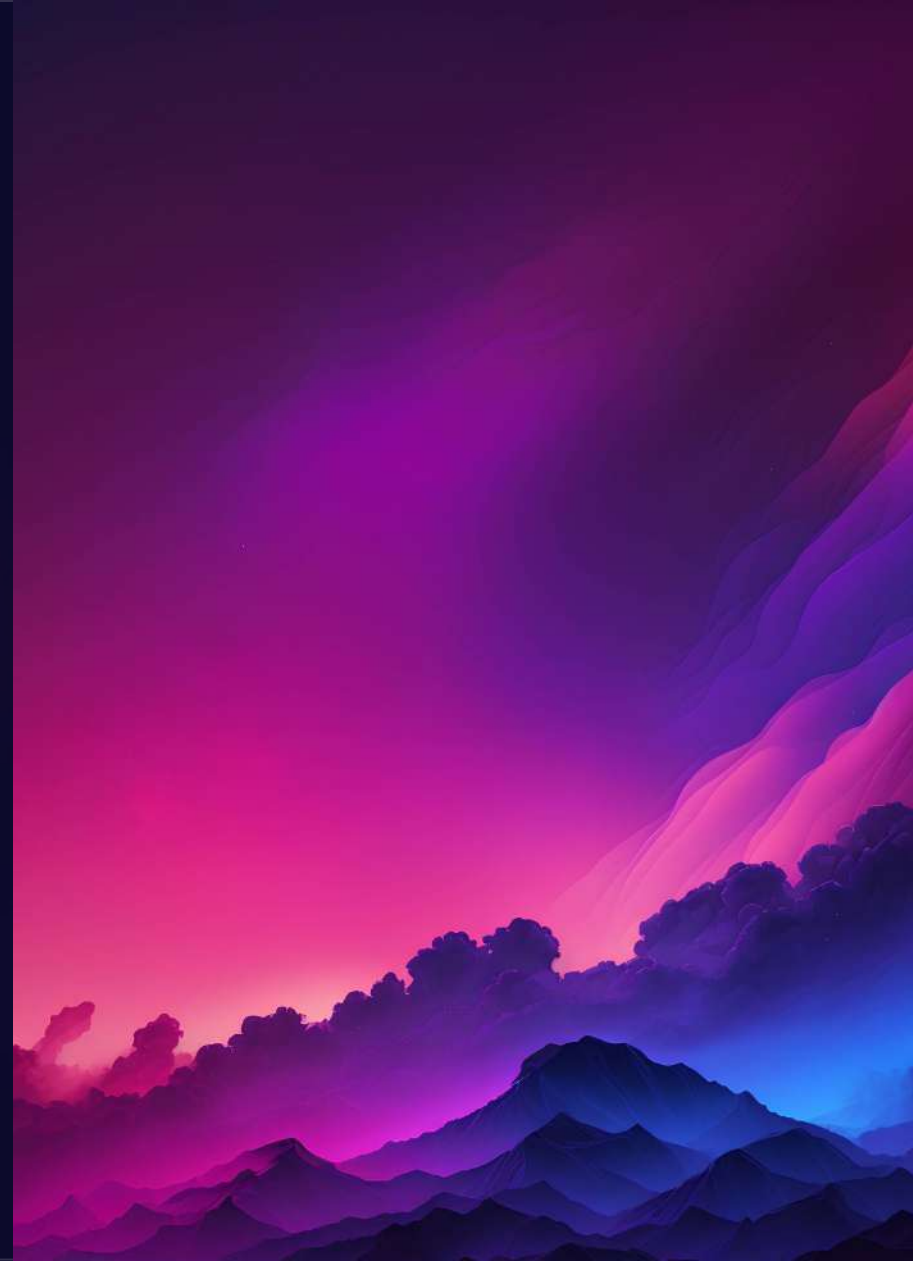
# Overview of RSI , Candlestick and EMA Models

Candlestick Models

A technical analysis tool used to identify securities that are trending up or down. Bullish and bearish candlesticks provide guidance on when to enter or exit a trade.

Relative Strength Index (RSI)

An oscillator that measures the strength of an asset's price action. It's used to identify overbought or oversold conditions in a security and to gauge the momentum and trend direction.

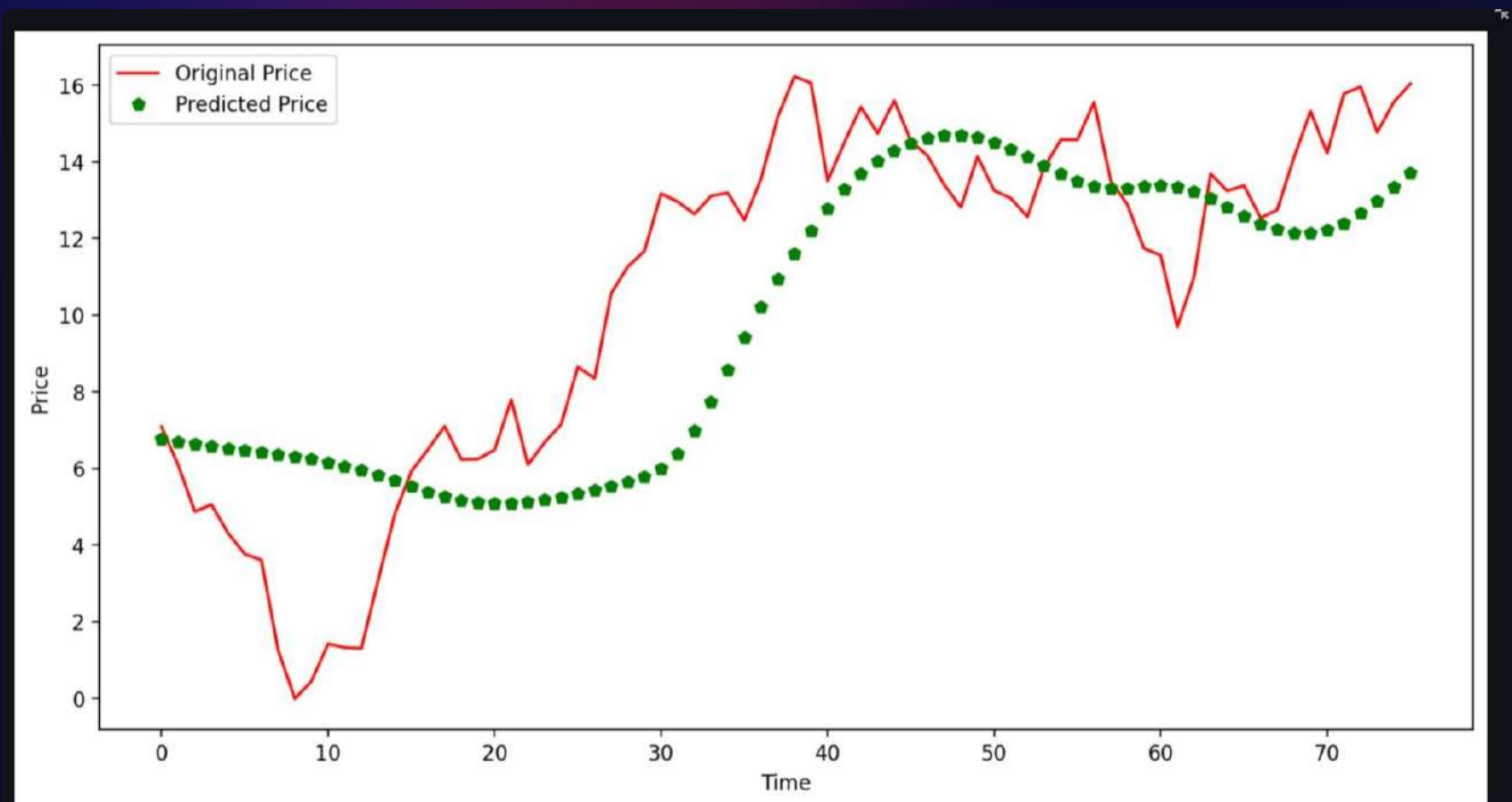20-period exponential moving average (EMA)
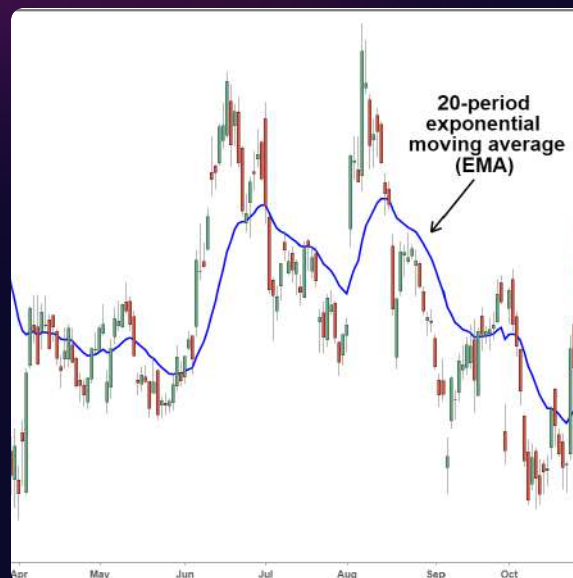
Exponential Moving Average (EMA) Indicator

EMA is a technical indicator used in trading to track the average price of an asset over a period of time, giving greater weight to recent prices. It can help identify potential trend reversals earlier than other moving averages.

Stock Predictor using Machine Learning

Machine learning algorithms, such as decision trees and neural networks, offer a way to analyze complex data sets to predict market trends. By creating a model that uses technical indicators like RSI and candlestick patterns, investors can predict how a stock will perform in the future.

TECH STACKS USED TO IMPLEMENT THIS MODEL: Scikit, Pandas ,Numpy, Keras

How RSI , Candlestick Models and EMA Indicators are Used in Python

1 Install Python Libraries

Using the pandas and pandas-datareader libraries in Python, we can easily obtain stock market data from Yahoo finance and perform data analysis on it.

2 Plot the Trend Lines

With the data, select the stock and plot the trend lines using candlestick patterns,RSI indicators and EMA Indicators to predict market trends.

3 Use Machine Learning Algorithms

By applying machine learning algorithms like decision trees and neural networks to the data with RSI and candlestick patterns, you can make predictions about stock prices.

Benefits of Using RSI , Candlestick and EMA Models in Investment

1 Increased Precision 🔍

RSI ,candlestick and EMA models provide investors with a more precise way to analyze market trends and make better decisions.

2 Reduced Risk 🔒

By providing clear signals to buy or sell, investors can avoid losses due to market fluctuations and reduce investment risk.

3 Better Returns 💰

By providing better insights into market trends, investors can achieve better returns on their investments.

Real-world Examples of Successful Investment Strategies Using RSI and Candlestick Models in Python

Gold Investment Strategy

Applying RSI and candlestick models to identify the right entry and exit points has helped investors earn significant returns in the gold market.

Netflix Stocks Strategy

Using machine learning algorithms, investors have successfully predicted the trends and gained high returns in Netflix stocks.

Apple Investment Strategy

RSI patterns have proven to be effective in predicting the stock market trends and identifying the right entry and exit points for Apple stocks.

Tech Stacks Used:

1.Python for Machine Learning Models and backend.

2.Streamlit for frontend.

Conclusion and Key Takeaways

RSI ,candlestick and EMA models with Python help investors make more informed decisions about when to buy and sell securities. By using technical indicators and machine learning algorithms, investors can reduce risk and increase returns on their investments. With the right investment strategy, the potential for success is limitless.

Team Members

NIT Rourkela

Arya Bhattacharyya-Electrical Engineering

Kinjal Bhattacharyya-Electrical Engineering