



# Stock Market



Predicting Stock Market Prices using  
Artificial Intelligence

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Presented by

**Ayush Chaudhary 63**  
**Abhilash Raj 07**  
**Akeel Ahmad 20**  
**Anushika Sadhwani 42**  
**Akash Bharti 19**



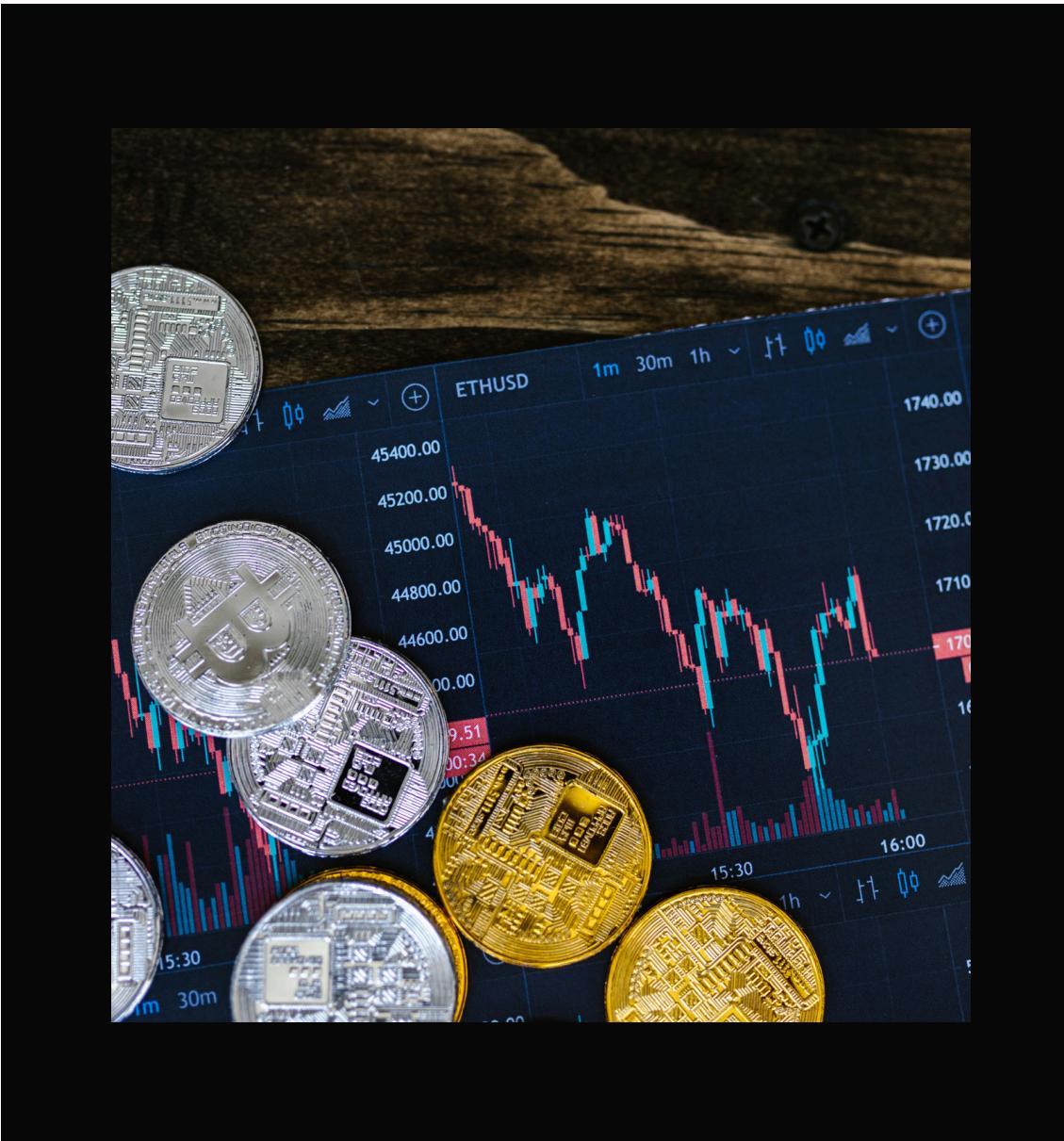


# Problem Statement

## Why is a Prediction Model Needed? ↗

- Informed Decision-Making:
- Investors rely on price forecasts to decide when to buy, hold, or sell stocks. A prediction model helps reduce uncertainty and supports more strategic financial planning.
- Automation in Trading:
- Quantitative models can be integrated into algorithmic trading systems for real-time execution based on predicted prices.
- Risk Management:
- Accurate forecasts allow institutions to manage exposure, hedge portfolios, and prepare for potential losses.





# Introduction



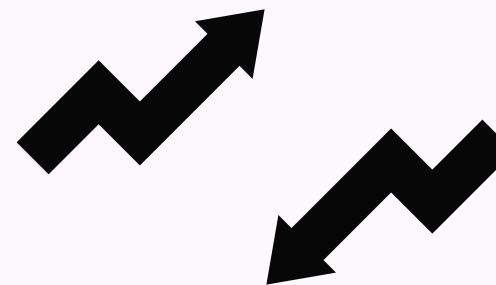
The stock market is inherently volatile, driven by a combination of technical patterns, investor behavior, and global economic factors. Accurately forecasting the future price of a stock remains a critical challenge for traders and investors.

So we will try to predict the price of the stocks using linear regression algorithm.



# Methodology

## LINEAR REGRESSION

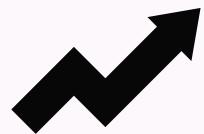


Linear regression is a type of supervised machine-learning algorithm that learns from the labelled datasets and maps the data points with most optimized linear functions which can be used for prediction on new datasets. It assumes that there is a linear relationship between the input and output, meaning the output changes at a constant rate as the input changes. This relationship is represented by a straight line

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## Data Overview



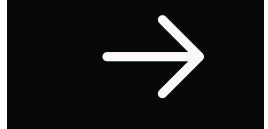
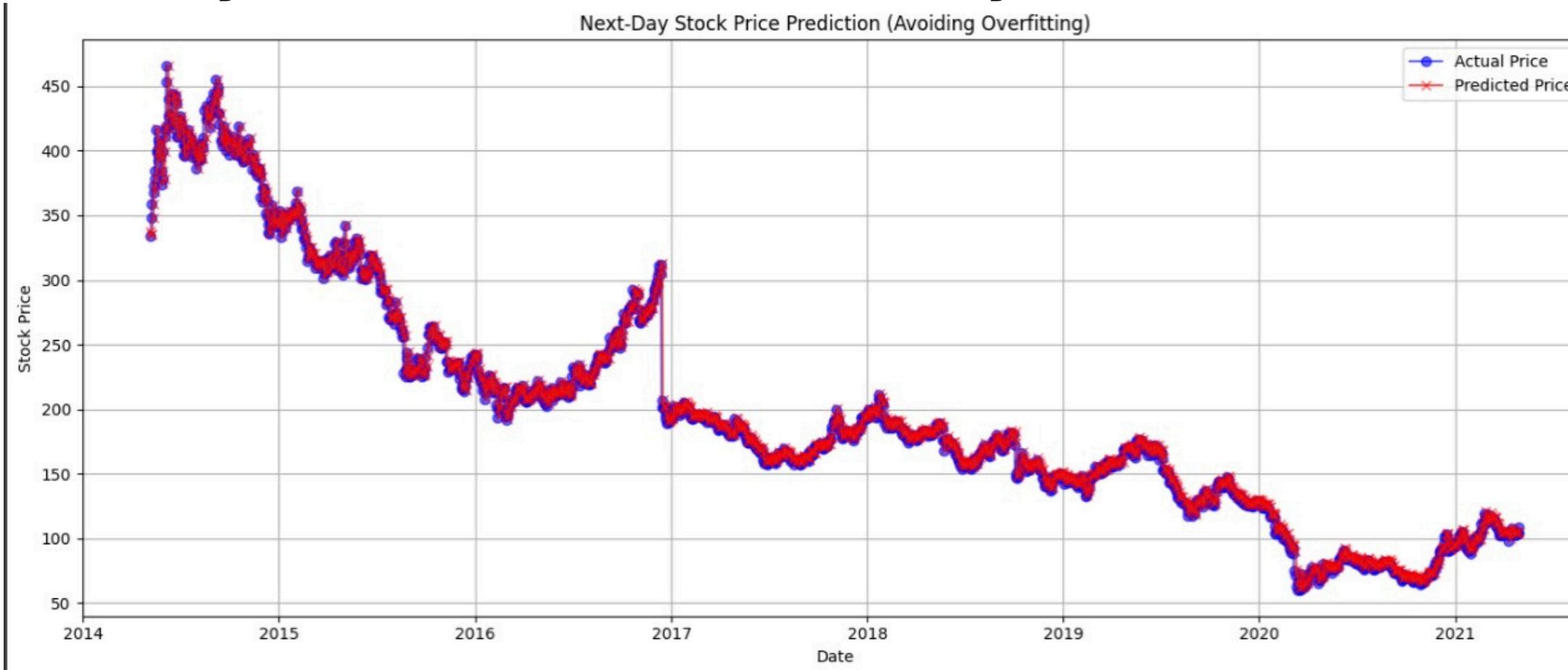
We have taken historical data of Adani Ports and ONGC from Kaggle. The dataset includes closing day prices from 2007-2021 for Adani Ports and 2000-2021 for ONGC.





# Results ↗

Since we are using a very simple algorithm(Linear Regression) the model will not perform very well in the real world since stock markets are inherently chaotic. Prices can sometimes stay stable for years and sometimes they fluctuate massively in seconds.



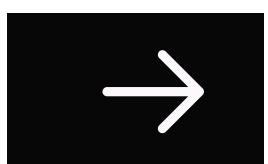


# Performance Evaluation

R<sup>2</sup>:0.9

MAE:4.50

RMSE: 7.44



# Conclusion

- The project aimed to predict the next-day closing price of Adani Ports (ADANIPORTS) and ONGC using historical stock data and technical indicators.
- A Linear Regression model was implemented due to its simplicity, interpretability, and suitability for establishing baseline performance in regression tasks.
- The model used lagged closing prices to forecast future prices.





Thank You



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