

PREDICTION OF STOCK PRICES

A person's hands are holding a smartphone in the foreground, displaying a collage of various images including a sailboat, a person on a golf course, and a car. In the background, a laptop is open on a white desk, showing a webpage with text and images. To the right of the laptop is a clear glass of water. The entire scene is set on a white desk, and the text is overlaid on the image.

USING MACHINE LEARNING

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Introduction

This project focuses on predicting stock prices using a simple yet powerful machine learning technique: linear regression. Stock price prediction is a crucial aspect of financial markets, where accurate forecasts can guide investment decisions, trading strategies, and risk management.

Objective:

The main goal of this project is to develop a linear regression model that can predict the closing prices of stocks based on historical data. By using historical prices and computed features like moving averages and volatility, we aim to create a model that provides insights into future price movements.



IMPORTANCE

Accurate stock price predictions can:

1.

Help investors make informed decisions on buying or selling stocks.

2.

Aid in portfolio management by optimizing asset allocation.

3.

Enhance trading strategies by identifying potential price movements.

4.

Support risk management by predicting potential losses and gains.

Objectives

Data Analysis:

- Examine Historical Data: Analyze the historical stock prices to understand trends, patterns, and volatility.
- Visualize Data: Create charts and graphs to visualize the stock's performance over time.

Model Building:

- Feature Engineering: Develop key features such as moving averages (e.g., SMA_20) and volatility to improve model performance.
- Linear Regression Model: Build and train a linear regression model to predict future stock prices based on historical data.

Evaluation:

- Model Assessment: Evaluate model's performance using metrics such as Mean Absolute Error (MAE) to quantify prediction accuracy.
- Result Analysis: Compare predicted prices against actual prices to assess the effectiveness of the model visually.

Coding Part

[https://github.com/Dhruv
coder1312/StockPriceAnal
ysis/blob/main/StockPrice
Analysis.ipynb](https://github.com/Dhruv coder1312/StockPriceAnalysis/blob/main/StockPriceAnalysis.ipynb)



THANK YOU

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