AppliedData Sience

VIDYAA VIKAS COLLEGE OF ENGINEERING AND TECHNOLOGY
M.SINDHUSRI

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INTRODUCTION

- LStock market prediction is the act of trying to determine the future value of a company stock or other financial instrument traded on an exchange. The successful prediction of a stock's future price could yield significant profit.
- One is Efficient Market Hypothesis (EMH) and another one is Random Walk Theory. Random walk theory: Random walk theory assumes that it is impossible to predict stock prices as stock prices don't depend on past stock.

Data Collection

Gather historical market data, including stock prices, volume, and relevant financial indicators. You can obtain this data from various sources, such as financial APIs or databases.

Data Preprocessing

Clean and prepare the data. This involves handling missing values, removing outliers, and ensuring data consistency. You may also need to format the data for time series analysis.

Feature Engineering

Create meaningful features that can help your model make accurate predictions. You can generate technical indicators (e.g., moving averages, RSI), sentiment scores, or macroeconomic factors as features.

MODEL SELECTION

Choose the appropriate machine learning or deep learning models for stock price prediction. Common models include ARIMA, LSTM, and various regression models.

TRAINING AND TESTING

Split your data into training and testing sets. Train your model on the historical data and validate its performance on the testing set to assess its accuracy.

EVALUATION

Use evaluation metrics such as Mean Absolute Error (MAE), Mean Squared Error (MSE), or Root Mean Squared Error (RMSE) to measure the model's performance. You can also use backtesting to assess the model's real-world profitability.

VISUALIZATION

Utilize bar charts or other types of visualizations to present your analysis and results. Bar charts can be helpful for displaying trends and patterns in the data.

Optimization

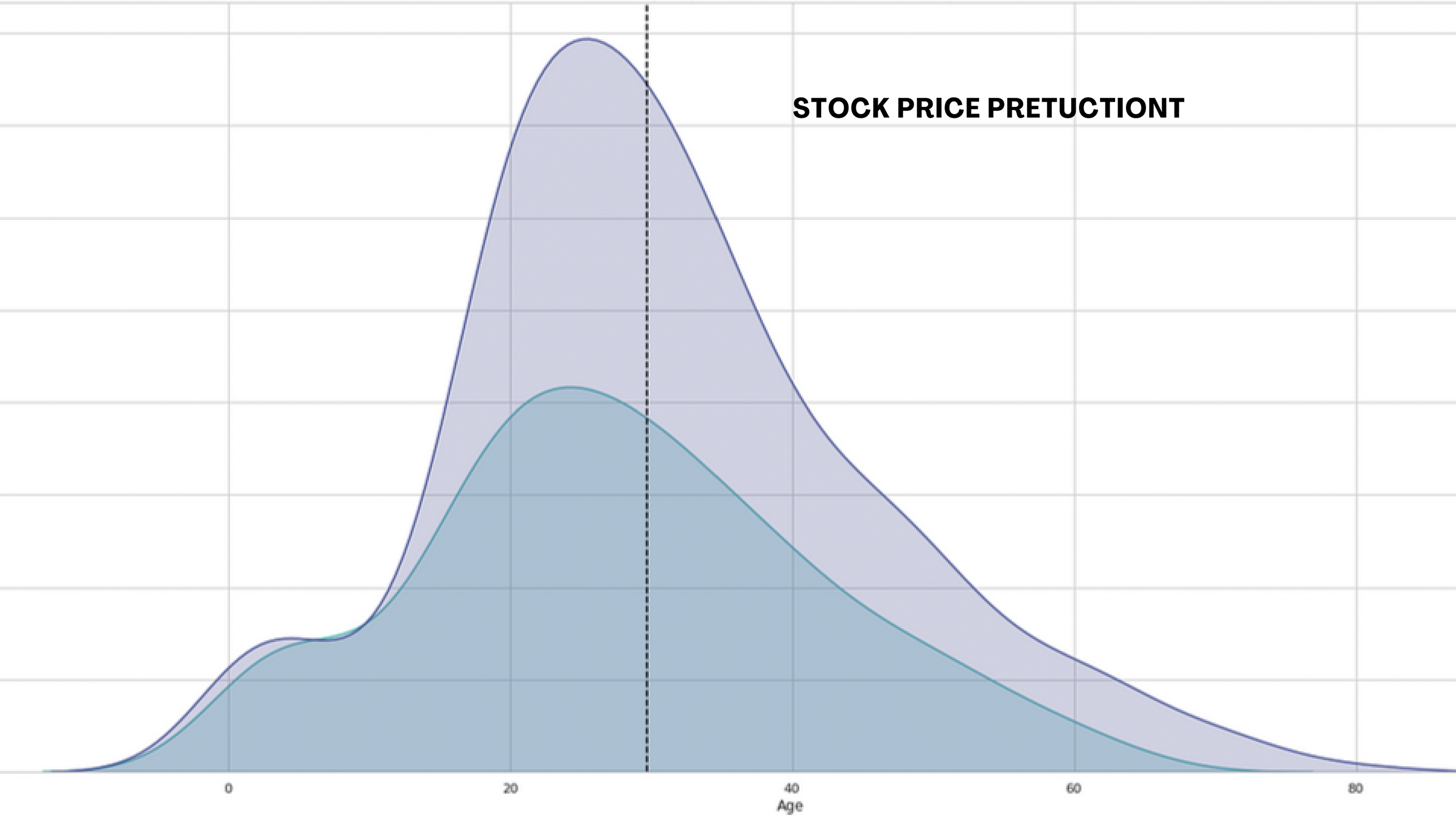
FINE-TUNE YOUR MODEL BY ADJUSTING HYPERPARAMETERS OR TRYING DIFFERENT ALGORITHMS TO IMPROVE ITS ACCURACY.

Deploymen

F THE MODEL PERFORMS WELL, CONSIDER DEPLOYING IT AS A TOOL FOR INVESTORS. THIS MIGHT INVOLVE CREATING A USER-FRIENDLY INTERFACE OR INTEGRATING IT WITH A TRADING PLATFORM

CONCLUSTION

Remember that stock price prediction is inherently uncertain, and past performance is not a guarantee of future results. It's essential to approach this project with a solid understanding of financial markets and a healthy dose of caution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