AIML PROJECT

MarketInsight

A Stock Prediction Model Using Historical Data and Sentiment Analysis

Abstract:

This project presents the approach to stock market prediction, leveraging the power of historical market data and news sentiment analysis. By combining these two key sources of information, we aim to develop a robust and accurate predictive model capable of forecasting future stock prices.

The methodology employed in this study involves several key stages: data collection, feature engineering, model selection and training, and model evaluation. Historical stock price data is gathered, including opening, closing, high, low, and volume information for the target stocks. News articles related to the target companies are collected and analysed for sentiment using natural language processing techniques.

Key features extracted from both historical data and news sentiment,

- Collecting Data: gather past stock prices and news articles about the companies we want to predict.
- Extracting Features: create features from the stock data (like moving averages) and the news articles (like positive or negative sentiment).
- Trained Models: use different machine learning models (like ARIMA, LSTM, or random forests) to learn from the data and predict future stock prices.
- Evaluating Models: testing how well our models work by comparing their predictions to the actual stock prices.

The expected outcomes of this project include the development of a robust stock market prediction model, identification of key factors influencing stock price movements, and practical applications for investors and financial analysts. By combining historical data and news sentiment analysis, we aim to contribute to advancements in the field of financial forecasting.

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