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Machine Learning-Based Indian Stock Market's Price Movement Prediction and Trend Analysis

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Abstract

Stock markets play an essential role in the economy by allowing entrepreneurs to raise funds and businesses to grow their operations with the help of market finance. In this project, we design a web application tool that does both the stock price prediction and trend prediction by applying some of the most important machine learning algorithms. We forecast the price of the stock by using the best-performing algorithm for the specified dataset along with buy or sell recommendations. For prediction, regression-type models such as linear regression, lasso regression, decision tree regression, ridge regression, Stochastic Gradient Descent (SGD), and Support Vector Regression (SVR) are used in this project. Moving Average Convergence Divergence (MACD) and Fibonacci retracements are also used to determine the uptrend and downtrend. We have found that linear regression performs well compared to the other algorithms.

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