PROJECT REPORT

STOCK PRICES PREDICTION USING MACHINE LEARNING

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Even though the author attempts to do his or her best, the author recognizes that this thesis is far from flawless. Finally, the writer anticipates criticism and ideas for the realization of excellent things from this thesis. The writer hopes that this thesis can be valuable for readers.

ABSTRACT

Prediction of stock price movements in the future will be an area that is widely researched. There is a hypothesis that it is considered impossible to predict stock prices, but it can also show that stock price forecasts can achieve a fairly high level of accuracy if properly formulated and modeled. This is because equity trading is one of the most important investment activities. Modeling and forecasting future stock prices based on current financial information can be very helpful to investors. They want to know if inventories go up or down in the short or long term. In this research, the author wants to analyze the comparison of accuracy and train the dataset using linear regression, lasso regression, LSSVM, LSTM, and CNN, then the accuracy will be calculated from the Mean Absolute Error (MAE), Root Mean Squared Error (RMSE) and Mean Absolute Percentage Error (MAPE). This can be used by investors in predicting stock prices using a more accurate algorithm. The findings reveal that the CNN model has a substantially lower accuracy value, while LSTM also performs well on specific datasets. However, there is one difference between these two models: the LSTM training time is slower than the CNN model. This is because computations in CNNs may occur in parallel (the same filter is applied to numerous circumstances at the same time), but LSTMs need to be processed sequentially, because the next step depends on the prior one.

Keyword: stock prices, regression, lstm, cnn, lssvm

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