ABSTRACT

Shares are one of the investment instruments with a form of ownership of value in companies that are in great demand because of the nature of liquid shares and can provide a large return value if the shares are sold, but shares also have drawbacks, namely the value of shares that change quickly and uncertainly so that if not being careful in buying and selling shares, the value of the shares owned can lose.

This makes the author carry out this final project to compare two different algorithms, namely Long Short Term Memory (LSTM) and Autoregressive Integrated Moving Average (ARIMA) through testing stock price predictions for the next 1 day against close data on stocks which are divided into several price fractions with The stock data testing limit used is stocks listed on the IDX in July 2021 with an interval of 1 day and a time span of 2 years using the Mean Absolute Error metric as a comparison of the performance of the algorithm being tested.

The results of the research conducted, there is a fact that the LSTM algorithm has difficulty predicting stock prices with an average Mean Absolute Error value of 2383 compared to the ARIMA algorithm which has better performance with an average Mean Absolute Error value of 38.98. This happens because LSTM is a complex algorithm so that if the data used does not have a good pattern, the algorithm will have poor performance. This is inversely proportional to the ARIMA algorithm which can predict future patterns well but the range of predicted data is limited.

Keywords: Stocks, LSTM, ARIMA, Deep Learning, Statistics