Abstract

Buying stocks can be one of the investment considerations besides buying gold, land, and others. Especially when there are stocks that have a small risk but have a high return. There has been a lot of research on stocks using various methods. Starting from the most conventional methods, to using Deep Learning. Deep Learning is one of the most talked about methods, because this method on average produces prediction models that have high accuracy. Therefore, in the final project, the prediction of stock returns on the IDX 30 index is carried out by building a stock return prediction model using a combination of Bidirectional LSTM and Cuckoo Search Optimization methods. There are a total of 20 stock data tested in this final project. In the first test, stock return predictions are obtained from stock price predictions which are processed into stock return predictions. While in the second test, stock return predictions are obtained from stock return data. In the first test 15 out of 20 stock data had smaller Root Mean Square Error and Mean Average Error values when the Bidirectional LSTM prediction results were combined with Cuckoo Search Optimization. While in the second test 8 out of 20 stock data have smaller Root Mean Square Error and Mean Average Error values when Bidirectional LSTM prediction results are optimized with Cuckoo Search Optimization.