

## ABSTRACT

Wavelet transform is one of the methods to extract the information of data by splitting the data into two parts, the approximate and detail. Approximate will capture the average of data while detail will capture the abrupt changes from the data. Such method is inspired from ARIMA where ARIMA also use the same approach by splitting the data into Auto-Regression and Moving Average part and then integrated the Auto-Regression and Moving Average. In ARIMA the Auto-Regression captured the regression part where data will predicted based on the previous data value while the moving average captured the error part of the data. This research has tested four models ANN, LSTM, Attention-LSTM and Inverse Transform. The stock data that is used for this research are the oil gas company and gold company stock prices. The company is also one of the biggest companies in the world. Those companies are Chevron, Exxon Mobil and Total S.A. for oil gas companies while Newmont, Barrick Gold and AngloGold Ashanti are the gold companies that used in this research. Based on the conducted experiment the best model is the Attention-LSTM model for predicting stock prices. However, the ARIMA model still performs better compared to Attention-LSTM. Still the difference is not very far and can have a better performance in the future.

Keywords: Stock Price, Wavelet Transform, ARIMA, ANN, LSTM, Attention-LSTM, Inverse Transform.