



PROJECT REPORT
EVALUATING COAL STOCKS WITH ANN, RANDOM FOREST
AND ARIMA MODEL

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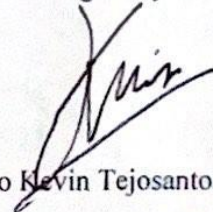
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ABSTRACT

Predicting the stock market has been challenging for years for so many people around the world. Previously, most predictions about stock price movement were done by applying Technical Analysis. With the rise of Machine Learning adoption, the application of machine learning has been combined with technical analysis which helped analysts and researchers to get better forecasts and results. Along with this trend, the usage of machine learning will increase as the technology keeps improving and the complexity on how to analyze the market will be even more difficult with so many variables coming up. Although there have been many papers that discuss the application of machine learning on stock prediction, there are only few papers that discuss the stock price predictions of Indonesian Market, specifically in forecasting coal stocks.

In order to solve the issue, in this paper the author proposes an idea to use Artificial Neural Network (ANN) and Random Forest and ARIMA Model that will be evaluated with Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), Mean Absolute Percentage Error (MAPE) and Mean Squared Error (MSE) as performance metrics of the prediction models.

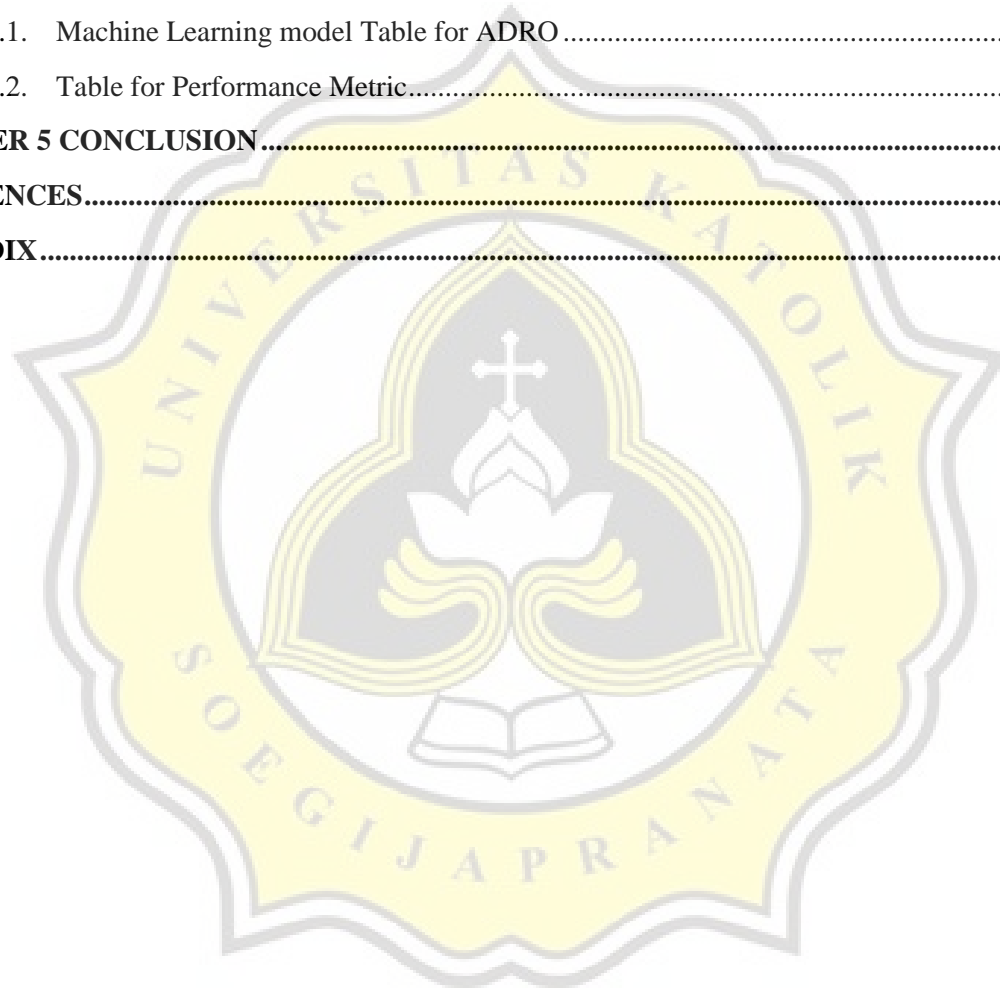
The results shows that ANN and ARIMA are suitable to forecast future coal stocks price. Random Forest has the highest error percentage among ANN and ARIMA Model. Therefore, the future research can explore further the effect of ARIMA Model and ANN in other industries.

Keywords : ADRO, RMSE., MAE, COAL

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