

## ABSTRACT

### ***Modeling Of The Movement Of The Price Of Oil Using Machine Learning***

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*Indonesia is a country that has abundant natural resources. Not only in the form of spices but also coal, copper, nickel, iron sand, tin ore, petroleum and others. Petroleum is a non-renewable natural resource. The petroleum sector is one of the mainstays for obtaining foreign exchange in the context of the sustainability of the country's development. However, the increasing need for this oil, which can be said to be quite high and also the world oil price which often fluctuates which causes prices to change frequently, causes people to struggle to get oil for their daily needs. Identification of the problem in this study is to find a way to make a model of oil prices, and the level of accuracy and predictions from the comparison of the KNN algorithm with Random Forest. The purpose of this study is to compare the KNN algorithm with Random Forest to create a model of oil prices, and measure the accuracy of the two algorithms. The research method used in this study is a quantitative research method. The method of data collection was carried out using the method of observation and reference studies. The data testing method used is white box testing. The results of this study indicate that the K-NN algorithm can be applied in making a model of oil prices. After comparing the results of the KNN algorithm with the Random Forest, it is proven that the KNN algorithm model is more optimal than the Random Forest. The K-NN algorithm model has R2 results of 0.99388, and RMSE 0.01797, while the Random Forest algorithm model has R2 results of 0.99368, and RMSE 0.01813.*

**Keywords:** *Petroleum Prediction, Machine Learning, K-Nearest Neighbors, Random Forest.*

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