ABSTRACT

Indonesia is called the second lung of the world after Brazil because of its vast forest area. Indonesia is an important supplier of oxygen, especially on the island of Kalimantan. Despite the many forests in Indonesia, the potential for forest fires in Indonesia can not be dismissed quite high. In recent years, there have been wildfires in Indonesia that have even brought negative impacts on the environment, even humans themselves. Forest fires are caused by two factors, human and natural. According to previous research, only 1% of fires are caused by nature and 99% by human hands. Therefore, there is a need for a system that can anticipate the potential for forest fires.

Human-caused forest fires cannot be predicted accurately but can be foreseen by knowing from nature. Knowing the temperature, humidity, wind speed, and rainfall can affect the potential for the red jago to appear. Not only do you predict with existing data but you can also do forecasting so that you can predict how much the potential for forest fires will occur using Machine Learning. Machine learning can process data, train data, so it can create new data that will be used as data forecasts later on. The algorithm used in machine learning uses exponential smoothing. The data used in machine learning is obtained from BMKG data.

This study demonstrates that the use of exponential smoothing algorithms in machine learning is very effective in making predictions and forecasts. The Exponential Smoothing model gives a fairly good result, R2 produced above 0.50. This shows that the model used is very good. This model will be implemented into the website so that it can be easily accessed by everyone.

Keywords : Forest fire, Kebakaran hutan, Prediksi, Forecast, Exponential Smoothing