

Abstract

This study aims to predict the amount of production from palm oil, dry rubber, and tea. These three plant products are the main export commodities in Indonesia, so the need for production is very high. High production levels can carry a significant risk of loss, especially related to production costs. This loss comes from inadequate preparation in planning the production of these plants. Therefore, we need a prediction system to manage production planning by predicting each plant's production amount. This study uses Long Short-Term Memory (LSTM) and Support Vector Regression (SVR) to predict the amount of production from palm oil, dry rubber, and tea. The performance of both algorithms is evaluated using the R-squared score. Based on the R-squared score comparison, the LSTM algorithm's performance results with predictive attributes of palm oil reached an R-squared score of 99.97%, 100% dry rubber, and 99.99% tea. Compared with the performance produced by the SVR algorithm, it gets an R-squared of 100% for each predictive attribute. From the experimental results obtained, the performance of the SVR algorithm in predicting the amount of production of the three plants is better than the LSTM algorithm. This means that the SVR algorithm has the capacity to handle prediction problems with limited datasets.

Keywords: prediction, palm oil, dry rubber, tea, LSTM, SVR