ABSTRACT

This study aims to predict the price of areca nut using the Long Short-Term Memory (LSTM) algorithm. Areca nut, or Areca catechu, is a plant that plays an important role in the culture and economy of many tropical countries, including Indonesia. Fluctuations in areca nut prices are influenced by various factors such as demand and supply, weather conditions, and other economic factors. Therefore, accurate prediction of areca nut prices is very important for farmers and business people in this industry. The LSTM method was chosen because of its ability to capture complex patterns in time-series data, such as historical areca nut price data. This study uses a dataset taken from UD Seroja, which consists of 1,825 areca nut price data for five years. The data is processed using various preprocessing techniques, such as normalization and data division into training data and test data. The LSTM model built in this study consists of several layers, including LSTM layers, dropout layers, and dense layers. This model is trained using training data and tested using test data to evaluate its performance. The results of the study indicate that the LSTM model is able to predict the price of areca nut with a high level of accuracy, which is measured using the Root Mean Square Error (RMSE) metric. The results of this study are that the best LTSM model is known to be a sequence value of 30, a test size value of 0.20, an LTSM1 neuron of 50, a dropout1 value of 0.20, an LTSM2 neuron of 50, a dropout2 value of 0.20, an epoch of 10 and using the adam optimizer. The implementation of this LSTM model is expected to provide valuable information for farmers and business actors in planning the selling price of areca nut in the future. In addition, this study also contributes to the development of commodity price prediction methods using deep learning algorithms. Thus, the results of this study can be used as a reference for further research in the field of predicting other commodity prices.

Keywords*: Prediction, Price, Areca, LTSM*