

Abstract

The prediction of the price of basic necessities on major holidays in Indonesia, such as Eid al-Fitr, Christmas, New Year, Chinese New Year, and Eid al-Adha, is something that needs to be observed, because there are often movements in the prices of basic commodities that increase or decrease very drastically. One of the main ingredients experiencing this is eggs, which often experience a significant price increase, so it is necessary to make observations in the form of predictions to keep control of fluctuations, especially before and after the big day occurs. In this study, predictions were made on the price of basic commodities on the big day. With the prediction of the cost of goods on the big day, it is hoped that related parties can be assisted in monitoring and stabilizing the movement of basic commodity prices on the market. In this study, a prediction system for the price of basic commodities was produced using the Multi-Layer Perceptron (MLP) method. This MLP method can predict time-series data that experiences a lot of fluctuation. In this prediction, MLP can make predictions on ten prices of basic commodities on major holidays every day. The results of this study were divided into three groups, namely Worst, Average, and Best. The division of these three groups separates which staple ingredients have the closest predictions to their actual values. The Worst group is the group whose prediction results are still quite far from the actual, the Average group which is close to the actual value, and the Best group which has the best results because it is very close to the actual value. With prediction results measured using MSE, the Worst group consisted of cooking oil (MSE 0.00197), beef (0.00186), rice (0.00118), and sugar (0.00100). Then the Average group consisted of eggs (0.00096), red chili (0.00085), chicken (0.00074), garlic (0.00062), and cayenne pepper (0.00056). Finally, the Best group only consisted of Shallots with an MSE of 0.00040. With these results, it can be concluded that MLP can predict the price of basic commodities accurately.

