

ABSTRACT

Fluctuations in food commodity prices remain an important issue that can destabilize markets and economic growth. This research proposes a food price prediction system using the Univariate Long Short-Term Memory (LSTM) model to predict the daily prices of twelve major food commodities in South Sulawesi. The LSTM model was chosen because of its ability to recognize time relationship patterns in time series data. Model performance was evaluated using three measures namely Root Mean Squared Error (RMSE), Mean Absolute Percentage Error (MAPE), and R^2 . The results show that the model is able to predict commodity prices with stable and seasonal patterns such as Curly Red Chili with a MAPE value of 0.0363 and R^2 0.9740, Red Cayenne Chili with a MAPE value of 0.0502 and R^2 0.9840, Broiler Chicken Eggs with a MAPE value of 0.0219 and R^2 0.9756, and Red Onions with a MAPE value of 0.0718 and R^2 0.9788. This can be seen from the low MAPE value and high R^2 value. However, this model cannot predict well commodities that have irregular price changes and experience sudden price spikes such as Pure Beef with a very low R^2 value of 0.1194 and Bulk Wheat Flour with an R value of 0.7886. This research aims to contribute to the development of a practical food price prediction system and shows the importance of further research especially using multivariate models to overcome the challenges of predicting commodities that have erratic price changes.

Keywords: *Food Commodity, Price Prediction, LSTM, Univariate Model, Time Series Forecasting, Sulawesi Selatan*