

Abstract

This study aims to apply the Artificial Neural Network (ANN) algorithm which is expected to improve the accuracy of the Seasonal Autoregressive Integrated Moving Average (SARIMA) model, which is one part of the time series model in seasonal data prediction. Basic information about data uses parameter estimation on each SARIMA model using the Bayesian Information Criterion (BIC). The error value for evaluating SARIMA (2,0,0)(0,1,1)₁₂ and ANN was obtained using Mean Absolute Error (MAE). In this study, the estimation model of SARIMA (2,0,0)(0,1,1)₁₂ and the number of node hidden layer in the ANN algorithm test are 20 with sigmoid and linear log activation functions. MAE performance on training data and data testing from the SARIMA (2,0,0)(0,1,1)₁₂ models is 0.086 and 0.071 when the SARIMA prediction error results are entered into ANN values on testing and training data are smaller = 0.046 and 0.052. Based on the results, the seasonal data used gets a small error change when the SARIMA model results are entered into the ANN algorithm.

Keywords : *Seasonal data, SARIMA, ANN*