

Performance of modeling time series using nonlinear autoregressive with eXogenous input (NARX) in the network traffic forecasting

ABSTRACT

A time-series data analysis and prediction tool for learning the network traffic usage data is very important in order to ensure an acceptable and a good quality of network services can be provided to the organization (e.g., university). This paper presents the modeling using a nonlinear autoregressive with eXogenous input (NARX) algorithm for predicting network traffic datasets. The best performance of NARX model, based on the architecture 189:31:94 or 60%:10%:30%, with delay value of 5, is able to produce a pretty good with Mean Squared Error of 0.006717 with the value of correlation coefficient, r , of 0.90764 respectively. In short, the NARX technique has been proven to learn network traffic effectively with an acceptable predictive accuracy result obtained.