

This work is on performance evaluation of Nonlinear Autoregressive Recurrent Neural Networks with exogeneous input (NARX), Random Forest (RF) and Linear Regression (LR) for prediction of measles disease. Predicting measles disease is a difficult task due to seasonable time changes of the disease rate that vary between different locations. The NARX, RF and LR models were used to predict measles for the data collected from Federal Medical Centre, Bida, Niger State, Nigeria and their performances were compared. The results obtained for predicting measles showed that the NARX model proved to be most accurate because it had smaller RMSE of 6.7483 when compared with the RF of 14.4463 and LR of 23.6065. Therefore, this paper argues that using this model would enhance the effectiveness of routine immunization in Nigeria. The proposed model is recommended for usage by the researchers and clinicians. Some other diseases can be studied by exploring other machine learning models aside NARX, NN, RF and LR.