

## **ABSTRACT**

PT XYZ is a company that provides internet networks. In addition, they also use the internet network for daily use. The network used must have capacity. When the use of the internet network approaches its capacity, Decrease in speed, therefore something is needed that can predict and monitor the use of the internet network. To predict internet network usage, the application of deep learning can be used in this case. One of the algorithms used in this study is the Recurrent Neural Network (RNN). Testing was carried out on several parameters such as the hidden layer, number of neurons on the hidden layer, number of epochs, and number of batch sizes. After testing and evaluating the model and parameters used, results were obtained for the RNN algorithm with the error value on each id being 0.918812 for the R Squared value and 0.002233 for the MSE value. From the test results of the model, forecasting was carried out for the next 60 days and there is one id whose internet network usage has almost reached its capacity, namely id 23 on September 8, 2022, predicted to reach  $7.5E + 12$  bits.

Keyword : Recurrent Neural Network, Network Capacity Planning, parameters, predictions