

ABSTRACT

Recently the development of technology is growing fast. It also has a positive impact to telecommunication issues. More applied and developed telecommunications technology such as GSM (Global System for Mobile) make an impact raise more customer time by time. Then make an uncertainly wave of customer higher. The uncertainly number of call make a server of telecommunication work not optimal. We need a system that can predict the number of customer of GSM with time series prediction.

In this final project studied about time series prediction in telecommunications scope is predicting calling movement that use a server with Elman recurrent neural network. Elman recurrent neural network is used to predict number of customer for a next day based on historical data. Based on the result of this final project, these are some factors that influence accuracy of prediction result, such as architecture of artificial neural network in this case used Backpropagation Through Time, learning rate, weight, and epoch. And accuracy rate from sistem 95%. And the highest accuracy is 95.8168% that used archyecture 30 10 1, Learning Rate 0.01, and Epoch 1000 times.

Keyword: *number of calling, prediction, time series data, Elman Recurrent Neural Network.*