ABSTRACT

The use of electrical energy is one of the important factors in life, especially in the building and building sector. The use of electrical energy in the building sector certainly consumes a lot of electrical energy so that it can cause waste, therefore something is needed that can predict and monitor the use of electrical energy.

To predict the use of electrical energy, the application of machine learning can be used in this field. One of the algorithms used in this study is the Recurrent Neural Network (RNN). In addition, a system will be build that can monitor and predict the use of electrical energy directly thorugh a website.

After testing the parameters, the result were obtained for the RNN algorithm with a division ratio between the training data and the test data, name 90% of the training data and 10% of the test data, the number of blocks as many as 1 RNN Block with 32 Neuron in it, 1 Dense Layer with 8 Neuron, the adam optimization algorithm type with a learning rate of 0.001, Epoch of 100 iterations, and a Batch Size of 100 which produced quite good predictions with a MAE of 0.621, MSE 1.125, RMSE 1.060, R2 Score 72% and MAPE 14%.

Keywords: Electrical Energy, Prediction, RNN