

ABSTRACT

Forecasting is an estimate or calculation process by using data in the past and using it as a learning process for the future. Electricity load forecasting is a factor in the planning of electricity operations so that the public can better know or transparency on the calculation of electricity costs periodically. To predict the need for electricity needs require several methods and not easy, this prediction of electricity energy load is needed for the company so that the management of electric energy in the company can be optimal and make it easier for the company to see the increase in electricity load on the company. In predicting the use of electrical energy is used optimally pruned extreme learning machine (OPELM) method as a model that can be applied. To create and implement optimally pruned extreme learning machine method there are some data needed such as data usage of the amount of electrical energy over the past few months.

Therefore, in this study, optimally pruned extreme learning machine (OPELM) method was used to become the optimal solution by using two stages of calculation of OPELM method. OPELM has the advantage of learning, learning in OPELM is included quickly and the selection of the right model. The results of the study used an Average Mean Absolute Error (MAE) accuracy test with a value of 0.14935 and an Average Mean Square Error (MSE) with a value of 0.08034.

Keywords : *Long Term Electric Load Forecasting, OPELM, ELM Forecasting, Artificial Neural Network*