

## Abstract

*Adaptive Neuro Fuzzy Inference System (ANFIS) is a combination system of Fuzzy Inference System and Artificial Neural Network. ANFIS works by fitting the membership function of Fuzzy Inference System through Artificial Neural Network system to provide better precision for the forecasting system.*

*This final project implements ANFIS architecture for average air temperature forecasting by using chosen weather data from earlier days. The forecasting system implemented for three different city, they are Bandung, Jakarta, and Pontianak. The system implementation is started with training process to obtain premise parameters and consequent parameters which return the most closely forecasting value to the actual value with the most minimum diverse value which is counted using MAPE method. The obtained training parameters then applied into the architecture for testing purpose. The analysis includes the accuracy of air temperature forecasting for  $D+1$ .*

*The testing result using testing data show that the air temperature forecasting system using ANFIS is able to provide the forecasting value with MAPE values are 3.058% for Bandung, 2.465% for Jakarta, and 2.928 for Pontianak and the precision values are 96.942% for Bandung, 97.534% for Jakarta, and 97.072% for Pontianak.*

**Keywords:** *Fuzzy Inference System, Adaptive Neuro Fuzzy Inference System (ANFIS), Artificial Neural Network, weather data, premise parameter, consequent parameter, MAPE, temperature.*