ABSTRACT

Forecasting is a process to estimate something systematically based on previous circumstances or facts. Forecasting can be done through series of scientific method or mere subjections. Soft computing (SC) is one of the scientific methods can be used for forecasting or prediction cases. Soft Computing (SC) has a basic algorithms namely Fuzzy System, Artificial Neural Network (ANN), and Evolutionary Alghorithms (EAs).

On this final project is conducted a research on the corn planting calendar forecasting based on the rainfall on Soreang region, Bandung district using one of the Soft Computing basic algorithms namely Evolutionary Alghorithms (EAs). The data is soreang region Bandung district rainfall data for the last 10 years (2006-2015) this data will first going through preprocessing with Weighted Moving Average (WMA). Next, for Evolutionary Alghorithms (EAs) process is started from a set of solution candidates (individual) called population. In which an individual represent one solution. Initial population will evolve into a new population through series of generation (iteration), on the last EAs generation produce the best individu from population as the solution for the problem. On individual representation, EAs has four algorithms the can be used, one of them is Grammatical Evolution (GE) which will be used on this research. Next on this final project will be using fuzzy logic for GE optimation, by defining some parameters on initial running, in order for the process to run well. The final produced result shows that fuzzy logic able to increase EAs performance and Fuzzy EAs made planting calendar forecasting performance about 76,93%. The results of the forecasting will be used to make the planting calendar in Bandung Regency from October 2014 to October 2015

Keywords : forecasting, rainfall, weighted moving average, fuzzy (EAs), planting calendar