

ABSTRACT

As an Agrarian country, Indonesian farmers desperately need data of rainfall prediction. In this Final Project presented results of research on forecasting rainfall at Bandung by using one type of Evolutionary Computing Algorithm (EC) is a Genetic Programming (GP). The data is the monthly rainfall data in Bandung Regency for 11 years (2005-2015). The data through preprocessing using Weighted Moving Average Algorithm (WMA). Then to forecasting rainfall data use the GP algorithm while used non linear representation of chromosome like Tree. Chromosomes representation on GP could have a different gen length, the child chromosomes can be longer or shorter than the parents. From experiment result, obtained the best MAPE with parameters is crossover probability (P_c) 0.7 and mutation probability (P_m) 0.01 given as the results rainfall prediction with MAPE 28.144%.

Keywords: *Genetic Programming, Weighted Moving Average, Forecasting, Rainfall.*