

## ABSTRACT

Meteorology is a science that studies about kinds of weather and factors or the parameters of influence it. The parameters of the elements of the weather as rainfall, temperature of the air, air humidity, air pressure, long the illumination of the sun and wind can be used as a guideline the state of the weather at a certain place. The ancients to determine the dry season and rainy season can be with how to view calendar month, but because the system now increasingly erratic weather then required a system that can to forecast accurate weather.

On the research of late tasks using Evolving Artificial Neural Network. Genetic algorithms excite a number of individuals with representations binary and real, then every individual is encoded into connections and weights partially connected (matrix  $14 \times 14$ ). Each matrix will undergo evaluation using feedforward algorithm to seek individual best based on fitness value. Then from individuals will be selected, the individual would best be saved for the next digenerasi, while other individuals are selected using an algorithm of roulette-wheel to determine which pairs of parents who would later produce two new individuals from each pair of parents by way of crossovers. After that individuals undergone mutation, the new individuals going supersedes individual old and will be entering into the next generation to evaluated until connections and weights optimal.

Connections and weights optimal resulting from evolving an artificial neural network ( eann ) is partially connected, that is kind of connection and weights a network of partially connected . Connections and weights optimal produced with probabilities cross-over ( $P_c$ ) 0.8 and probability of mutation ( $P_m$ ) 0.2, number of individuals who evaluated as many as 200,000 individual ( 800 generation and 250 population ) with an average of accuracy training 68.84 % and an average of accuracy testing 72.91 %

Keywords : Evolving Artificial Neural Network, genetic algorithm, feedforward, partially connected.