Abstract

Biometric system is an otomatic individual recognition system based on individual's unique charateristics (physically or behaviour). Iris recognition is the most reliable and accurate biometric system nowadays. Iris is a unique and stable part of human body and keep remaining still since human still one year old until the end of his life [10]. If iris dissection happen so it will cause damage to iris.

This final project develop a biometric system based on human iris using Feed Forward Neural Network and Genetic Algorithm. Neural Network is an Artifical intelligence method used to pattern recognition cases nowadays. Neural Network is capable to recognize uncomplete and changed pattern. Genetic Algorithm is one of the learning algorithm for Neural Network beside Backpropagation [8]. In this final project, Genetic Algorithm used to train the Neural Network.

Input data, Neural network parameter such as number of hidden neuron and Genetic Algorithm parameter such as crossover point, crossover probability, mutation during evolution is affected to fitness value and accuracy. The best result reached by this iris recognition system is 30% for training accuracy, 33.33% for validation accuracy, and 40% for testing accuracy.

Keywords: biometric system, iris, Feed Forward Neural Network, Genetic Algorithm.