ABSTRACT

Palmprint identification is a process to recognize and determine personal identification. Palmprint identification is one of biometric technology using the human's natural characteristic. Biometic is formed from the uniqueness of human's physical feature, which can be applied in personal identification. Basically, biometric is based on human's natural characteristic such as fingerprint, palmprint, iris, retina, face, and voice characteristic. Biometric data has high complexity, and it becomes the advantage of it. So, the probability of error when using biometric data as a security system's input will be less.

Palmprint has some unique features, immutable and perennial nature characteristic. Identification using palmprint has better identification features' quality than fingerprints', because of its larger size contains more features. Biometric with palmprint is also easy to use, because only need a CCD digital camera in data acquisition.

This system of palmprint identification is done by observing the principal line using 2D Gabor Wavelet filter in feature extraction and Artificial Neural Network - Self Organizing Map (SOM) in pattern recognition. The goal of this identification system is making a system that can recognize, compare the palmprint pattern, and make true decision for every input palmprint. The accurate rate of this system is about 78.75%.

Key : Biometric, Palmprint, Gabor, Wavelet, Self Organizing Map, SOM.