ABSTRACT

Iris is the annular region of the eye bounded by the pupil and the sclera (the

white part of the eye). Visual texture of the iris is formed during fetal development

and stabilize itself during the first two years of the life of the fetus. Complex iris

texture brings a very unique and useful informaltion for a personal recognition. The

speed and accuracy of the Iris-based recognition system is very promising and it is

possible to use on a large scale identification systems. Each iris is unique and like

fingerprints, iris texture is different from identical twins. The texture of the iris is

very difficult to surgically destroyed.

In this final project built a system capable of recognizing the iris in the form

of a digital image. Digital image on a digital camera can do detection using Local

Binary Pattern (LBP), and then classified using a neural network Self Organizing

Maps (SOM).

In this final project has created an application that can identify a person

through iris patterns. Used as a method of local binary pattern feature extraction

and ANN-SOM for pattern recognition of iris images. Eye image is processed data

from the Chinese Academy of Sciences-Institute of Automation (CASIA). By using

the optimum parameters, the system is able to produce a pretty good performance

because it can produce maximum accuracy value of 95% and the average

computation time for 0.01379 seconds on each image slice.

Keywords: Iris, ANN, SOM, Local Binary Pattern, CASIA.