ABSTRACT

Skin is the outermost body part of humans which has an important role in protecting organs in the human body from threats that come from the environment outside the human body. Skin disease is one of the most common health problems in the whole world because of the very easy and fast infection. Identification of skin diseases based on the type of skin infection is an important step to find out the right treatment.

In this Final Project, a digital image processing simulation has been designed to identify skin diseases. This identification of skin disease using the Histogram of Oriented Gradients (HOG) feature extraction method. This method is able to detecting objects by calculating the gradient values in a certain area. Then using the Artificial Neural Network (ANN) Backpropagation as the classification.

From the test results obtained the identification accuracy of 83.3% with details for each type of skin disease is acne of 80%, herpes 86.7%, scabies of 66.7%, and normal skin of 100%. Accuracy was obtained from 160 test images using Histogram of Oriented Gradients (HOG) parameters at cell size 20×20, block size 4×4 and bin numbers 9 with best classification process for Artificial Neural Network (ANN) Backpropagation when epoch 50 and hidden layer 100.

Keywords: *Skin, Skin disease, Histogram of Oriented Gradients, Artificial Neural Network, Backpropagation*.