ABSTRACT

Even though a skin disease is not harmful, it has a big impact to its sufferer either physically or psychologically. The skin disease can attack whoever without knowing age and parts of body. Lack of Indonesian's attention to environment can cause spreading of skin disease very fast, and it takes the third position after bronchi infection and diarrhea. Speed and accuracy in diagnosing disease are very important for medication because they will effect to recovery and prognosis of patients. Development of recent technology is very fast and enables it detects a skin disease fast and accurately by using Digital Image Processing.

In this final project, the researcher makes one program to detect a skin disease by using Digital Image Processing. Image of infected skin analysis uses Filter 2D Gabor Wavelet, and its identification process uses imitated nerve system of Radial Basis Function (RBF) Neural Network. Marginally, in the identification of the image is started from taking image, preprocessing, extracting feature, identifying signs, and type of skin disease.

The result of testing shows that the accuracy of each type of skin disease and normal skin is acne vulgarism 42.5%, small fox 53.5%, dermatitis nummular 77.5%, herpes 75%, scabies 55%, measles 65%, and normal skin 74%. The accuracy is obtained from testing 290 images with orientation combination 30^0, 60^0, 120^0, and 150^0, the first 8 frequencies, spread = 1, and goal = 1. Time of computation in identifying type of skin disease is 4.6644 second.

***Keywords** : skin disease, digital image processing, filter 2D Gabor wavelet, radial basis function neural network.*