

Skin Disease Detection Using 2D Gabor Wavelet Filter Base On Android

ABSTRACT

Skin disease, though it is not serious, actually has mental and psychological impact to the sufferer. Skin disease is able to attack anyone at many ages and on any parts of body. In Indonesia, skin disease spreads rapidly. The rapidly and accuracy in diagnosing an illness are very significant in medical treatment. It certainly influences the recovery of the illness. The technological development nowadays is very rapid and it enables doctors to detect skin disease rapidly and accurately. One of the ways is using Digital Image Processing. On the previous final task done by Fajar Aulia Rachman has been successful in creating a detecting system for skin disease using Matlab which has 75% level of accuracy. Referring to the final task, this final task will discuss how to create an android application for identifying skin disease using Digital Image Processing by which it can facilitate the user in operate the system.

In this final task, it will be discussed an android application to identify skin disease using Digital Image Processing. The image of the skin on which there is trouble will be analyzed using Filter 2D Gabor Wavelet to detect the texture. The identification process uses K-Nearest Neighbour. The outline of image identification process will be started by capturing image, preprocessing, extracting characteristic, identifying characteristic, and identifying the kind of the skin disease.

The result of testing of this application shows that the accuracy level of each skin disease and normal skin is acne 53,33 %, chicken pox 40 %, measles 66,67 %, herpes simplex 60 %, scabies 60 %, normal skin 80 %. The accuracy result is obtained by testing images test with 8 orientation, those are 0°, 30°, 60°, 90°, 120°, 150°, 180°, 210° and 5 frequencies, those are 1, 2, 3, 4, 5. The average of computation time in identifying the disease is 2,561 seconds.

Keywords : *Digital Image Processing, Filter 2D Gabor Wavelet , K-Nearest Neighbor.*