

ABSCTRACT

The skin is the outermost organ of the human body that directly touches and interacts with the outside environment therefore the skin is very vulnerable and sensitive to some attacks from viruses, bacteria, and fungi. As a result of such external attacks that cause the onset of skin diseases. With the development of technology in digital image processing that can facilitate in the world of medicine to detect skin diseases quickly by using Convolutional Neural Network (CNN).

In this final task conducted research on the image processing system based On Convolutional Neural Network that will detect five skin diseases namely Acne, Chicken Pox, Measles, DKA, Scabies and Normal Skin. The system will be designed using the Convolutional Neural Network method for skin disease detection using googlenet architecture. In the Convolutional Neural Network method itself there are several layers, namely layer feature and layer classification. In this method there are two processes, namely the training process and the test process. There are a total of 1800 image data, the data grouped according to class of skin disease and resized to be inputs in the training process and test process.

Perfomance systems that will be measured by parameters namely accuracy, precision, loss, recall and F1 score with the influence of image size, optimizer, learning rate and epoch. The results obtained in optimal conditions obtained from testing are accuracy of 96.44% and loss of 1,771 with image size of 128×128 , optimizer Adamax, learning rate 0.0001 and epoch 50.

Keywords: CNN, digital image processing, skin diseases, GoogleNet.