

ABSTRACT

In general, skin disease is a disease that has a dangerous impact on sufferers both physically and psychologically. In Indonesia, the lack of public attention to the surrounding environment can lead to rapid transmission of skin diseases. Speed and accuracy in making a diagnosis are very important for treatment, which will certainly affect healing. Today's technological developments are very rapid, making it possible to detect skin diseases quickly and precisely.

In this study, we took image data of skin diseases, Melanoma, Angioma, Actinic Keratosis, and Dermatofibroma, a disease that has bad effects and is uncomfortable if left for too long and can cause skin cancer, for the data used in this study was taken from the International Skin dataset. Imaging Collaboration (ISIC). The feature extraction method in this study uses the Gray Level Co-Occurance Matrix (GLCM) to determine the angular distance and statistical features. For image classification, the data consists of 4 types of skin diseases which are classified using a multiclass Support Vector Machine (SVM) to determine the type of kernel. There are four types of kernels used, namely Linear, Polynomial and Gaussian (RBF) kernels. The parameters of the multiclass SVM itself are One-Against-All (OAA) and One-Against-One (OAO) classes for disease classification with SVM.

The final result obtained from the system testing is that the system is able to identify skin cancer through the patient's skin image with the highest level of accuracy reaching 80%. This level of accuracy is obtained through testing on the parameters of the RGB image type with a blue layer, the image size is 512×512 , $d = 2$, $\theta = 135^\circ$, Gaussian (RBF) kernel type, and the multiclass comparison uses One-Against-All.

Keywords: Diseased skin image, Gray Level Co-Occurance Matrix, Support Vector Machine