ABSTRACT

Glaucoma is a disease that is usually caused by increased pressure in the eyeball, causing damage to the optic nerve and cause a decrease in visual function. Observing and analyzing the eye fundus image manually sometimes generate diagnoses less objective and accurate.

In this final project designed detection system area glaucoma by measuring optical disk. There are two stages to build the identfication system, the first stage is modeling system and the second stage is testing system. In each stage of the initial process is preprocessing, this process is done with the input fundus image of the retina of the eye to get the binary image is then performed calculation of the number of pixels on the optical disk area. The results of this process depends on the preprocessing. Furthermore, the process of identifying characteristic is done by classification into two classes, namely the eyes is normal and the eye of glaucoma.

Based on the results of the simulation, the image of the 100 tested consisted of 50 glaucoma eye and 50 normal eye obtained the best accuracy 96% which can be seen from the results of the classification of normal eye pixel count less than 250125 pixels and the eyes of glaucoma is more than or equal 250125 pixels using a threshold intensity value of the image red and green channels.

Keyword: *Glaucomas, Optic nerve head, Optical disk.*