

ABSTRACT

Myopia (nearsightedness) is a disorder of the eye that is often experienced by most people. Myopia resulting in blurred vision or can not read a character at a certain distance clearly. The tool most often used to overcome them is glasses or soft lens. Before using glasses or soft lens, the eye first examined by using test kits, one of which is ARK (Automatic Refrakto Keratometer).

ARK measure pupil diameter, curvature of the cornea and lens of the eye to determine myopia computerized degrees. Pupil is one important part of the visual system. Pupil size is a factor that affects a person's visual acuity. Changes in pupil diameter is not just for controlling the amount of light but can also be a reference to the detection of refractive disorders. In which one is the refractive disorders myopia.

At the end of this task has been made a simulation program based on the detection of the degree of myopia pupil diameter using the software Matlab 2009a. Determination of the degree of myopia is divided into three degrees of myopia are mild, moderate and severe. Based on previous research, found a large increase seiriing pupil with a high degree of myopia increases suffered. Image processing algorithms that are designed are divided into several stages, one stage is the determination buts dilakuakn using Canny edge detection with the purpose of the pupils can be well localized.

System testing is done by using the image number 135 pieces of 15 people. From the test results found accuracy is 73,33% with used treshold 20 and add edge in closing algothm 3 pixel.

Key words: image processing, myopia, and pupil