DETEKSI KONTRAKSI DAN KELAINAN MATA DARI CITRA DIGITAL IRIS MATA

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ABSTRACT

Visual disturbances can occur due to lack of room lighting that meets certain requirements, because if the lighting is too large or too small, the pupil of the eye must narrow the glare (eyes try to block the glare by closing their eyes slightly) or the eyes contract excessively. Contraction of the eye, especially the eyelids, is an indication that lighting is inadequate.
One of the important parts of the visual system is the pupil, which is a factor that affects a person's visual acuity. Changes in pupil diameter are not only for controlling the amount of light but also a reference for detecting refractive errors, such as myopia. Eye contractions can be used as an early detection of eye abnormalities, one of which is myopia. This study aims to detect eye contractions, and eye abnormalities (myopia) using digital image processing technology. Eye abnormalities can be detected by pupil size. The data were analyzed using two of the methods in artificial neural networks, namely supervised learning, in this case the Backpropagation and Convolution Neural Network (CNN) .
ANN Backpropagation and CNN methods are used to detect abnormalities in eye objects based on their digital images. The treatment of preparing input data is different from these two methods. The test results using Backpropagation ANN give the highest accuracy 71.66%. The test results of the CNN model produce an accuracy of 77.14%.

Kata Kunci: *Detection of eye abnormalities, artificial neural network, digital image processing*