ABSTRACT

Biometric recognition system refers to automatic identification of humans based on the characteristics of human behavior. One of the biometric introductions is finger vein identification. Finger veins are blood vessels that are in human fingers, some literature explains that finger veins have unique things, therefore biometric recognition system in human finger veins was developed. In this study, a detection and identification system for individuals using human finger blood vessels was designed using the Weber Local Binary Pattern (WLBP) method. The WLBP method is a combination of the LBP method and Weber's law, WLBP has the advantage of paying attention to the smallest intensity and variation. In this study, the image acquisition process was carried out using an endoscope camera. The endoscope camera has a sensor that cannot block infrared light, which can be absorbed by the skin layer to give a clearer picture of the finger blood vessels. The results of image acquisition require a preprocessing process to clarify the image of blood vessels on the fingers. The identification process uses the K-NN classification. K-NN classification is done with a value of K = 3, this study uses 50 training data and 50 test data that take from 5 individu.

Keyword : *Biometric system, fingervein*, WLBP, K-NN