VERIFICATION IMAGE OF THE VEINS ON THE BACK PALM WITH MODIFIED LOCAL LINE BINARY PATTERN (MLLBP) AND HISTOGRAM

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Abstract. The verification to person who is used today as a fingerprint, signature, personal identification number (PIN) in the bank system, identity cards, attendance, easily copied and forged. This causes the system not secure and is vulnerable to unauthorized persons to access the system. In this research will be implemented verification system using the image of the blood vessels in the back of the palms as recognition more difficult to imitate because it is located inside the human body so it is safer to use. The blood vessels located at the back of the human hand is unique, even humans twins have a different image of the blood vessels. Besides the image of the blood vessels do not depend on a person's age, so it can be used for long term, except in the case of an accident, or disease. Because of the unique vein pattern recognition can be used in a person.

In this paper, we used a modification method to perform the introduction of a person based on the image of the blood vessel that is using Modified Local Line Binary Pattern (MLLBP). The process of matching blood vessel image feature extraction using Hamming Distance.

Test case of verification is done by calculating the percentage of acceptance of the same person. Rejection error occurs if a person was not matched by the system with the data itself. The 10 person with 15 image compared to 5 image vein for each person is resulted 80,67% successful. Another test case of the verification is done by verified two image from different person .that is forgery, and the verification will be true if the system can rejection the image forgery. The ten different person is not verified and the result is obtained 94%.

Keywords: Verification, Vein image, Modified Line Local Binary Pattern (MLLBP), Histogram, Hamming Distance