

## Abstract

*Biometric identification system is a system that is very popular for use in the research world, particularly in the field of information technology. Among the existing biometric systems, palm print recognition is one of the most reliable biometric to use, because: easily observed, has a characteristic that is unique in every person and has a shape that tends to be more stable than other types of biometrics.*

*This research offered a way for human palm print recognition . The system has a method for extracting Range of Interest ( ROI ) automatically form the palm image with palm valley point determination using CHVD algorithm . Another method used in this study is the Local Binary Pattern ( LBP ) and Probabilistic Neural Network ( PNN ) . Local Binary Pattern ( LBP ) is often used in the case of face recognition and other pattern recognition . LBP generate feature from the calculation of the LBP code form adjacency matrix in the form of binary numbers by (  $n =$  number of check point matrix ) . Binary numbers are later converted into decimal and then collected as a whole-one and form a new histogram that describes the data features of the observed image. Data features from the palm image are the one what will be recognized as a feature and then the features will be further processed for feature matching process that carried out by using the Probabilistic Neural Network .*

*All the data used in this thesis consist of 1100 palm images which acquired using a digital camera. Testing of the system was done by measuring the influence of parameters on the system performance. Parameters that will be tested are the smoothing parameter values, the number of training data and test data are used in the system, as well as the parameters of the Local Binary Pattern method such as :a number of check points, the number of image segments, and the types of image segmentation that were used.*

**Keyword:** *Biometrics , palm print recognition , CHVD algorithm , ROI extraction , Local Binary Pattern (LBP), Probabilistic Neural Network.*