ABSTRACT

Feature or dimensionality reduction has become one of fundamental problem in the field of pattern recognition such as biometrics. The selecting the number of feature or dimension has become one challenge. Instead selecting number of feature manually, in this research propose a framework or procedure for feature reduction by finding the correlation between recognition rates and number of features. This study was applied on a palm vein biometrics system which used DCT and k-PCA as features extraction method. The results of the experiment showed that the procedure was able to achieve models that had an average error of less than 6 from optimal features and about 1.1% from the real recognition rates. In addition, the proposed procedures could reduce the processing time by an order of 10^2.

Keywords: Feature Reduction, Pattern Recognition, Biometrics, Palm Vein