

Abstract

Biometric is an individual identification based on anatomical or behavioral characteristics of a person. Palmprint identification as a biometric technique has several advantages: it only requires images in low resolution, it needs relatively cheap device, it is non-intrusive and has a high degree of accuracy.

Principal Component Analysis (PCA) is a feature extraction technique which has advantages in terms of data compression. This method is commonly used in pattern recognition such as fingerprint and palmprint identification.

Another method known as 2 Dimensional Principal Component Analysis (2DPCA) has several advantages over PCA in terms of higher accuracy and faster running time. Its drawback that is the extracted feature would have a bigger data size compared to PCA.

Taking the advantages of both is a new method called 2DPCA plus PCA, which theoretically should have a better accuracy than PCA but a smaller data size compared to 2DPCA. The classification is done by using K-Nearest Neighbor. The research showed that 2DPCA plus PCA method resulted in 98,667% accuracy.

Keywords: biometric, identification, PCA, 2DPCA, KNN