ABSTRACT

Biometrics is a technology that uses physical and behavioral characteristic to identify someone. Ear biometric is one of biometrics that using ears as object of basis identification, which has several advantages compared another biometrics object. Ears has rich structure, different form and contour, uniform colour distribution, not much change by time, and uneffected by facial expressions.

In this final, designed system of ear biometrics for individual recognition using emphirical mode decomposition and principal component analysis, while euclidean distance is used for identification. Its process consists of image acquisition, grayscalling, and contrast stretching. Emphirical mode decomposition finds small number of components called IMF as feature extraction for PCA and then Euclidean distance identify it.

The designed system is an offline system. Through the implementation and testing accuracy of the system is 77,78% for sample images using 30% of principal component.

Keywords: Ear biometrics, EMD, IMF, PCA, Euclidean distance.