Feature level fusion for biometric verification with two-lead ECG signals

ABSTRACT

Electrocardiogram (ECG) is a new generation of biometric modality which has unique identity properties for human recognition. There are few studies on feature level fusion over short-term ECG signals for extracting non-fiducial features from autocorrelation of ECG windows with an identical length. In this paper, we provide an experimental study on fusion at feature extraction level by using autocorrelation method in conjunction with different dimensionality reduction techniques over vector sets with different window lengths from short and long-term two-lead ECG recordings. The results indicate that the window and recording lengths have significant effects on recognition rates of the fused ECG data sets.