

Abstract:

Security concerns increase as the technology for falsification advances and biometrics provides airtight security by identifying an individual based on the physiological and/or behavioral characteristics. Physiological hidden biometrics represented by ECG biomedical signal is highly confidential, sensitive, and hard to steal and replicate, and also hold great promise to provide a more secure biometric approach for user identification and authentication. In this presented article, an ECG biometric methods based on features extraction has been developed. It based on autocorrelation (AC) in conjunction with the discrete cosine transform (DCT) proposed for feature extractions from the pre-processed ECG signal. Also, we studied the scenario where the proposed system deals with intruder signals in our database to avoid detection failure of false identification and false rejection scenarios. Further, the effect of myocardial infarctions on our ECG-based identification system is also studied, by taking into account a disease, namely Atrial fibrillation, as an example for the study, then tested our identification system to determine whether the people tested can still be recognised.