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A Hasty Approach to ECG Person Identification (Conference Paper)

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Abstract

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Using electrocardiogram (ECG) to extract identity, mood and behavioral information of individuals is a hot topic in biometric for the last 15 years. In an ECG signal, the region identified as the QRS complex is primarily used for classification of individuals. In this paper, we study an accepted method for identification where feature points are extracted from selecting random points within the QRS region and using the multilayer perceptron (MLP) method for classification. In our experiments, feature points are varied and processing time are measured to study the speed in processing feature points for identification. Our results shows accuracy performance cost and gains and the performance with respect to the number of feature points. Additionally, a different method in using 3-point of QRS complex that can provide best accuracy and time performance is presented. Our method though compromises accuracy proves to give faster results and may be usable for future applications in IoT. © 2016 IEEE.

Author keywords

biometric identification; electrocardiogram; multilayer perceptron; neural networks; NSRDB database; QRS peaks

Indexed keywords

Engineering controlled terms: Biometrics; Complex networks; Data mining; Multilayer neural networks; Multilayers; Neural networks

Biometric identifications; Future applications; Multi layer perceptron; Performance costs; Person identification; Processing time; QRS peaks; Random points

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