Abstract

Electrocardiogram represents electrical activity of the compassion. Sinus tachycardia and Sinus Bradycardia are among the most common ECG abnormality. Millions of ECGs are in use for the diagnosis of various lesions of patients, where ECG can give a lot of information regarding the abnormality in the concerned patient; ECGs are analyzed by the physicians and interpreted depending upon their knowledge. The understanding may vary by physician to medical doctor. Hence, this labor is all about the mechanization and consistency in the analysis of the ECG signals so that they must be diagnosed and interpreted accurately irrespective of the physician. This would help to create an early action intended for the problems and many lives might be saved. Many works have been done previously but this work presents Electrocardiogram (ECG) classification to diagnose patient’s condition. For classification of such Difficult to Diagnose Signals, P-Wave, PR-Interval, QRS Interval, ST Interval, T-Wave etc, analysis of each Input pulse used to train the neural network and features are obtained using Genetic Algorithm. Output of the neural network gives weight factors of each signal to create a data set. Electrocardiogram (ECG) PQRSTU-waveforms time intervals and weight factors and prediction
Cardiac Analysis and Classification of ECG Signal using GA and NN

of particular decease infection or state of a patient condition saved in database. A software program is written in MATLAB 7.10. Corresponding output-datasets indicates related disease and predict the causes. The results show a considerable improvement in conditions of FRR, FAR and accuracy of image retrieval.

References


18. Emina Alickovic, Abdulhamit Subasi ,” Medical Decision Support System for Diagnosis of Cardiovascular Diseases using DWT and kNN”.


**Index Terms**

Computer Science  
Signal Processing

**Keywords**

ECG Signal, Neural Network, Genetic Algorithm, T-Cardia, B-Cardia.