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(57) Abstract :

Human lifetime is drastically affected by heart disease as it affects normal heart activity. Heart signal is represented by Electrocardiograph (ECG) which contains intervals, waves and segments. This invention focuses on detection of cardiac arrhythmia by differentiating normal ECG signal and abnormal ECG signal which involves three steps where the first step involves removal of noise from these biological signals by designing of specific filters namely band reject filter with the cut off frequencies in the range of 57-63 Hz for removal of interferences due to power line and usage of band pass filter with cut off frequencies in the range of 0.05 -30 Hz for removal of signals due to patient motion or patientTMs chest movement. Second step involves computation of step variables and feature extraction using wavelet transform algorithm decomposing signals using wavelets. Third step involves artificial neural network (ANN) algorithm which utilizes extracted features along with parameters as input gains knowledge by training the classifier which is able to analyze ECG signals for presence of arrhythmia implemented using MATLAB R2014b.

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