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Abstract

The Electrocardiogram (ECG) plays significant role in assessing patients with abnormal activity in their heart. ECG recordings of the patient taken to analyze abnormality and classify type of disorder present in the heart functionality. An Electrocardiogram is a bioelectrical signal that records the heart's electrical activity versus time. It is used to measure the rate and regularity of heartbeats, as well as the size and location of the chambers, the occurrence of any damage to the heart, and the effect of drugs or devices used to regulate the heart. An electrocardiogram recording of a patient is important clinical information for the medical experts to diagnose the heart functionality of the patient or to assess the patient before any surgery. The interpretation of ECG signal is an application of pattern recognition. There are several

classes of heart disorders including Premature Ventricular Contraction (PVC), Atrial Premature beat (APB), Left Bundle Branch Block (LBBB), Right Bundle Branch Block (RBBB), Paced Beat (PB), and Atrial Escape Beat (AEB). To analyze ECG various feature extraction methods and classification algorithms are used. The planned work employed discrete wavelet transform (DWT) in feature extraction on ECG signals obtained from MIT-BIH Arrhythmia Database. The Machine Learning Technique, Probabilistic Neural Network (PNN) has been used to classify four types of heart beats that consist of PVC, LBBB, RBBB and Normal.

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Index Terms

Computer Science Signal Processing

Keywords

Electrocardiogram Wavelet Probabilistic Neural Network Premature Ventricular Contraction Left Bundle Branch Block
Right Bundle Branch Block.