

## HRV Analysis Based Arrhythmic Beat Detection Using kNN Classifier

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**Abstract :** Health diseases have a vital significance affecting human being's life and life quality. Sudden death events can be prevented owing to early diagnosis and treatment methods. Electrical signals, taken from the human being's body using non-invasive methods and showing the heart activity is called Electrocardiogram (ECG). The ECG signal is used for following daily activity of the heart by clinicians. Heart Rate Variability (HRV) is a physiological parameter giving the variation between the heart beats. ECG data taken from MITBIH Arrhythmia Database is used in the model employed in this study. The detection of arrhythmic heart beats is aimed utilizing the features extracted from the HRV time domain parameters. The developed model provides a satisfactory performance with ~89% accuracy, 91.7 % sensitivity and 85% specificity rates for the detection of arrhythmic beats.

**Keywords :** arrhythmic beat detection, ECG, HRV, kNN classifier

**Conference Title :** ICBBBE 2016 : International Conference on Biochemical, Bioprocess and Biomedical Engineering

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** February 15-16, 2016