

## **An Automated R-Peak Detection Method Using Common Vector Approach**

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**Abstract :** R peaks in an electrocardiogram (ECG) are signs of cardiac activity in individuals that reveal valuable information about cardiac abnormalities, which can lead to mortalities in some cases. This paper examines the problem of detecting R-peaks in ECG signals, which is a two-class pattern classification problem in fact. To handle this problem with a reliable high accuracy, we propose to use the common vector approach which is a successful machine learning algorithm. The dataset used in the proposed method is obtained from MIT-BIH, which is publicly available. The results are compared with the other popular methods under the performance metrics. The obtained results show that the proposed method shows good performance than that of the other. methods compared in the meaning of diagnosis accuracy and simplicity which can be operated on wearable devices.

**Keywords :** ECG, R-peak classification, common vector approach, machine learning

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