

## **CNN-Based Algorithm for Anomaly Detection in Electrocardiogram Signals (BiLSTM)**

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### **Abstract**

In this paper, a convolutional neural network (CNN) and a bi-directional long short-term memory (LSTM) network hybrid ECG signal anomaly detection algorithm are proposed. The purpose of this algorithm is to address the issues of low feature extraction efficiency and low detection accuracy that are associated with traditional ECG signal detection algorithms. Because CNN can automatically extract features and BiLSTM can quickly look at time series data, these two features are put to good use in this model. The total accuracy of the model is 98.56%, as shown by experimental verification using the arrhythmia data set from the MIT-BIH database. Accuracy and F1 value are enhanced when using this model in comparison to support vector machines (SVM) and bidirectional long short-term memory neural networks (BiLSTM).

(Keywords:)

ECG,LSTM,time series data,SVM,CNN

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