A Heart Arrhythmia Prediction Using Machine Learning's Classification Approach and the Concept of Data Mining

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Abstract : Background and objectives: As the, cardiovascular illnesses increasing and becoming cause of mortality worldwide, killing around lot of people each year. Arrhythmia is a type of cardiac illness characterized by a change in the linearity of the heartbeat. The goal of this study is to develop novel deep learning algorithms for successfully interpreting arrhythmia using a single second segment. Because the ECG signal indicates unique electrical heart activity across time, considerable changes between time intervals are detected. Such variances, as well as the limited number of learning data available for each arrhythmia, make standard learning methods difficult, and so impede its exaggeration. Conclusions: The proposed method was able to outperform several state-of-the-art methods. Also proposed technique is an effective and convenient approach to deep learning for heartbeat interpretation, that could be probably used in real-time healthcare monitoring systems

Keywords : electrocardiogram, ECG classification, neural networks, convolutional neural networks, portable document format
Conference Title : ICACSE 2023 : International Conference on Applied Computer Science and Engineering
Conference Location : Berlin, Germany
Conference Dates : May 11-12, 2023