

Title: Cardiovascular Disease Prediction Utilizing Machine Learning and Feature Selection with Clonal Selection Algorithm(Conference Paper)

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Abstract

A substantial and rising number of patients suffer from cardiovascular diseases, including heart attacks, heart failure, and other related illnesses. This case surge places increasing pressure on healthcare professionals and administrators while patients grapple with growing medical costs. To address these challenges, an automated system is necessary within the healthcare sector. In this paper, we present a cardiovascular health monitoring system that incorporates Machine Learning techniques. The study employed feature selection techniques on a secondary dataset. The study has used a nature-inspired technique, namely the Clonal Selection Algorithm (CSA) and Maximum Relevance Minimum Redundancy (mRMR) technique, to identify the most prominent feature in the detection of cardio-vascular illness. This approach was combined with a collection of Machine Learning classifiers. A group of experimental data has been listed to assess the suggested model's effectiveness. The research findings indicated a maximum accuracy rate of 100% when employing the proposed algorithms and orientations. The study also discusses the performance analysis for CSA and mRMR using a set of performance evaluation matrices. Based on the obtained results, it can be inferred that the suggested model will likely exhibit a high level of effectiveness in identifying cardiovascular diseases. © 2023 IEEE.

Author keywords

Cardiovascular DiseaseColonial Selection technique and Maximum Relevance Minimum Redundancy (mRMR)Machine Learning

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