Machine Learning-Driven Prediction of Cardiovascular Diseases: A Supervised Approach

Authors : Thota Sai Prakash, B. Yaswanth, Jhade Bhuvaneswar, Marreddy Divakar Reddy, Shyam Ji Gupta
Abstract : Across the globe, there are a lot of chronic diseases, and heart disease stands out as one of the most perilous. Sadly, many lives are lost to this condition, even though early intervention could prevent such tragedies. However, identifying heart disease in its initial stages is not easy. To address this challenge, we propose an automated system aimed at predicting the presence of heart disease using advanced techniques. By doing so, we hope to empower individuals with the knowledge needed to take proactive measures against this potentially fatal illness. Our approach towards this problem involves meticulous data preprocessing and the development of predictive models utilizing classification algorithms such as Support Vector Machines (SVM), Decision Tree, and Random Forest. We assess the efficiency of every model based on metrics like accuracy, ensuring that we select the most reliable option. Additionally, we conduct thorough data analysis to reveal the importance of different attributes. Among the models considered, Random Forest emerges as the standout performer with an accuracy rate of 96.04% in our study.
Keywords : support vector machines, decision tree, random forest
Conference Title : ICCIT 2024 : International Conference on Computing and Information Technology
Conference Location : New York, United States
Conference Dates : May 23-24, 2024