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# Critical Review on Heart Disease Prediction: A Machine Learning Approach

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### Abstract

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- II. Overview of Machine Learning and Prediction Algorithms[3]–[14]
- III. Proposed Methodology
- IV. Results and Comparative Analysis
- V. Conclusion

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##### Abstract:

The heart is the second-most significant organ in the human body after the brain, which is the most significant organ. All of the body's organs are nourished and the blood is circulated. In the medical field, it might be difficult to anticipate the development of heart diseases. Data analytics is crucial for developing predictions based on new information, and it helps hospitals predict diseases. Every year, cardiovascular diseases account for more than 31 % of all fatalities globally. Different Machine learning algorithms are in this paper to predict heart disease. It presents a general overview of the previous work and offers insight into the current algorithm.

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### I. Introduction

Now a days, Machine Learning (ML) has been used in many research areas. Many works have been reported in various fields. It has made a significant contribution to the advancement of the healthcare business. Medical practitioners and academics have been able to diagnose and detect diseases with a high degree of precision using such a technology. Many lives have been saved as a result of it. It is crucial that these illnesses be identified as soon as possible as a result, so that their consequences can be controlled with medical guidance and medications. For the past 10 years, heart disease is the leading cause of death worldwide. 80 percent of the 17.9 million deaths from cardiovascular disease each year, according to the World Health Organization, are caused by cerebral stroke and coronary artery disease. Low- and middle-income countries have a high death rate. In order to take preventative measures to avert death, the ability to swiftly, effectively, and accurately diagnose cardiac illness is essential. The practice of extracting crucial information from enormous datasets in a variety of disciplines, including business, education, and medicine, is known as data mining. Machine learning is now the most advanced artificial intelligence technique. This has the ability to examine a sizable amount of data from numerous industries, including the medical industry. In depth study of data in the medical facilities is essential for analysis of the disease with algorithms such as Data mining and machine learning. The methodologies and techniques can be immediately used to a dataset to build models or draw significant conclusions and inferences. K. Polaraju et al. [1] developed a regression model which predicts Heart Disease. Pandita et al. [2] used KNN and Random Forest methods to forecast heart illnesses. The balancing of the data was checked once it was obtained and analyzed. A relation between various variables and their effect on the desired value was noted. This model's accuracy when using KNN was 86.885 percent, and when using Random Forest, it was 81.967 percent.

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