Heart disease classification

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Contents

Introduction

- It is difficult to identify heart disease because of several contributory risk factors such as diabetes, high blood pressure, high cholesterol, abnormal pulse rate and many other factors.
- Among various life threatening diseases, heart disease has garnered a great deal of attention in medical research.
- The diagnosis of heart disease is a challenging task, which can offer automated prediction about the heart condition of patient so that further treatment can be made effective.
- the diagnosis of heart disease is usually based on signs, symptoms of the patient. >The severity of the disease is classified based on various methods like K-Nearest Neighbor Algorithm (KNN), Decision Trees (DT), Genetic algorithm (GA), and Naive Bayes(NB).
- The nature of heart disease is complex and hence, the disease must be handled carefully. Not doing so may affect the heart or cause premature death.

Problem Statement

Heart Disease prediction using Machine Learning

Motivation

- A major challenge facing healthcare organizations is the provision of quality services at affordable costs.
- Quality service implies diagnosing patients correctly and administering treatments that are effective.
- Poor clinical decisions can lead to disastrous consequences which are therefore unacceptable
- Hospitals must also minimize the cost of clinical tests.
- They can achieve this results by employing appropriate computer based information and decision support system

Objectives

- The main objective of this research is to develop a heart prediction system, the system can discover and extract hidden knowledge associated with diseases from heart data set.
- This system aims to exploit machine learning techniques on medical data set to assist in the prediction of the heart disease.
- Reduce the cost of medical tests.
- To help avoid human biases.

Algorithms Used

- Logistic Regression
- Naive Bayes
- K-nearest Neighbor
- Decision Tree
- Support Vector Machine
- Random Forest

Applications

Medical Institutions:-

To teach medical students how the heart attack been measured, or how to identify that the person is suffering from heart disease.

Hospitals:

To detect that is the person having heart disease or not.

Summary

Heart disease prediction is challenging and very important in medical field. However, the mortality rate can be drastically controlled if the disease is detected at early stage and preventive measures are adopted as soon as possible.The proposed hybrid HRFLM approach is combined the characteristics of random forest(RF) and linear method(IM).HRFLM proved to be quite accurate in the prediction of heart disease.

THANK YOU