

Heart Disease Prediction By Using Machine Learning

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Abstract:

One of the most important issues facing the globe today is heart disease. Hybrid machine learning (ML) has demonstrated its ability to effectively support decision-making and prediction from the vast amounts of data generated by the healthcare sector and hospitals. Only a few research have used machine learning to predict cardiac disease. The current technique for predicting heart disease improves medical care while costing less. Several combinations of the prediction model are suggested, each with a particular feature.

Keywords: Random Forest Tree, Machine Learning Techniques, and Cardiovascular Disease Prediction.

INTRODUCTION

Cardiovascular disease is a fatal condition. Heart disease is responsible for far too many deaths each year. The deterioration of cardiac muscle can lead to heart disease. Additionally, cardiac failure is defined as the inability of the heart to pump the blood. Chest pain, breathlessness, and throat pain are symptoms of cardiac disease in blood vessels. Slow heartbeat, discomfort, chest pain, and other symptoms of heart disease brought on by irregular heartbeats

The most typical symptoms are discomfort, shortness of breath, chest pain, etc. Chest pain, shortness of breath, and fainting are the most typical symptoms. The signs of heart illness, such as high blood pressure, chest pain, hypertension, cardiac arrest, etc., can be used to diagnose the condition.

Birth defects, high blood pressure, diabetes, smoking, narcotics, and alcohol are all causes of heart disease. Cardiac arrest, hypertension, coronary artery disease, heart failure, infection, congenital heart disease, slow heartbeat, stroke-type heart disease, and angina pectoris are a few examples of different types of heart illness. Therefore, we shall give a basic overview of machine learning approaches in this work.

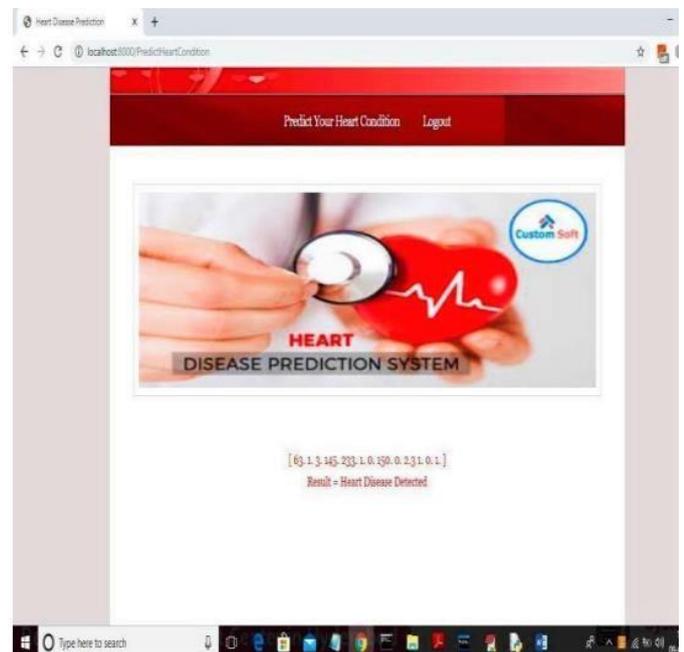
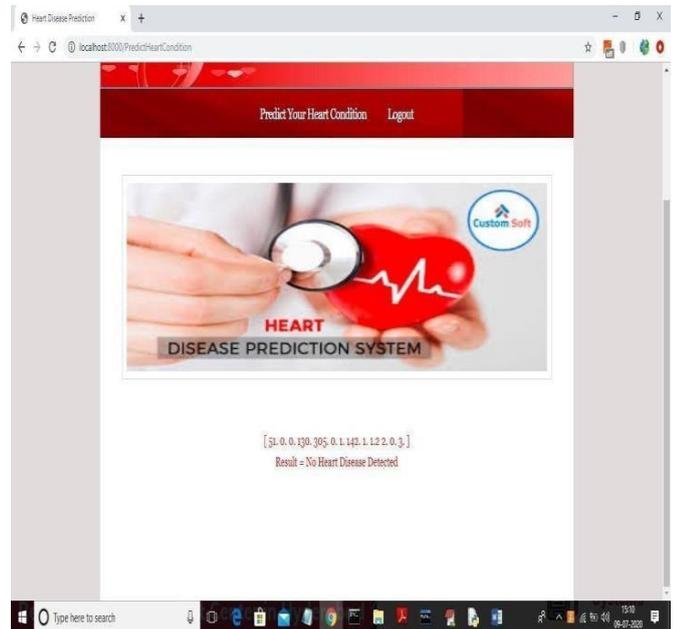
II. EXISTING SYSTEM

The patient provided the input data. Heart illness is then assessed from the user inputs using machine learning techniques. We currently have a system with lower accuracy. The performance and accuracy of the output using various methods are compared. The suggested hybrid method competes with the other current methods, providing values for the F-measure of 87%.

III. PROPOSED SYSTEM

We used Python after examining the output from the current system and pandas. Procedures to treat heart problems. It offers a simple to understand visual representation of the dataset, working environment, and predictive analytics development. The first step in the machine learning process is the pre-processing of the data, which is followed by feature selection based on data cleaning, classification, and performance evaluation. The proposed research examines four categorization algorithms, does performance analysis, and forecasts heart disease. The goal of the study is to accurately predict whether a patient has cardiac disease. The information is incorporated into a model that foretells the likelihood of developing heart disease. The precision of the outcome is increased by using the random forest technique.

IV. RESULT



V. CONCLUSION

Using machine learning techniques, we developed a strategy for predicting heart illness in this paper. The findings demonstrated a high accuracy standard for delivering improved estimation results. We identify the issue of prediction rate without equipment by introducing the proposed Random forest classification and propose a method to gauge heart rate and condition. First, a support vector classifier based on datasets was introduced.

We have outlined many machine learning algorithms for heart disease prediction. Every algorithm has produced a distinct outcome in a variety of circumstances.

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