

Project Team No:

Register No.

Name

1. 123003172

Pabba Rohith

2. 123003072

Gumpula Hruthik Kumar

3. 123003133

Marella Vishnu Vardhan Reddy

Project Title: Effective Heart Disease Prediction Using Hybrid Machine Learning Techniques

Name of the Guide: Dr. Sudha N

Abstract:

Heart disease has become common cause for death in the modern world. This disease is caused irrespective of age in these days and if not controlled or predicted at the earlier stage then this can cause a great damage and even fatality of the person. There are various kinds of cases that lead to these kinds of diseases. Some of the most commonly caused are high blood pressure where it is the situation in which the blood flows through the heart valves with a great pressure, heart valve disease where it is a situation in which due to some kind of abnormality any one valve out of the four valves couldn't open or close in a right way which leads to blockage of blood or leakage of blood and many other kinds of diseases that leads to heart attack where the heart stops functioning suddenly and the person not even able to breathe which leads to death of the person.

There are many techniques which are used to predict the heart diseases such as Genetic Algorithm, Decision Trees, Naive Bayes and even Neural Networks which gave valuable results and they have also given results of Atrial fibrillation, Normal Sinus Rhythm, Premature Ventricular Contraction which helped us to predict the disease at the earlier stage. Since the disease is related to the heart it is more complex and more sensitive part, so the disease has to be handled very carefully and if the severity is more then the treatment has to be done immediately. So, this lead to implement an algorithm that is even more efficient than the above algorithms with such as accuracy etc., parameters.

So, the main objective of the current proposed model uses all the features without any restrictions on using the feature selection. The technique we used here is the hybrid model named HRFLM (Hybrid Random Forest with Linear Model). We have shown that our proposed hybrid method has a stronger capability than the previous like the Decision Trees, Naive Bayes etc., in some of the parameters such as accuracy, specificity and in error control.

Keywords: Genetic Algorithm, Naive Bayes, Hybrid Random Forest with Linear Model, Specificity.

References:

<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8740989>

Pabba Rohith: P. Rohith
Gumpala Hrothik Kumar: - Aarthik Kumar
Marella Vishnu Vardhan Reddy: M. Vishnu

Name & Signature of the Student


Signature of Guide

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