

# **Topic: Visualizing and Predicting Heart Diseases with an Interactive Dash Board**

## **LITERATURE SURVEY**

### **ABSTRACT:**

This Survey describes various methods of data mining, big data and machine learning models for predicting the heart disease. Data mining and machine learning plays an important role in building an important model for medical system to predict heart disease or cardiovascular disease. Medical experts can help the patients by detecting the cardiovascular disease before occurring. Now-a-days heart disease is one of the most significant causes of fatality. The prediction of heart disease is a critical challenge in the clinical area. But time to time, several techniques are discovered to predict the heart disease in data mining. In this survey paper, many techniques were described for predicting the heart disease.

### **INTRODUCTION:**

Heart disease defines a range of conditions that affect human heart. The name "heart disease" is often used commonly with the name "cardiovascular disease". Heart disease is a term that allow to a large number of medical circumstances related to heart. These medical circumstances characterize the irregular health condition that directly affects the heart and all its parts. Heart disease generally allows to some conditions that involve narrowed or blocked blood vessels which can lead to a heart attack, stroke or chest pain. Other heart conditions, such as those that affect your heart's muscle, valves or rhythm, also are considered forms of heart disease .There are various types of cardiovascular disease. The most similar types are heart failure (HF) and Coronary Artery Disease (CAD). The main root cause of heart failure (HF) is occur due to the blockade or narrowing down of coronary arteries. Coronary arteries also supply blood to the heart. Data mining is a non trivial extraction of implicit, previously unknown potential useful information called as knowledge from the medical data

using complex algorithms. Big data (BD) can be referred as huge record of information set. Big Data and Data Mining are two various things. The task carried out by these two methods are similar focusing on collecting the huge amount of data, handling them and preparing report on the data by taking out the information which is knowledgeable. Data Mining is basically an activity of observing the patterns in the data which is relevant and with particular information by using Big Data. The useful patterns with hidden patterns, unknown correlations are analytically handled for making knowledgeable decision through this Big Data analytics process.

## **LITERATURE SURVEY:**

Bo Jin, Chao Che et al. (2018) proposed a “Predicting the Risk of Heart Failure With EHR Sequential Data Modeling” model designed by applying neural network. This paper used the electronic health record (EHR) data from real-world datasets related to congestive heart disease to perform the experiment and predict the heart disease before itself. We tend to used one-hot encryption and word vectors to model the diagnosing events and foretold coronary failure events victimization the essential principles of an extended memory network model. By analyzing the results, we tend to reveal the importance of respecting the sequential nature of clinical records [1]. Aakash

Chauhan et al. (2018) presented “Heart Disease Prediction using Evolutionary Rule Learning”. This study eliminates the manual task that additionally helps in extracting the information (data) directly from the electronic records. To generate strong association rules, we have applied frequent pattern growth association mining on patient’s dataset. This will facilitate (help) in decreasing the amount of services and shown that overwhelming majority of the rules helps within the best prediction of coronary sickness [2]. Ashir Javeed, Shijie Zhou et al. (2017) designed “An Intelligent Learning System based on Random Search Algorithm and Optimized Random Forest Model for Improved Heart Disease Detection”. This paper uses random search algorithm (RSA) for factor selection and random forest model for diagnosing the cardiovascular disease. This model is principally optimized for using grid search algorithmic program. Two forms of experiments are used for cardiovascular disease prediction. In the first form, only random forest model is developed and within the second experiment the proposed Random Search Algorithm based random forest model is developed.

This methodology is efficient and less complex than conventional random forest model. Comparing to conventional random forest it produces 3.3% higher

accuracy. The proposed learning system can help the physicians to improve the quality of heart failure detection [3].

## **CONCLUSION:**

In this paper, a literature survey of review delivers the concept of various techniques has been studied for diagnosing the cardiovascular disease. Use of big data, machine learning along with data mining can provide promising results to bring the most effective accuracy in analysing the prediction model. The main aim of this paper diagnosing the cardiovascular disease or the heart disease and using different methods and many approaches to get prediction.

## **REFERENCES:**

- [1] Bo Jin ,Chao Che, Zhen Liu, Shulong Zhang, Xiaomeng Yin, And Xiaopeng Wei, “Predicting the Risk of Heart Failure With EHR Sequential Data Modeling” ,IEEE Access 2018.
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