LITERATURE SURVEY FOR VISUALIZING AND PREDICTING HEART DISEASES WITH AN INTERACTIVE DASHBOARD

1.Review Paper on Prediction of Heart Disease using Machine Learning Algorithms:

Heart disease has been one of the ruling causes for death for quite some time now. About 31% of all deaths every year in the world take place as a result of cardiovascular diseases .A majority of the patients remain uninformed of their symptoms until quite late while others find it difficult to minimise the effects of risk factors that cause heart diseases. Machine Learning Algorithms have been quite efficacious in producing results with a high level of correctness thereby preventing the onset of heart diseases in many patients and reducing the impact in the ones that are already affected by such diseases. It has helped medical researchers and doctors all over the world in recognising patterns in the patients resulting in early detections of heart diseases. Keywords: Cardiovascular Diseases (CVDs); Support Vector Machine (SVM); K- Nearest Neighbour (KNN); Naive Bayes (NB); Random Forest (RF); Logistic Regression (LR); Machine Learning (ML); Prediction Model.

AUTHOR : Aadar Pandita

2.Heart disease prediction using machine learning algorithms:

Day by day the cases of heart diseases are increasing at a rapid rate and it’s very Important and concerning to predict any such diseases beforehand. This diagnosis is a difficult task i.e. it should be performed precisely and efficiently. The research paper mainly focuses on which patient is more likely to have a heart disease based on various medical attributes. We prepared a heart disease prediction system to predict whether the patient is likely to be diagnosed with a heart disease or not using the medical history of the patient. We used different algorithms of machine learning such as logistic regression and KNN to predict and classify the patient with heart disease. A quite Helpful approach was used to regulate how the model can be used to improve the accuracy of prediction of Heart Attack in any individual. The strength of the proposed model was quiet satisfying and was able to predict evidence of having a heart disease in a particular individual by using KNN and Logistic Regression which showed a good accuracy in comparison to the previously used classifier such as naive bayes etc. So a quiet significant amount of pressure has been lift off by using the given model in finding the probability of the classifier to correctly and accurately identify the heart disease. The Given heart disease prediction system enhances medical care and reduces the cost. This project gives us significant knowledge that

can help us predict the patients with heart disease It is implemented on the .pynb format.

3.Heart Disease Prediction Using Machine Learning:

Cardiovascular disease refers to any critical condition that impacts the heart. Because heart diseases can be life-threatening, researchers are focusing on designing smart systems to accurately diagnose them based on electronic health data, with the aid of machine learning algorithms. This work presents several machine learning approaches for predicting heart diseases, using data of major health factors from patients. The paper demonstrated four classification methods: Multilayer Perceptron (MLP), Support Vector Machine (SVM), Random Forest (RF), and Naïve Bayes (NB), to build the prediction models. Data preprocessing and feature selection steps were done before building the models. The models were evaluated based on the accuracy, precision, recall, and F1-score. The SVM model performed best with 91.67% accuracy.

AUTHOR : Chaimaa Boukhatem; Heba Yahia Youssef; Ali Bou Nassif

4. A novel approach for heart disease prediction using strength scores with significant predictors:

This paper is motivated by the gap in the literature, thus proposes an algorithm that measures the strength of the significant features that contribute to heart disease prediction. The study is aimed at predicting heart disease based on the scores of significant features using Weighted Associative Rule Mining Weighted Association Rule Mining (WARM) is one of the data mining techniques used to discover the relationships between features and to determine mining rules that lead to certain predictions [22]. The weight that is used in this mining technique provides users with a convenient way to indicate the importance of the features that contributes to heart disease and helps obtain more accurate rules [4]. In many prediction models, different features have different importance. Hence, different weights are assigned to different features based on their predicting capabilities [48]. The failure in determining the weight indicates the failure in determining the importance of the features.

5. Prediction of Heart Disease Using Machine Learning Algorithms:

Heart disease has risen to become one of the leading causes of death all over the world. According to the World Health Organization, cardiac illnesses claim the lives of 17.7 million people each year, accounting for 31% of all fatalities worldwide. Heart disease has become the top cause of death in India as well. As a result, it is essential to be able to forecast heart-related disorders in a reliable and

precise manner. Data on various health-related con- cerns is compiled by medical institutions all over the world. These data can be used to gain significant information utilizing a variety of machine learning techniques. However, the amount of data collected is enormous, and it is frequently noisy. We are going to use various machine learning algorithms to predict the target. We will be using a number of different features about a person to predict whether they have heart dis- ease or not. The dependent variable is whether or not a patient has heart disease, while the independent variables are the patient's many medical characteristics. The various machine learning algorithms used for our model will be Logistic Regression, K-Nearest Neighbours, and Random Forest. We will compare the scores of all these models by splitting our data into training and testing in an approximate 80:20 ratio. We will also tune the hyper parameters for all these models to yield the best results. And finally conclude the best prediction model for our heart disease dataset

AUTHOR : SHRINIKET DIXIT