

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

1.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.

Author : Aakash Chauhan

2. 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 concerns 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 disease 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 : Shrinike Dixit

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 pre-processing 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 : Heba Yahia Youssef; Ali Bou Nassif

4. An Intelligent Decision Support System for Cardiac Disease Detection

“An Intelligent Decision Support System for Cardiac Disease Detection”, designed a cost efficient model by using genetic algorithm optimizer technique. The weights were optimized and fed as an input to the given network. The accuracy achieved was 90% by using the hybrid technique of GA and neural networks.

Author : Lokanath Sarangi, Mihir Narayan Mohanty, Srikanta Pattnaik

5. 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.

Author : Aadar Pandita

