Visualising and Predicting Heart Diseases with an Interactive Dashboard

LITERATURE SURVEY

Sno.	Paper title	Author name	Publication year	Results
1.	Cardiovascular Disease Prediction Based on Machine Learning Technology	Oleh Voloshynskyi, Victoria Vysotska, Myroslava Bublyk	2021	The purpose of this article is the development of an information system for cardiovascular disease prediction based on machine learning technology. The accuracy of such methods as logistic regression, random forest, support vector machine and artificial neural network is more than 85%, which is

				also a good result. Techniques such as k-nearest neighbours and decision tree classifier, which showed 68.65% and 78.69% accuracy, respectively, coped with the worst task.
2.	Prediction of Coronary Heart Disease using Machine Learning: An Experimental Analysis	Gurpreet Singh,Rami Mustafa A. Mohammad, Fadi Thabtah, Amanda H. Gonsalves	2019	The field of medical analysis is often referred to be a valuable source of rich information. Coronary Heart Disease (CHD) is one of the major causes of death all around the world therefore early detection of CHD can help reduce these rates. The challenge lies in the

				complexity of the data and correlations when it comes to prediction using conventional techniques. The aim of this research is to use the historical medical data to predict CHD using Machine Learning (ML) technology. The scope of this research is limited to using three supervised learning techniques namely Naïve Bayes (NB), Support Vector Machine (SVM) and Decision Tree (DT), to discover correlations in CHD data that might help improving the

				prediction rate. Using the South African Heart Disease dataset of 462 instances, intelligent models are derived by the considered ML techniques using 10-fold cross validation. Empirical results using different performance evaluation measures report that probabilistic models derived by NB are promising in detecting CHD.
3.	CARDIOVASCULAR DISEASE PREDICTION USING CLASSIFIER ALGORITHM	Ankur Sharma , Neha Arora	2020	Big data proposes vast promises for detecting interactions and nonlinearities in relationships among

				variables. Mobile devices, such as smartphones and tablets, and sensors, will continue to be the most indispensable tools available to deliver heart attack prediction and telecardiology services over wireless networks to reduce cardiovascular disease morbidity and mortality. The most important factor, however, in the development and application of big data, telecardiology, sensor use, mobile phone or tablet use and landline use is patient privacy and to

				safeguard the patient's ability to direct and discover the use of his or her health care information. Machine learning is getting advanced which is helpful in making correct choices and taking best decision. Machine learning has proved to be a best tool in making prediction in the healthcare sector. The study has shown that machine learning algorithms are better at predicting the absolute number of cardiovascular disease cases correctly.

				Through the study, we have found that awareness towards such kind of disease is important. So, correct prediction towards these will help the people and the doctors to take precautions as required. CVD is a type of disease that must be controlled to decrease the death ratio worldwide. In addition, given the magnitude of increase in the prevalence of heart disease cases worldwide, it is important to look at different ways of prevention. The data clearly shows that individual based risk

				factors evaluation is insufficient; And that social determinants of health must be looked at.
4.	A Hybrid Machine Learning Approach for Prediction of Heart Diseases	Sanchayita Dhar Krishna Roy Tanusree Dey Pritha Datta Ankur Biswas	2019	Heart diseases are the chief cause of death all over the world over the last few decades. To avoid heart disease or coronary illness and discover indications early, individuals over 55 years must have a total cardiovascular checkup. Researchers and specialists developed various intelligent techniques to improve capacity of the health care professionals

				in recognition of cardiovascular disease. In cardiovascular disease finding and treatment, single data mining strategies are giving the reasonable precision and accuracy. Nevertheless the usage data mining procedure be capable of reducing the number of test that is required to be carried out. In order to decrease the Figure of deaths from heart diseases there has to be a quick and efficient detection technique providing better accuracy and precision. The

				aim of this paper is to present an efficient technique of predicting heart diseases using machine learning approaches. Hence we proposed a hybrid approach for heart prediction using Random forest classifier and simple k-means algorithm machine learning techniques. The dataset is also evaluated using two other different machine learning algorithms, namely, J48 tree classifier and Naive Bayes classifier and results are compared.

				Results attained through Random forest classifier and the corresponding confusion matrix shows robustness of the methodology.
5.	GUI based Prediction of Heart Stroke Stages by finding the accuracy using Machine Learning algorithm.	Yash Prakash Kadtan, Aditya Pratap Singh Chauhan, R. Brindha	2021	Many predictive techniques are used and applied in the medical domain such as predicting occurrence, evaluating outcome of diseases and assisting clinicians to recommend treatment of diseases. Standard predictive models or methods, on the other hand, are incapable of simulating the complexities

				of feature representation in medical problem domains, and therefore are ineffective in capturing the underlying information. To address this problem, machine learning algorithms are used to apply predictive computational techniques for heart stroke on a given hospital dataset. Atrial fibrillation is a significant risk factor for cardiac attack in patients, and it shares many of the same factors that predict stroke. When a dataset is analysed using a controlled machine learning algorithm,

				variables such as variable recognition, univariate analysis, bivariate and multivariate analysis, missed value therapies, mathematical methods, and so on are all recorded. The aim of the predictive analytics model is to recognise the various stages of heart stroke in patients. Discuss the output of the provided hospital dataset, as well as the evaluation of the classification study and the uncertainty matrix. To compare supervised classification machine learning

				algorithms and suggest a machine learning-based method for reliably predicting heart stroke using given characteristics . Furthermore, compare and discuss the performance of different machine learning algorithms from the given healthcare department dataset with evaluation classification report, define the confusion matrix, and categorise data from priority, and the result depicts that the effectiveness of a graphical user interface based proposed machine

				learning algorithm technique can be compared with best accuracy with precision and F1 Score