



M.KUMARASAMY
COLLEGE OF ENGINEERING

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Thalavapalayam, Karur – 639 113.



VISUALIZING AND PREDICTING HEART DISEASES WITH AN INTERACTIVE DASH BOARD

TEAM ID:

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TEAM MEMBERS:

1. HARSHINI S(927619BEC4073)
2. KAMALI V(927619BEC4087)
3. KARTHIKA M (927619BEC4090)
4. KRIPANANDHINI T(927619BEC4104)

INDUSTRY MENTORS:

1. Mr. MAHIDHAR
2. Ms. SAUMYA

INSTITUTION MENTOR NAME:

Dr. KARTHIKEYAN K (AP/ECE)

ABSTRACT:

Healthcare industries generate enormous amount of data, so called big data that accommodates hidden knowledge or pattern for decision making. The huge volume of data is used to make decision which is more accurate than intuition. Exploratory Data Analysis (EDA) detects mistakes, finds appropriate data, checks assumptions and determines the correlation among the explanatory variables. In the context, EDA is considered as analysing data that excludes inferences and statistical modelling. Analytics is an essential technique for any profession as it forecast the future and hidden pattern. Data analytics is considered as a cost-effective technology in the recent past and it plays an essential role in healthcare which includes new research findings, emergency situations and outbreaks of disease. The use of analytics in healthcare improves care by facilitating preventive care and EDA is a vital step while analysing data. In this paper, the risk factors that causes heart disease is considered and predicted using K-means algorithm and the analysis is carried out using a publicly available data for heart disease. The dataset holds 209 records with 8 attributes such as age, chest pain type, blood pressure, blood glucose level, ECG in rest, heart rate and four types of chest pain. To predict the heart disease, K-means clustering algorithm is used along with data analytics and visualization tool. The paper discusses the pre-processing methods, classifier performances and evaluation metrics. In the result section, the visualized data shows that the prediction is accurate.

PROPOSED METHODOLOGY:

Heart disease is easier to treat when it is detected in the early stages. Machine learning techniques may aid a more efficient analysis in the prediction of the disease. Moreover, this prediction is one of the most central problems in medical, as it is one of the leading diseases related to unhealthy lifestyle. So, an early prediction of this disease will be useful for a cure or averion. In this study, we experiment with the heart disease dataset to explore the machine learning algorithms and build an optimum model to predict the disease.

LITERATURE REVIEW:

The huge information of healthcare data is collected from the healthcare industry which is not mined unfortunately to make effective decision making for the identification of hidden information. The end user support system is used as the prediction application for the heart disease and this paper proposes windows through the intelligent prediction system the instance guidance for the heart disease is given to the user. Various symptoms of the heart diseases are fed into the application. The user precedes the processes by checking the specific detail and symptoms of the heart disease. The decision tree (ID3) and navie Bayes techniques in data mining are used to retrieve the details associated with each patient. Based on the accurate result prediction, the performance of the system is analyzed.

TITLE: PREDICTION AND ANALYSIS THE OCCURRENCE OF HEART DISEASE USING DATA MINING TECHNIQUES-2018

AUTHOR: CHALA BAYENE

DESCRIPTION: The main objective is to predict the occurrence of heart disease for early automatic diagnosis of the disease within result in short time. The proposed methodology is also critical in healthcare organisation with experts that have no more knowledge and skill. It uses different medical attributes such as blood sugar and heart rate, age, sex is some of the attributes are included to identify if the person has heart disease or not. Analyses of dataset are computed using WEKA software.

TITLE:NON-LINEAR CLASSIFICATION ALGORITHM FOR HEART DISEASE PREDICTION -2018

AUTHOR: R. SHARMILA

DESCRIPTION: It is proposed to use bigdata tools such as Hadoop Distributed File System (HDFS), MapReduce along with SVM for prediction of heart disease with optimized attribute set. This work made an investigation on the use of different data mining techniques for predicting heart diseases. It suggests to use HDFS for storing large data in different nodes and executing the prediction algorithm using SVM in more than one node simultaneously using SVM. SVM is used in parallel fashion which yielded better computation time than sequential SVM.

TITLE: C45 RULES AND PARTIAL TREE TECHNIQUE TO PREDICT HEART DISEASE-2015

AUTHOR: SHARMA PURUSHOTTAM

DESCRIPTION: This paper can discover set of rules to predict the risk levels of patients based on given parameter about their health. The performance can be calculated in measures of accuracy classification, error classification, rules generated and the results. Then comparison has done using C4.5 and partial tree. The result shows that there is potential prediction and more efficient.

TITLE: THE DECISION TREE BASED NEURAL FUZZY SYSTEM (DNFS) TECHNIQUE TO ANALYSE AND PREDICT OF VARIOUS HEART DISEASE -2016

AUTHOR: S. PRABHAVATHI

DESCRIPTION: This paper reviews the research on heart disease diagnosis. DNFS stand for Decision tree based Neural Fuzzy System. This research is to create an intelligent and cost-effective system, and also to improve the performance of the existing system. Specifically in this paper, data mining techniques are used to enhance heart disease prediction. The result of this research shows that the SVM and neural networks results highly positive manner to predict heart disease. Still the data mining techniques are not encouraging for heart disease prediction.

TITLE: THE DATA MINING TECHNIQUES AND MACHINE LEARNING TO PREDICT HEART DISEASE-2017

AUTHOR: JAYMIN PATEL

DESCRIPTION: There are two objectives to predict the heart system. 1. This system not assume any knowledge in prior about the patient's records. 2. The system which chosen must be scalar to run against the large number of records. This system can be implemented using WEKA software. For testing, the classification tools and explorer mode of WEKA are used.

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