

LITERATURE SURVEY

Author: Mostafa, F.; Hasan, E.; Williamson, M.; Khan

Year: 1 December 2021

Abstract:

Medical diagnoses have important implications for improving patient care, research, and policy. For a medical diagnosis, health professionals use different kinds of pathological methods to make decisions on medical reports in terms of the patients' medical conditions. Recently, clinicians have been actively engaged in improving medical diagnoses. The use of artificial intelligence and machine learning in combination with clinical findings has further improved disease detection. In the modern era, with the advantage of computers and technologies, one can collect data and visualize many hidden outcomes such as dealing with missing data in medical research. Statistical machine learning algorithms based on specific problems can assist one to make decisions. Machine learning (ML), data-driven algorithms can be utilized to validate existing methods and help researchers to make potential new decisions. The purpose of this study was to extract significant predictors for liver disease from the medical analysis of 615 humans using ML algorithms. Data visualizations were implemented to reveal significant findings such as missing values. Multiple imputations by chained equations (MICEs) were applied to generate missing data points, and principal component analysis (PCA) was used to reduce the dimensionality.

Author: Rakshith D B , Mrigank Srivastava , Ashwani Kumar, Gururaj S P

Year: 05-07-2021

Abstract:

In this paper we are going to discuss how to predict risk of liver disease for a person, based on the blood test report results of the user. In this paper, the risk of liver disease was predicted using various machine learning algorithms. The final output was predicted based on the most accurate machine learning algorithm. Based on the accurate model we designed a system which asks a person to enter the details of his/her blood test report. Then the system uses the most accurate model which is trained to predict, whether a person has risk of liver disease or not.

Author: R. Kalaiselvi , K. Meena, V. Vanitha

Year: 08-09 October 2021

Abstract:

In Human beings, Liver is the most primary part of the body that performs many functions including the production of Bile, excretion of bile and bilirubin, metabolism of proteins and carbohydrates, activation of Enzymes, Storing glycogen, vitamins, and minerals, plasma proteins synthesis and clotting factors. The liver easily gets affected due to intake of alcohol, pain killer tablets, food habits, and includes plenty of wired practices. Currently, the liver related diseases are identified by analyzing liver function blood test reports and scan reports. It takes more time as well as expensive. While employing different data mining algorithms to ease this process it is possible to reduce the time for diagnosing the liver disease. When more data are used, the prediction will be more accurate. To avoid the local storage scarcity experienced in many healthcare centres, cloud storage is used. As the documents generated are voluminous in size in health care centres cloud storage would be an appropriate choice. This article discusses different data mining algorithms like K-Nearest Neighbor (KNN), Decision Tree (DT) and Adaptive Neuro-Fuzzy Inference System (ANFIS) that are used to provide a decision support model that could help the physician in predicting the liver disease from the dataset. The performance of each algorithm is evaluated with respect to accuracy, sensitivity, precision and specificity. A survey on the efficiency of these algorithms is presented.

Author: A.K.M Sazzadur Rahman , F.M. Javed Mehedi Shamrat,
Zareen Tasnim , Joy Roy

Year: November 2019

Abstract:

Chronic Liver Disease is the leading cause of global death that impacts the massive quantity of humans around the world. This disease is caused by an assortment of elements that harm the liver. For example, obesity, an undiagnosed hepatitis infection, alcohol misuse. Which is responsible for abnormal nerve function, coughing up or vomiting blood, kidney failure, liver failure, jaundice, liver encephalopathy and there are many more. This disease diagnosis is very costly and complicated. Therefore, the goal of this work is to evaluate the performance of different Machine Learning algorithms in order to reduce the high cost of chronic liver disease diagnosis by prediction. In this work, we used six algorithms Logistic Regression, K Nearest Neighbors, Decision Tree, Support Vector Machine, Naïve Bayes, and Random Forest. The performance of different classification techniques was evaluated on different measurement techniques such as accuracy, precision, recall, f-1 score, and specificity. We found the accuracy 75%, 74%, 69%, 64%, 62% and 53% for LR, RF, DT, SVM, KNN and NB. The analysis result shown the LR achieved the highest accuracy. Moreover, our present study mainly focused on the use of clinical data for liver disease prediction and explore different ways of representing such data through our analysis.

Author: Chieh-Chen Wu, Wen-Chun Yeh, Wen-Ding Hsu

Year: 29 December 2018

Abstract:

Background and objective

Fatty liver disease (FLD) is a common clinical complication; it is associated with high morbidity and mortality. However, an early prediction of FLD patients provides an opportunity to make an appropriate strategy for prevention, early diagnosis and treatment. We aimed to develop a machine learning model to predict FLD that could assist physicians in classifying high-risk patients and make a novel diagnosis, prevent and manage FLD.

Methods

We included all patients who had an initial fatty liver screening at the New Taipei City Hospital between 1st and 31st December 2009. Classification models such as random forest (RF), Naïve Bayes (NB), artificial neural networks (ANN), and logistic regression (LR) were developed to predict FLD. The area under the receiver operating characteristic curve (ROC) was used to evaluate performances among the four models.