LITERATURE SURVEY

Team ID : PNT2022TMID40372

Project Tittle : Statistical Machine Learning Approaches to Liver Disease Prediction.

Team Size : 4

Team Leader : VENGADESH R

Team Member : GOPINATH S

Team Member : SANTHOSH S

Team Member : SANJAY R

1	Paper Title	Liver Disease Prediction System using Machine Learning Techniques. Author- Rakshith D B, Mrigank Srivastava, Ashwani Kumar, Gururaj S P. Year-2021
	Problem Definition	In this paper we are going 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.
	Methodology/Algorithm	"Predictive Model for Liver disease through SVM, KNN, ANN and Naive Bayes classification Algorithm"
	Advantages	The system predicts the results with 100 % accuracy for the dataset that we have used while creating this application.
	Disadvantages	The Naive bayes algorithm is only 55.56% accuracy. For more accuracy need to be used more Best algorithm

2	Paper Title	Evaluation based Approaches for Liver Disease Prediction using Machine Learning Algorithms. Author – C Geetha and AR Arunachalam.
	Problem Definition	In this paper, using machine learning techniques, the methods for diagnosing liver disease in patients has been proposed and evaluated
	Methodology/Algorithm	SVM, Logistic Regression, comprises two main machine learning techniques used.
	Advantages	The probability of liver disease prediction attained with an accuracy of 96%.
	Disadvantages	For better accuracy, can be compared with other techniques such as naïve bayes classification, Random forest etc.

3	Paper Title	Comparison of machine learning approaches for prediction of advanced liver fibrosis in chronic hepatitis C patients. Author – Somaya Hashem, Gamal Esmat.
	Problem Definition	In this study, we made a comparison between different machine learning approaches on prediction of advanced liver fibrosis in Chronic Hepatitis C patients.
	Methodology/Algorithm	Decision tree, genetic algorithm, particle swarm optimization, and multilinear regression models for advanced fibrosis risk prediction were developed
	Advantages	The machine learning algorithms under study were able to predict advanced fibrosis in patients with HCC with AUROC ranging between 0.73 and 0.76 and accuracy between 66.3% and 84.4%.
	Disadvantages	Machine-learning approaches could be used as alternative methods in prediction of the risk of advanced liver fibrosis due to chronic hepatitis C.

4	Paper Title	A Probabilistic peptide machine for predicting hepatitis C virus protease cleavage sites. Author – Zheng Rong Yang.
	Problem Definition	This paper proposes a novel algorithm termed as a probabilistic peptide machine where estimating probability density functions and constructing a classifier for predicting protease cleavage sites are combined into one process.
	Methodology/Algorithm	Probabilistic Peptide Machine and Support vector Machines Algorithm were used
	Advantages	For instance, the cleaved peptide "DEMEELSQHL" is classified by PPM with a posterior probability of cleavage 46.9% which is very close to the decision boundary and is classified by SVM with a Z-score of 0.42
	Disadvantages	The accuracy is not necessary to predict the Liver Disease more properly