Literature Survey

The purpose of a literature review is to gain an understanding of the existing research and debates relevant to a particular topic or area of study, and to present that knowledge in the form of a written report. Conducting a literature review helps you build your knowledge in your field.

1. Liver Disease Prediction Using Machine Learning Algorithms[October 2021]

Authors:

- **R. Kalaiselvi**
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Overview:

The liver related diseases are identified by analysing liver function blood test reports and scan reports.This paper while employing different data mining algorithms to ease this process, it is possible to reduce the time for diagnosing the liver disease.

Merits:

- The prediction is more accurate.
- To avoid the local storage scarcity experienced in many healthcare centres, cloud storage is used.

Demerits:

- Doesn’t assist in making effective decisions.
- Accuracy Issues.

2. Prediction of Liver Disease using Classification Algorithms[December 2018].

Authors:

- **Thirunavukkarasu K**
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  School of Computer Science and Engineering Galgotias University Greater Noida, India

Overview:

The main aim of this paper is to predict liver disease using different classification algorithms. The algorithms used for this purpose of work are Logistic Regression, K-Nearest Neighbour and Support Vector Machines. Accuracy score and confusion matrix is used to compare this classification algorithm.

Merits:

- Logistic regression is easier to implement, interpret, and very efficient to train.
- It can easily extend to multiple classes(multinomial regression) and a natural probabilistic view of class predictions.The major limitation of Logistic Regression is the assumption of linearity.

Demerits:

- It can only be used to predict discrete functions.
- It constructs linear boundaries.

3. Prediction of Liver Diseases Based on Machine Learning Technique for Big Data[January 2018].

Authors:

- Jayakumar Sadhasivam
- Senthil J
- Ganesh R.M
- Chellappan N

Overview:
The doctors often failed to identify the symptoms which can cause severe damages to the patient and it requires utmost attention. So, in this paper they are applying Medical Data Mining (MDM) for predicting liver disease by using the historical data and understanding their patterns.

Merits:
- Performance rate is high.
- Prediction of liver disease at an early stage can lead to improved treatment.

Demerits:
- Accuracy Issues.

4. Statistical Machine Learning Approaches to Liver Disease Prediction [November 2021]

Authors:

- Fahad Mostafa
- Easin Hasan
- Morgan Williamson
- Hafiz Khan

Overview:
The purpose of this study was to extract significant predictors for liver disease from the medical analysis of 615 humans using ML algorithms.

Merits:
- The applied ML methods in this article can save time, costs, and potentially lives for the betterment of disease diagnosis.
- These methods can reduce many of the limitations that occur in healthcare associated with inaccuracy in diagnoses

Demerits:
- It can only be used to predict discrete functions.
- It constructs linear boundaries.

5. Liver Disease Prediction By Using Different Decision Tree Techniques [March 2018]

Authors:

- Nazmun Nahar
- Ferdous Ara

Overview:

The main purpose of this work is to calculate the performance of various decision tree techniques and compare their performance.

Merits:

- Gives various results based on Accuracy, Mean Absolute Error, Precision, Recall,Kappa statistics and Runtime.
- Enhancing the early diagnosis rate and reducing end-stage complications.

Demerits:

- Lack of interpretability.

6. Evaluation based Approaches for Liver Disease Prediction using Machine Learning Algorithms[January 2021].

Authors:

- **C. Geetha**
  Bharath Institute of Higher Education and Research,Department of CSE,Chennai,India
- **AR. Arunachalam**
  Dr. MGR University,Department of CSE,Chennai,India.

Overview:

This work aims to augment the perceive nature of liver disease by means of machine learning methods to solve this epidemic.

Merits:

- Doctors get more online clients.
- Increased precision for a more accurate diagnosis of liver diseases.

Demerits:

- System is not fully automated.
- Doesn't assist in making effective decisions.

7. Diagnosing for Liver Disease Prediction in Patients Using Combined Machine Learning Models[February 2022]

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Overview:

This paper aims to represent a Diagnosing for Liver disease prediction in Patients using Combined Machine Learning Models. Optimised three machine learning algorithms are used in accurate diagnosis of liver disease by the doctors and these are Artificial Neural Networks (ANN), Decision Trees, K-Nearest Neighbours (KNN).

Merits:

- Training data has a good set of features or less to no irrelevant features.
- Reduce the time complexity of doctors.

Demerits:

- Overfitting is the main disadvantage.