Literature Survey

The use of intelligence systems in medical diagnosis is increasing gradually. There is no doubt that evaluation of data taken from patient and decisions of experts are the most important factors in diagnosis. But, expert systems and different artificial intelligence techniques for classification also help experts in a great deal. Classification systems, helping possible errors that can be done because of fatigued or inexperienced expert to be minimized, provide medical data to be examined in shorter time and more detailed [1].

This data comprises of information about the patients, diagnosis reports and medical images. It is important to utilize this information to decipher a decision support system. To achieve this it is important to discover and extract the knowledge domain from the raw data. It is accomplished by knowledge discovery and data mining [2].

Different types of machine learning, Supervised, Unsupervised and Semi-Supervised, Reinforcement Learning for diagnosis of liver disease such as SVM, KNN, K-Mean clustering, neural network, Decision tree etc and give difference accuracy, precision, sensitivity. The motive of this paper is to give a survey and comparative analysis of the entire machine learning techniques for diagnosis and prediction of liver disease in the medical area, which has already been used for the prediction of liver disease by various authors and the analysis are based on Accuracy, Sensitivity, Precision, and Specificity.[3]

Joel Jacob et al. [4] proposed a paper to diagnosis of liver disease by using three different algorithms, Logistic regression, K-NN, SVM, and ANN and used Indian Liver Patient Dataset comprised of 10 different attributes of 583 patients. And concluded Logistic regression, KNN, SVM, & ANN has 73.23, 72.05, 75.04 & 92.8% accuracy respectively. Indian Liver Patient Dataset comprised of 10different attributes of 583patients.

Data Mining is one of the most critical aspects of automated disease diagnosis and disease prediction. It involves data mining algorithms and techniques to analyze medical data. In recent years, liver disorders have excessively increased and liver diseases are becoming one of the most fatal diseases in several countries. In this thesis, liver patient datasets are investigate for building classification models in order to predict liver disease. This thesis implemented a feature model construction and comparative analysis for improving prediction accuracy of Indian liver patients in three phases.[5]

The various classification algorithms such as Logistic Regression, SMO, Random Forest algorithm, Naive Bayes, J48 and k-nearest neighbor (IBk) are implemented on the Liver Patient dataset to find the accuracy. The comparison different classifier results are done of feature selection and without using feature selection technique. [6]

[1] LITERATURE REVIEW ON LIVER DISEASE CLASSIFICATION Miss. Hemalata Vaidya1, Miss. S. K. Chaudhari2, Mr. H. T. Ingale2

[2] Hastie T, Robert, T, Jerome F (2009). The Elements of Statistical Learning: Data mining, Inference and Prediction. Springer

[3] A Survey on machine learning techniques for the diagnosis of liver disease
Golmei Shaheamlung, Harshpreet Kaur, Mandeep Kaur

[4] Liver Disease Prediction Using Machine Learning Algorithms HARSHA TALELE1, KAJAL SHAH2, TANUJA PATIL3, JYOTI SHIROLE4, POOJA BHAVSAR5

[5] Performance Analysis of Liver Disease Prediction Using Machine Learning Algorithms M. Banu Priya1, P. Laura Juliet2, P.R. Tamilselvie.

[6] Software-based Prediction of Liver Disease with Feature Selection and Classification Techniques JagdeepSingha, SachinBaggab, Ranjodh Kaurc