

A Review of Liver Patient Analysis Methods Using Machine Learning

- **Define Problem / Problem Understanding**

- In this milestone, we will go through the problem understanding.

- **Specify The Business Problem**

- Liver diseases averts the normal function of the liver. This disease is caused by an assortment of elements that harm the liver.
- Diagnosis of liver infection at the preliminary stage is important for better treatment.
- This disease diagnosis is very costly and complicated.
- Early prediction of liver disease using classification algorithms is an efficacious task that can help the doctors to diagnose the disease within a short duration of time.
- In this project we will analyse the parameters of various classification algorithms and compare their predictive accuracies So as to find out the best classifier for determining the liver disease.
- This project compares various classification algorithms such as Random Forest, Logistic Regression, KNN and ANN Algorithm with an aim to identify the best technique.

- **Business Requirements**

- Patients with Liver disease have been continuously increasing because of excessive consumption of

- Alcohol,
 - Inhale of harmful gases,
 - Inhale of contaminated food,
 - Pickles,
 - Drugs and
 - Other factors.
- This dataset was used to evaluate prediction algorithms in an Effort to reduce burden on doctors.
- Use these patient records to build a prediction model that will predict which patients have liver disease and which ones do not.

- Literature Survey

- With a growing trend of sedentary and lack of physical activities, diseases related to liver have become a common encounter nowadays.
- In rural areas the intensity is still manageable, but in urban areas, and especially metropolitan areas the liver disease is a very common sighting nowadays.
- Problems with liver patients are not easily discovered in an early stage as it will be functioning normally even when it is partially damaged.
- An early diagnosis of liver problems will increase Patients survival rate.
- There are various algorithms that have been used with varying levels of success. Logistic regression, decision tree, random forest, and neural networks have all been used and have been able to accurately predict liver disease.

- Social or Business Impact

Social Impact:

- Today almost above the age of 12 years are using the smartphones, we can incorporate these solutions into an android app or iOS app.
- Also, it can be incorporated into a website and these app and website will be highly beneficial for a large section of society.

Business impact:

- It's now more feasible blood test centres to give the result.
- Have any deep knowledge of medical science and liver diseases.
- Already present in the blood test report and then user will get the results of predication.