

Project Design Phase-I Proposed Solution Template

Date	02 October 2022
Team ID	PNT2022TMID32540
Project Name	Statistical Machine Learning Approaches to Liver Disease Prediction
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Discovering the existence of liver disease at an early stage is a complex task for the doctors. The main objective of the project is to examine data from liverpatients concentrating on relationships between a key list of liver enzymes, proteins, age and gender using them to try and predict the likeliness of liver disease.
2.	Idea / Solution description	Our solution is to build a model by applying various machine learning algorithms and find the best accurate model to predict whether as a liver disease or not. We plan to perform datapre-processing and data visualization methods to increase the accuracy of the model. And integrate the chosen model into Flask based web application where the User can predict the disease by entering parameters in the web application.

3.	Novelty / Uniqueness	<p>Data pre-processing which includes Data Cleaning, Data transformation, and Data Reduction is performed to increase the accuracy of the model. Various Machine model is implemented and the highest accurate model is chosen.</p> <p>Model output is evaluated using MSE, confusion matrix and other various metrics.</p>
4.	Social Impact / Customer Satisfaction	<p>Since the likeliness of the liver disease is predicted with high accuracy, user can able to take remedial measures</p>
5.	Business Model (Revenue Model)	<p>Revenue can be made by collaborating with Hospitals and other health related companies and Integrating subscription services to the application.</p>
6.	Scalability of the Solution	<p>Accuracy of the model can be increased by training with large data. The model can be made to learn from the user input. Model is deployed in the web where the public from across the world can use to predict the likeliness of liver disease.</p>