NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2024-2025

Batch Number	BB7
Team Members	D. SATISH (21471A0583) SK. MUNAF (21471A05C2) B. ANJI BABU (21471A0574)
Guide	K.V. Narasimha Reddy, M.Tech.
Title	Applying Machine Learning Algorithms for Liver Disease Prediction
Domain/Technology	MACHINE Learning
Base Paper Link	https://ieeexplore.ieee.org/abstract/document/10254220
Dataset Link	https://www.kaggle.com/datasets/jeevannagaraj/indian-liver-patient-dataset
Software Requirements	Browser: Any latest browser like Chrome Operating System: Windows 7 Server or later Python (JUPYTER)
Hardware Requirements	SystemType: Intel Core i5 or above Processor : Nvidia GeforceGTX RAM: 8 GB Number of cores:5 NumberofThreads:4
Abstract	Liver disease poses a significant global health concern, par ticularly in countries like India. Early detection is crucial for effective treatment but remains challenging due to the delayed onset of symp toms. This study utilizes various machine learning algorithms to forecast liver disease based on patient data. The models used include Support Vector Machine (SVM), K-Neighbors, Hard Voting Classifier, Multilayer Perceptron, Decision Tree, Logistic Regression, Random Forest, and Ge netic Algorithm optimization. Performance metrics such as Accuracy, Precision, Recall, and F1-Score were employed to assess model perfor mance. The Random Forest model optimized with Genetic Algorithm achieved the highest accuracy of 79%, making it the most effective model for liver disease prediction. This approach aids in faster and more accu rate diagnoses, enhancing clinical decision-making.

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