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(57) Abstract :
Disclosed herein is a projection-based statistical extraction system for the prediction of chronic liver disease (100) comprises a data acquisition module (102) and a preprocessing unit (104) configured to clean, normalize, and transform the acquired data. The system also includes a model training engine (106) configured to train multiple predictive models using machine learning algorithms. The system also includes a backpropagation-based optimization mechanism (108) integrated with said MLP model to enhance diagnostic accuracy. The system also includes a model evaluation module (110) configured to evaluate the performance of each predictive model using metrics. The system also includes a deployment interface (112) developed using RStudio and Shiny, integrated with GitHub and Mendeley for collaborative development, reproducibility, and version control of the liver disease prediction models. The system also includes a user interaction interface (114) configured to provide real-time prediction results and visualization of diagnostic outcomes to end-users.

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