

# Prediction of Non-Alcoholic Fatty Liver Disease using Machine Learning Algorithms

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**Abstract.** Non-Alcoholic Fatty Liver disease is a chronic disease that is very hard to predict at its first stage. The prediction of this disease is very significant as it will unknowingly occur in people leading to vulnerable damages to the liver. As the liver plays a major role in the human body any damage caused to the liver may be a significant failure of the body functions. NAFLD is a common liver disease among 25% of the world population. However, as for the name, this is not caused by the consumption of alcohol. The prevalence of NAFLD has become a heavy burden for the lives of people as it eventually develops without the knowledge of oneself. The risk is that it won't be diagnosed unless you do a scan for any other reason. However, the prevalence of this disease increases in parallel with diabetes, metabolic syndrome, and obesity. This increase is noteworthy in western countries like ours. Many types of research have been done on the prediction of this disease using various techniques. The early prediction of the disease will make it efficient for both the clinicians and the patients. A study was done based on the prediction of NAFLD using different techniques by various researchers. All the works are evaluated based on extracting knowledge about how the current research has been done, what techniques they have used, what are the main results of using these techniques, and what are the advantages and drawbacks or the limitations of the works. This paper presents a clearer clarification of the objective of this study, a profound explanation of the topic of building prediction models and applying machine learning algorithms as a solution for the Non-alcoholic Fatty Liver disease, and what is the relevance and motivation of this study. Furthermore, the paper presents a summary of the literature survey conducted based on the prediction of Non-alcoholic Fatty Liver Disease. This section will explain how other related researchers have undertaken to solve this issue by applying various approaches. The methodology section will explain how the data was gathered for this study (from which sources) and how the information got from those sources were summarized and analyzed. The latter part consists of the discussion of the entire research work presented in the paper followed by a conclusion of all the achievements and the drawbacks of the researches done up to now. Lastly, it is stated about what are the new directions for the proposed project is, after the study conducted on all these reviews.

**Keywords:** *Non-Alcoholic Fatty Liver Disease (NAFLD), Machine Learning, Prediction Models*