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Heptocellular Carcinoma (HCC) Detection using Machine Learning

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Abstract: *Hepatocellular carcinoma (HCC) is a common and aggressive form of liver cancer, and accurate diagnosis is critical for effective treatment and patient management. This project focuses on developing a machine learning-based diagnostic paradigm to distinguish between viral and non-viral HCC cases using a comprehensive dataset from Kaggle. The dataset, which includes balanced cases of HCC, serves as the foundation for our analysis. We employ several classification algorithms to achieve this, including Decision Tree (DT), Random Forest (RF), Logistic Regression (LR), and a Stacking Classifier. Each algorithm is evaluated for its performance in accurately classifying the type of HCC, with the goal of identifying the most effective method for diagnosis. The Stacking Classifier, which combines multiple models to improve predictive accuracy, is of particular interest in this study. By comparing the results of these models, we aim to enhance diagnostic precision, support personalized treatment plans, and ultimately contribute to better patient outcomes. This project seeks to address the limitations of traditional diagnostic methods and provide a robust tool for clinicians to differentiate between viral and non-viral HCC effectively.*

Keywords: Hepatocellular carcinoma

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