Comparative Study using Random Forest for Heart Disease Prediction

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Abstract: *Heart disease is the leading cause of death globally, accounting for approximately 17.9 million deaths annually. Early prediction is crucial for improving outcomes, but traditional clinical methods may overlook complex patterns in patient data. Machine learning, particularly the Random Forest (RF) algorithm, offers a powerful alternative due to its ability to model nonlinear relationships and reduce overfitting through ensemble learning. Recent studies have shown RF achieving high accuracy in heart disease prediction—ranging from 84% to as high as 98% in optimized settings—often outperforming other models like logistic regression, SVM, and KNN.*

Keywords: *Heart disease*

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1