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Heart Disease Detection using Machine Learning Algorithms (XGBoost, Random Forest, KNN)

Shozab Kaif[1], Prafulli Raut[2], Kirti Jawanjal[3], Prof. S. A. Jumale (Kadukar)[4]
Under Graduate Students, Department of Electronics and TelecommunicationEngineering[1,2,3]
Assistant Professor, Department of Electronics and Telecommunication Engineering[4]
Siddhivinayak Technical Campus, Shegaon, Maharashtra, India

Abstract: *Heart disease continues to be a major global health issue, requiring precise and effective diagnostic techniques. This paper discusses a research study on using machine learning algorithms to detect heart disease. Using a detailed dataset of clinical information and patient traits, we investigate different machine learning methods to create predictive models. The process includes preprocessing data, selecting features, and training and evaluating models. By conducting thorough experiments, we evaluate the effectiveness of various algorithms such asXGboost, Random Forest and KNN. The results demonstrate encouraging results, with some models showing strong accuracy, sensitivity, and specificity in detecting heart disease. The results of this research support the continued use of machine learning in the early identification and diagnosis of heart disease, which could lead to better patient outcomes and healthcare services.*

Keywords: Heart Disease, XGboost, Random Forest, KNN

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