

Heartcare: Heart Disease Detection using Machine Learning

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Abstract: *The rise in the incidence of heart diseases is a major concern in the field of healthcare, and it is imperative to diagnose and predict any potential risk of heart disease accurately and efficiently. To address this issue, researchers have Created a system for predicting the probability of heart disease by utilizing the medical history of patients. The system uses different algorithms based on machine learning techniques such as XGBoost, Random Forest Classifier and KNN to classify patients based on various medical attributes, including age, gender, blood pressure, cholesterol levels, and other habits. The model proposed is intended to improve the accuracy of predicting heart disease in individuals, and it has shown promising results in doing so. Various performance metrics, including accuracy, precision, recall, and F1-score, were used to evaluate the model's accuracy, and it was found to be more accurate than previous classifiers such as naive bayes. The system managed to accurately identify individuals who prone to heart disease, which could help healthcare providers take preventive measures to reduce the incidence of heart disease. Overall, the heart disease detection system has significant implications for improving medical care and reducing the costs associated with heart disease. It has the potential to assist healthcare providers in making better-informed decisions regarding patient care, identify patients who have an elevated risk of developing heart disease, and provide them with targeted interventions to reduce the risk. The suggested model is a valuable resource that can improve the quality of care offered to patients and, in turn, contribute to reducing the prevalence of heart disease.*

Keywords: Heart Diseases

REFERENCES

- [1]. J. Krishnan Santana; S. Geetha “Prediction of Heart Disease Using Machine Learning Algorithms”. 1st International Conference on Innovations in Information and Communication, 2019.
- [2]. Rajdhan Apurb, Agarwal Avi, Sai Milan, Ravi Dundigalla, Ghuli Poonam.” Heart Disease Prediction using Machine Learning” INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH & TECHNOLOGY
- [3]. Singh, A., & Kumar, R. (2020). “Heart Disease Prediction Using Machine Learning Algorithms”. International Conference on Electrical and Electronics Engineering (ICE3), 2020.
- [4]. Mohan, S., Thirumalai, C., & Srivastava, G. “Effective Heart Disease Prediction using Machine Learning Techniques”, 2019.
- [5]. Narendra Mohan, Vinod Jain, Gauranshi Agrawal, “Heart Disease Prediction Using Supervised Machine Learning Algorithms”, 5th International Conference on Information Systems and Computer Networks (ISCON), 2021.
- [6]. Rahul Katarya, Polipireddy Srinivas, “Predicting Heart Disease at Early Stages using Machine Learning”, International Conference on Electronics and Sustainable Communication Systems (ICESC), 2020.