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Detection of Heart Patient using Machine Learning Algorithms

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Abstract. Heart disease is one of the leading causes of death worldwide. Thousands of people suffer from various heart diseases, which even cost people their lives all around the world. This study explores the application of machine learning in predicting heart disease based on clinical and demographic data. In this proposed technique we have detected whether any person have heart disease or not. After processing the data 3-different classification algorithms have been used, which include K-Nearest Neighbour (KNN), Support Vector Machine (SVM), and Logistic Regression. It is applied on a dataset which contains 4-different publicly available cardiac health database. Simulation results demonstrate the effectiveness of machine learning algorithms for the detection of heart patients. The predicted accuracy obtained by K-Nearest Neighbour (K-NN) is 80.32%, and the accuracy obtained by Support Vector Machine is 78.68% and the predicted accuracy achieved by logistic regression is 86.88%. Among 3-different classifiers logistic regression provide the highest accuracy.

Keywords:

Heart disease, Machine learning (ML), cardiovascular diseases (CVDs), K-Nearest Neighbor (KNN), Support Vector Machines (SVM), Logistic Regression.

