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Heart Disease Prediction using Decision Tree

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Abstract: Heart disease is one of the most common causes of death around the world nowadays. Often, the enormous amount of information is gathered to detect diseases in medical science. All of the information is not useful but vital in taking the correct decision. Thus, it is not always easy to detect the heart disease because it requires skilled knowledge or experiences about heart failure symptoms for an early prediction. Most of the medical dataset are dispersed, widespread and assorted. However, data mining is a robust technique for extracting invisible, predictive and actionable information from the extensive databases. In this paper, by using info gain feature selection technique and removing unnecessary features, different classification techniques such that KNN, Decision Tree (ID3), Gaussian Naïve Bayes, Logistic Regression and Random Forest are used on heart disease dataset for better prediction. Different performance measurement factors such as accuracy, ROC curve, precision, recall, sensitivity, specificity, and F1-score are considered to determine the performance of the classification techniques. Among them, Logistic Regression performed better, and the classification accuracy is 92.76%.

Keywords: Heart disease

