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Naive Bayes for Statlog Heart Database with Consideration of Data Specifics

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Abstract

Heart disease belongs to one of the main reasons for mortality nowadays and it is expected to become worse due to factors such as aging, diabetes and obesity. In addition, existing misdiagnosis of patients reporting heart related ailment worsens this situation even further. In the paper, a probability approach to recognition of heart disease is analyzed with the employment of Naive Bayes on Statlog Heart Database and with the search of data preprocessing techniques for its improvement. A discretization algorithm of numerical attributes which takes the specifics of given heart disease patients into account is presented. It is based on supervised discretization with consideration of Equal Frequency Discretization. Experiments making use of 10-fold cross-validation show improvements of accuracy which are measured with sensitivity, specificity and their sum and the results are also compared with other classification algorithms.

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