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Abstract:

The prevalence of heart failure is 2-3% of the adult population and it is expected to grow. Half of all patients diagnosed with it die within four years. To minimize life-threatening situations and to minimize costs, it is interesting to predict mortality rates for a patient with heart failure. In this paper, a fuzzy decision tree based on classification ambiguity and a fuzzy decision tree based on cumulative information estimations are presented. They are employed on a heart failure data fuzzified on the basis of medical expert knowledge. After a transformation of fuzzy decision trees, the use of medical expert knowledge allows us to create a group of fuzzy rules that is easily interpretable by medical experts. Our study shows that different types of fuzzy decision trees can have significantly different accuracy results and interpretability.

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