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Design of Neuro-Fuzzy Decision Trees

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Abstract

In order to improve accuracy of fuzzy decision trees classification we propose a procedure of parameters adaptation by means of neural network training. In the direct cycle, fuzzy decision trees are based on the algorithm of fuzzy ID3; in the feedback cycle, parameters of fuzzy decision trees are adapted based on stochastic gradient algorithm by traverse to the root nodes back from the leaves. Using this strategy, the hierarchical structure of the fuzzy decision trees remains fixed.

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