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A New Method to Construct Membership Functions and Generate Fuzzy Rules from Training Instances

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Abstract

In recent years, many methods have been proposed to deal with the Iris data classification problem. In this paper, we present a new method to deal with the Iris data classification problem by constructing membership functions and generating fuzzy rules from training instances based on the correlation coefficient threshold value ζ, the boundary shift value ε and the center shift value δ, where $\zeta \in [0,1]$, $\varepsilon \in [0,1]$ and $\delta \in [0,1]$. The proposed method can get a higher average classification accuracy rate than the existing methods.

Keywords: Correlation Coefficient, Iris Data, Fuzzy Rules, Membership Functions, Average Classification Accuracy Rate.