عنوان مقاله:

Mutual Information based Fuzzy Inference System for Classification Problems

محل انتشار:

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خلاصه مقاله:

Fuzzy inference system (FIS) is one of the most powerful inference systems that is widely used in the field of classification. Indeed, in this approach, FIS is engaged to create a mapping from features (inputs) onto classes (outputs) using fuzzy set theory. So far, many efforts have been made to improve classification accuracy performed by FIS. Generally, these efforts have been put in the following areas: efficient fuzzy rule generation, fuzzy membership function tuning, fuzzy rule weight tuning, feature selection for the antecedent part of fuzzy rules, and so on. In this paper, we consider this issue and propose a method based on mutual information for applying the impact factor of input parameters on the fuzzy inference process for improving the accuracy of fuzzy classification. Finally, we test our proposed method for boosting classification on six different problems using manual and auto-generated FIS. .The method provided promising classification results confirming its correctness

کلمات کلیدی:

Fuzzy inference system, Fuzzy classification, Mutual Information, Fusion Operator, Auto Generated FIS