A CHROMOSOME REPRESENTATION ENCODING INTERSECTION POINTS FOR EVOLUTIONARY DESIGN OF FUZZY CLASSIFIERS

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ABSTRACT—Unlike the conventional chromosome representation to search the shape of fuzzy membership functions, a novel encoding scheme to search the optimal intersection points between adjacent fuzzy membership functions is originally presented for evolutionary design of fuzzy classifiers. Since the proposed representation contains the intersection points directly related to the boundary of classification, it is intuitively expected that redundancy of the search space is reduced and the performance is better in comparison with the conventional encoding scheme. The experimental results show that the proposed encoding scheme gives superior or competitive performance in two real-world datasets and gives more interpretable fuzzy classifiers. This short paper has provided additional explanation to the previous works introduced in the latest conference.