Abstract

Generating suitable membership function (MF) is the core step of fuzzy classification system. This paper presents a novel learning algorithm that generates automatically reasonable MFs for quantitative attributes. In addition, a set of an appropriate fuzzy classification rules (FCRs) are discovered from a given numerical data. Each fuzzy rule (FR) is of the form IF-THEN rule. The antecedent IF-part and consequent THEN-part contain fuzzy sets. Since MFs are generated automatically, the proposed fuzzy learning algorithm can be viewed as a knowledge acquisition tool for classification problems. Experimental results on Iris dataset are presented to demonstrate the contribution of the proposed approach for generating MFs.
Knowledge Acquisition Tool for Learning Membership Function and Fuzzy Classification Rules from Numerical Data


Index Terms

Computer Science  Artificial Intelligence

Keywords

Fuzzy Classification Rule (FCR)  knowledge acquisition tool  Learning algorithm  Membership function (MF)