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.

**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

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