

基于直觉模糊粒化的信息熵属性约简算法

陈曦^{1,2}

(1 华中科技大学 管理学院, 湖北 武汉 430074;

2 武汉铁路职业技术学院, 湖北 武汉 430200)

摘要: 在直觉模糊关系中, 对象之间通过隶属度和非隶属度的刻画使得拥有了更为优越的关系评估效果. 为了对信息系统的不确定性达到更好的度量, 首先引入基于直觉模糊关系对信息系统进行直觉模糊粒化, 然后在粒化的结果中依据隶属度和非隶属度分别定义了信息熵的概念, 并将它们结合作为直觉模糊关系下信息系统的信息熵, 最后根据该信息熵构造一种属性约简算法. 实验结果表明提出的算法具有较优的属性约简性能.

关键词: 粒计算; 直觉模糊关系; 隶属度; 非隶属度; 信息熵; 属性约简

Attribute reduction algorithm based on the information entropy of intuitionistic fuzzy granulation

CHEN Xi^{1,2}

(1 School of Management, Huazhong University of Science and Technology, Wuhan 430074, China; 2 Wuhan Railway Vocational and Technical College, Wuhan 430200, China)

Abstract: In intuitionistic fuzzy relations, between objects have more superior relationship evaluation effect through the description of membership degree and non-membership degree. In order to achieve better measurement for information system. Firstly, the intuitionistic fuzzy granulation for information system based on intuitionistic fuzzy relations is introduced in this paper. And then, the concepts of entropy are respectively defined according to membership degree and non-membership degree in granulation results, in addition, combining them as the information entropy of the information system under the intuitionistic fuzzy relation. Finally, an attribute reduction algorithm is constructed according to the information entropy. Experimental results show that the proposed algorithm has better attribute reduction performance.

Key words: granular computing; intuitionistic fuzzy relationship; membership degree; non-membership degree; information entropy; attribute reduction

作者简介:

陈曦女, (1982-), 博士研究生, 讲师. 研究方向为智能计算、项目管理和风险管理.

E-mail: chenxi198211@126.com.