数据库、信号与信息处理

基于粗集和概率分布的混合决策表离散化算法

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摘要　　为解决经典粗糙集理论在处理连续、离散混合属性决策表离散化时规则数多、准确率低的问题，采用基于贪心算法和属性值区间概率相结合的离散化方法，该方法针对传统的对混合决策表仅考虑连续属性离散化的问题。首先运用改进的贪心算法对混合决策表中的连续属性进行初步离散化，然后计算连续属性各属性值区间概率，并对取值概率大的区间细化，最后再考虑对原来的离散属性进一步离散化，从而增强系统分辨能力；且离散化后的决策表总是相容的，与目前很多离散方法不考虑决策相容性相比，该方法能够最大限度地保留系统的有用信息。通过仿真分析验证了该方法的有效性。

关键词　　粗糙集　决策表　离散化　区间概率
分类号

Novel algorithm for discretization of mixed decision table based on rough sets and probability distribution

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Abstract

　In order to solve the problem of classical rough sets theory in processing mixed decision table's discretization with too many rules and low accuracy，the discretization method based on the greedy algorithm and the attribute value sector probability is used，it changes the traditional method of only process continue attributes for mixed decision table.Firstly，this method only discretizes continue attributes for mixed decision table with the improved greedy algorithm，then computes continual attributes interval probability，and subdivides the sector with the maximum probability，finally considers further discretization for the original discrete attributes.The experimental simulation result indicates this method can strengthen the resolution，reduce the rule number，and always accommodate decision table after discretization，many present separate methods which doesn't consider the policy-making compatibility，it can retain the system useful information.It shows the validity and veracity of the method.

Key words　　rough sets　decision table　discretization　interval probability

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