短文

一种特征选择的动态规划方法

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摘要
通过分析特征选择的机理,提出了一种特征选择性能指标和基于此指标的动态规划特征选择方法. 使复杂的多类特征信息选择的全局满意解寻求过程,转变成一个简单的阶段性最优化问题. 在一定条件下, 由各阶段最优决策构成的整体策略等价于原问题的全局满意解. 本文法较好地应用于水声信号特征分析.

关键词　　特征选择　动态规划　模式识别　信息融合

分类号

Dynamic Programming Method for Feature Selection

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Abstract
The selection of multiple classes of features plays an important role in the field of pattern recognition. By analyzing the mechanism of feature selection, a performance measure of feature selection is proposed in this paper. Based on it, a dynamic programming method for feature selection is presented, by which a complex process of obtaining globally satisfactory solution to feature selection can be converted into a simple piecewise optimization. It is theoretically proved that the optimum strategy consisting of optimized decisions in each phase corresponds to the globally satisfactory solution of feature selection. The proposed approach is applied to feature selection of underwater acoustical signals.

Key words　Feature selection　dynamic programming　pattern recognition information fusion

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