

基于 C4.5 决策树的视频车辆车型分类算法

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摘要: 为了克服 BP 神经网络、支持向量机、K-近邻和贝叶斯等分类器通常存在训练时间长、编程和运算复杂、难以满足实时性等问题, 提出了基于 C4.5 决策树的视频车辆车型分类算法, 介绍了层次化分类器设计方法, 并以二分“小型车”为“小客车”和“小货车”两类的 C4.5 决策树的构造为例, 对视频车辆车型分类 C4.5 决策树的构造过程作了详细介绍. 最后通过实验证明了该算法进行车型分类的有效性.

关键词: C4.5 决策树; 层次化分类器; 车型分类

The Video Vehicle Classification Algorithm

Based on C4.5 Decision Trees

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Abstract: In order to overcome the BP neural network, support vector machine (SVM), k nearest neighbor and Bayesian classification's shortcomings which are long training time, complicated programming and operation, bad real-time performance. In this paper, the video vehicle classification algorithm based on C4.5 decision trees is proposed, the design method of the hierarchical classifier is introduced, and the construction process of C4.5 decision trees as an example which was used to divide light-duty vehicle into minibus and van is introduced in detail. Finally, the experimental results demonstrate the effectiveness of the video vehicle classification algorithm based on C4.5 decision trees.

Key words: C4.5 decision trees; hierarchical classifier; vehicle classification

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