

基于 SVM 改进的图像反馈检索方法研究

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摘要: 基于内容的图像检索系统在用 SVM 算法进行反馈时, 为了提高图像检索的精度, 减少用户的反馈次数, 提出了 KRSVM 算法. 该算法通过运用颜色矩、颜色直方图和 Hu 矩提取图像的颜色和形状特征, 并用 K-means 算法对特征进行多次聚类, 同时使用 SVM 算法对其图像样本进行训练时, 引入了多个 SVM 核函数和 Relief 算法, 对核函数和图像特征进行权重分配. 相比较传统的 SVM 算法和 K-SVM 算法, 本算法在一定程度上提高了图像检索的准确度和用户满意度.

关键词: 图像检索; SVM; K-means; Relief; KRSVM

Research on Image Feedback Retrieval Method Based on Improving SVM

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Abstract: The feedback of the content-based image retrieval system with the SVM algorithm, In order to improve the accuracy of image retrieval and reduce the number of user feedback, we proposed a novel algorithm called KRSVM, extracting features of the image about color shape and shape by using color moments, color histograms and Hu moments, and they are clustered with the multiple clusters of the K-means algorithm, at the same time, the SVM algorithm trains the image samples using a number of SVM kernel functions and Relief algorithm, they are for the weight distribution of the kernel functions and the image features. Compared with the traditional SVM algorithm and K-SVM algorithm, this algorithm is more better in terms of accuracy and requirements to some extent.

Key words: image retrieval; SVM; k-means clustering; relief; KRSVM

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