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基于长期学习的多媒体数据库相似性检索

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Abstract

An approach is presented for multimedia similarity query using an on-line analysis of feedback sequence logs. The approach is based on user's feedback sequence accumulation and on-line collaborative filtering to predict the semantic correlation between the media objects in database and query sample. Edit distance is used to evaluate the similarity between current retrieval's feedback sequence and the prefixes of the records in the feedback logs. A prototype image retrieval system is implemented. Integrated with the retrieval method based on the generalized Euclidean distance, the performance of similarity query can be improved apparently. Experiments over 11 000 images demonstrate that this method outperforms the conventional ones.

Zhou XD, Shi BL, Zhang Q, Zhang L, Liu L. A long-term learning based similarity retrieval of multimedia database. *Journal of Software*, 2004,15(1):86~93.

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摘要

基于内容的相似性检索是多媒体数据库研究的重要内容之一.近年来,利用用户相关反馈技术改善检索性能的研究成为新的热点.但是,在传统的相关反馈方法中,系统积累的反馈历史数据未得到充分利用.为了进一步提高检索系统的性能,提出了一种对相关反馈序列日志进行协同过滤在线分析的相关反馈检索方法.该方法使用编辑距离对用户的反馈序列进行相似性度量,并根据协同过滤的思想对数据库中的媒体对象与当前检索的语义相关性进行预测,从而改善检索的效果.实现了一个图像数据库检索原型系统.对11 000幅图像数据库进行的实验表明,与传统相关反馈技术相比,该方法对检索性能有明显的改善.

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