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论文

基于多核系统的视频特征提取程序并行化及性能优化方法

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摘要:

基于多核系统,对4种视频特征的提取程序分别研究了并行算法和性能优化方法.实验结果表明,通过的并行化和性能优化,当使用8个核时,这4种视频特征提取程序的处理速度平均提高到原始串行程序的17倍.此外,对实验结果进行了深入的性能分析,寻找和剖析了多核系统的性能瓶颈,为进一步提高多核系统的性能提供了依据和建议.

关键词: 程序性能优化 多核系统 视频特征提取

Parallelization and performance optimization of video feature extractions on multi-core systems

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Abstract:

The low-level video feature extractions are the most time-consuming components in content-based video information retrieval systems. In this paper we study parallelization and performance optimization methods of four video feature extractions on multi-core systems. Experiments show that the processing speeds of these programs are 17 times the original processing speed on average when eight cores are used. Besides, detailed performance analysis helps us find bottlenecks and suggest ways to further improve multi-core systems performance in future.

Keywords: program performance optimization multi-core systems video feature extraction

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