A Distributed Content-Based Video Retrieval System for Large Data-sets

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Abstract

With the rapid growth of the volume of video data and the development of multimedia technologies, it has become necessary to have the ability to accurately and quickly browse and search through information stored in large multimedia databases. For this purpose, content-based video retrieval (CBVR) has become an active area of research over the last decade. In this paper, We propose a content-based video retrieval system providing similar videos from a large multimedia data-set based on a query video. The approach uses vector motion-based signatures to describe the visual content and uses machine learning techniques to extract key-frames for rapid browsing and efficient video indexing. We have implemented the proposed approach on both, single machine and real-time distributed cluster to evaluate the real-time performance aspect, especially when the number and size of videos are large. Experiments are performed using various benchmark action and activity recognition data-sets and the results reveal the effectiveness of the proposed method in both accuracy and processing time compared to state-of-the-art methods.

Full Text

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