Abstract

Content Based Video Retrieval (CBVR) has been increasingly used to describe the process of retrieving desired videos from a large collection on the basis of features that are extracted from the videos. The extracted features are used to index, classify and retrieve desired and relevant videos while filtering out undesired ones. Videos can be represented by their audio, texts, faces and objects in their frames. An individual video possesses unique motion features, color histograms, motion histograms, text features, audio features, features extracted from faces and objects existing in its frames. Videos containing useful information and occupying significant space in the databases are under-utilized unless CBVR systems capable of retrieving desired videos by sharply selecting relevant while filtering out undesired videos exist. Results have shown performance improvement (higher precision and recall values) when features suitable to particular types of videos are utilized wisely. Various combinations of these features can also be used to achieve desired performance. In this paper a complex and wide area of CBVR and CBVR systems has been presented in a comprehensive and simple way. Processes at different stages in CBVR systems are described in a systematic way. Types of features, their
combinations and their utilization methods, techniques and algorithms are also shown. Various querying methods, some of the features like GLCM, Gabor Magnitude, algorithm to obtain similarity like Kullback-Leibler distance method and Relevance Feedback Method are discussed. Functioning of Support Vector Machines (SVM) is discussed which are vital for automatic classification of videos.

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Index Terms

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Keywords

SVM, CBVR,GLCM, Gabor Magnitude, Kullback-Leibler Distance Method, Relevance Feedback Method.