

Abstract

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Video Copy Detection Based On Hidden Markov Models and Invariant Moments

ABSTRACT Video has recently been commonly used for transferring information due to the continuous growth of the Internet. Because of this, illegal video copy detection is one of the most needed technologies. Existing video copy detection methods compare the whole video frames, so it may take a long time to detect a copy among many reference videos. In this paper we have used a recognition-based approach with hidden Markov models as the recognition tool. HMM is trained using the original video sequences and its manipulated versions. The HMM is tested with the query videos; the score determines if the query video is a copy not. Invariant Moments are used as features for the HMM. To evaluate this approach, we used 18 reference videos and 6 video files. We measured the detection rate by comparing these original video copies to their manipulated versions. The experiments show that our framework has a recognition rate of 99.9% accuracy as well as to test it on a large -scale videos database. Keywords - Video Copy Detection, Invariant Moments, Hidden Markov Model, recognition-based, dynamic range, video segments.