Efficient Spatiotemporal Matching for Video Copy Detection in H. 264/AVC Video

Abstract

This paper proposes an efficient video copy detection method for the H. 264/AVC standard. The mechanism is based on content based copy detection (CBCD). The proposed method divides each frame within a group of three consecutive frames into a grid. Each corresponding grid across these groups of frames is then sorted in an ordinal vector which describes both, the spatial as well as the temporal variation. This ordinal matrix based copy-detection scheme is effective in detecting not only a copied video clip but also its location within a longer video sequence. The technique has been designed to work in the compressed domain which makes it computationally very efficient. The proposed mechanism was tested on a number of video sequences containing copies which had undergone a variety of modifications. The results proved that the proposed technique is capable of detecting these copies effectively and efficiently and hence is suitable for forensic applications.

References


- YUV video sequences: http://trace.eas.asu.edu/yuv/

**Index Terms**

Computer Science  
Multimedia

**Keywords**

Content-based Copy Detection  
H. 264/avc  
Ordinal Measurement