Abstract

Tracking a region-of-interest (ROI) in a video is still a challenging task. Various high level applications rely on tracking. e.g., motion picture indexing, object recognition, video surveillance, audiovisual postproduction etc. Initially ROI is defined in a reference frame and the purpose is to determine the ROI in subsequent target frames in video sequences. The region was detected by determining the similarity measures between the reference and the target frames. Similarity measures between the frames are determined using two classical methods like sum of squared differences (SSD) and sum of absolute differences (SAD). This paper deals with the method of ROI tracking in video sequences by estimating the colour and geometric features between the frames and the similarity measures was determined using the Kullback-Leibler Divergence. The increase of description features improves the accuracy. Their combination leads to high dimensional PDFs. Tracking experiments were performed on several standard video sequences and its efficiency was proved.

Reference

- Sylvain Boltz, Eric Debreuve, & Michel Barlaud, 2009 High-Dimensional statistical measure for region-of-interest tracking, IEEE Transactions on image processing,
Region of Interest Tracking In Video Sequences


Index Terms

Computer Science
Multimedia
Applications
Key words

Region-of-interest (ROI)

Similarity Measures

Colour and geometric features

Probability density function

Kullback-Leibler divergence