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International Journal of Computer Applications

Volume 58 - Number 15

Year of Publication: 2012

Authors:
P. S. Hiremath

Manjunath Hiremath

Mahesh R.

10.5120/9357-3709
{bibtex}pxc3883709.bib{/bibtex}

Abstract

With advances in computing and telecommunications technologies, digital images and video are playing key roles in the present information era. Human face is an important biometric object in image and video databases of surveillance systems. Detecting and locating human faces and facial features in an image or image sequence are important tasks in dynamic environments, such as videos, where noise conditions, illuminations, locations of subjects and pose can vary significantly from frame to frame. In this paper, a novel approach of the detection and tracking of face in video sequence based on the fuzzy geometrical face model and motion estimation is presented. The feature extraction process is performed in the support region which is determined by the fuzzy rules to detect face in an image frame. Then, the consecutive frames from a video and their corresponding optical flow are estimated, which are used for tracking face in the video sequence. The experimental results demonstrate the efficacy of the proposed method.

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Index Terms

Computer Science Pattern Recognition

Keywords

Face detection Fuzzy geometric face model Motion estimation Tracking. ifx