Abstract

In this paper the problem of video object detection under dynamic scene is considered. The dynamisms of the scene are assumed to be due to illumination variation and swaying of the trees and leaf. Many algorithms have been proposed to cope to this situation. But the major drawback in most of them is misclassified object and background area. Stochastic approaches including MRF based algorithms exist in literature but the practical implementation of such complex models remains still a challenge for the VLSI architecture designers. Thereby real-time object recognition and tracking process largely depends on simple and deterministic approaches and their accuracy. But many a times due to failure of the detection algorithms the efficacy of the hardware remains poor. In previous version of this work a supervised approach to improvised the correct classification of the object and background regions has been proposed. Although the results obtained were as per expectation but the model parameters estimation; such as the threshold selection process was manually done. In order to make it adaptive to the scene, in this paper a classification algorithm has been used which takes the histogram of correlation matrix into account and classify the object. The segmentation of the correlation plane is done by a threshold. This threshold selection is made adaptive to the video sequence considered. This segmented plane along with the moving edge image is then taken into consideration to improvise the correct classification of the moving object in the video. It is
observed that the proposed algorithm yields quite manageable results in terms of correct classification.

References

- Deepak Kumar Rout, Sharmistha Puhan, 2013. Video Object Detection using Inter-frame Correlation Based Background Subtraction, to be published in proceedings of IEEE RAICS.
Index Terms

Computer Science
Multimedia

Keywords

Inter-frame correlation  Correlation distribution  Correlation threshold.