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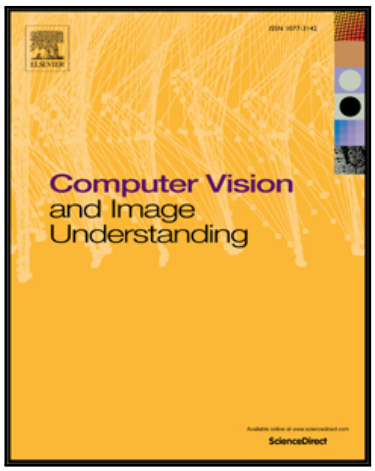

Detecting Anomalous Events in Videos by Learning Deep Representations of Appearance and Motion

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Highlights

- To the best of our knowledge, this paper represents the first attempt to address the anomalous event detection task using deep learning architectures. In this way, discriminative feature representations are automatically learned for the scene of interest, showing significant advantages over previous methods based on hand-crafted features.
- The proposed approach for learning feature representations combines appearance and motion information. Deep learning methods for fusing multiple modalities have been investigated in previous works. However, none of these works consider the problem of anomaly detection in intelligent video surveillance.
- A novel double fusion scheme is proposed to integrate appearance and motion deep repre- sentations for detecting unusual activities in video surveillance streams.
- We carried out an extensive evaluation of the proposed approach on three publicly available datasets, namely UCSD (Ped1 and Ped2), Subway and Train, and our approach yields very competitive performance with respect to state of the art methods.

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