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AUTOMATED SECURITY SYSTEM IN MOTION TRACKING THROUGH LIVE VIDEO

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Abstract

This paper describes a novel method to detect moving objects in a dynamic scene based on background subtraction. Any displacement of the position of centre of mass (CoMs) in two consecutive frames is the indicator of a moving object in a scene. Dividing a scene into sub-regions and modeling them as individual masses allow segmentation of the moving object(s). In the proposed scheme, an image is divided into blocks that are called super-pixels and each super-pixel is represented with the x and y components of CoM of a block. The segmentation is achieved by taking the absolute difference between CoM of current super-pixel and the mean of CoMs of previous corresponding super-pixels, and thresholding the difference with a dynamically updated value and eventually results into frame difference i.e. Motion detection in the running video. This algorithm achieves motion detection and which results into massive saving of storage space in video surveillance of areas where motion is extremely rare but highly significant.

Keywords: motion tracking, security