Section E1

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Mean shift Kalman object tracking for video surveillance

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In this paper we propose the mean shift Kalman object tracking algorithm for video surveillance which is based on the mean shift algorithm and the Kalman filter. The classical mean shift algorithm for tracking in perfectly maintained conditions constitutes a good tracking method. This was based on color to predict the location of the object in the video frame. However, in real cluttered environment this fails, especially under the presence of noise or occlusions. In order to deal with these problems this method employs a Kalman filter to the classical mean shift algorithm to enhance the chance of tracking accuracy especially when the object disappears from the scene, the algorithm can still track the object after it comes out once it appears. The experimental results verify the ability of the mean shift Kalman object tracking algorithm which can locate the target object correctly even under difficult situations when the target is occluded.

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