Abstract

The continuous research in the technology of video acquisition devices increases the number of applications with best performance and less cost. For object recognition, navigation and surveillance systems, object detection and tracking are the indispensable steps. Object detection means segmentation of images between foreground and background objects. Object tracking establish the correspondence between the objects in successive frames of video sequence. In this paper, we have proposed algorithms consists of two stages i.e. object detection using Gaussian Mixture Model (GMM) and multiple moving objects tracking using Kalman filter. While tracking the moving object, problems occur during occlusion of persons with each other. However, it can be effectively deal with various video sequences such as indoor, outdoor and cluttered scenes. The experimental results shows that proposed algorithm achieve accurate, robust and efficient results for detection as well as for tracking the foreground objects from complex and dynamics scenes.


Index Terms

Computer Science  Signal Processing

Keywords

Gaussian Mixture model, segmentation, Multiple object tracking, Kalman Filter, foreground object.