

ABSTRACT

Object tracking is a method extracts informations from an image sequences (video). Object tracking is a general need for real-time video processing. Low cost, accurate, and natural algorithm becomes a requirement in order to do efficient and fast tracking object in real-time video processing.

In this final task research, Kalman Filter algorithm is used to solve object tracking problem especially to track a walking human (single object) in multiple cameras. Joint view mechanism is used to capture the video input to implement this final task. The responsibility of tracking and labeling task in each camera will be arranged by *FOV Lines* method

The error distribution test proves that Kalman Filter works accurately in object tracking case. With appropriate parameter setting, Kalman Filter also able to solve object occlusion case. *FOV Lines* method can be used to determine any different or same object in overlapping area properly. The proposed system works about 10.799 fps. It can be categorized as a real-time system for video surveillance case in the given hardware and software specification. External factor such as brightness intensity, distance between the object and the camera, or rare background event influence the system.

Keywords: *Object tracking, real-time, Kalman Filter, joint view, multiple camera*