Abstract

Research on human detection and tracking for realtime purpose are developing very rapidly today. Many methods could be applied to indoors or outdoors case of automatic people counting system. To raise the level of accuracy in people counting, some research are aimed on background subtraction, tracking and detection method.

In this Final Project, writer want to implement Vumeter as non-parametric background subtraction, Viola Jones as detection method and Kanade-Lucas Tomasi (KLT) as features tracking. Vumeter submitted as background subtraction method because high performance and suitable for real time based system. As with Vumeter, Viola Jones method is also applied for high performance in detection. The result of detection will always be tracked by KLT, so system always know people presence or location in every frame. To be counted by system, the detected person must walk past the line of interest (LOI) and its direction must toward the camera.

With those methods, the detection result is 86% hit rate for one person walking test and 71,8% hit rate for seven people walking together test. System performance is also high enough, the average video processing of one people walking case to seven people walking case is about 14 – 23,7 fps.

Keywords : *non parametric, background subtraction, people counting, KLT, Vumeter, features tracking*