*Figure 1. The overview of a general system for human activity recognition.*

*high-level applications as shown in Figure 1. In the first level of core technology, three main*

*local descriptors and body modeling, as shown in Figure 3.*

*shown in Figure 4.*

*the brightness distortion, and the variation of the chromaticity distortion. As shown in Figure 5 [44],*

*in Figure 6 [58]. Scovanner et al. [12] further introduce a 3D SIFT descriptor, which can reliably*

*blocks. An example of HOG descriptors is shown in Figure 7. Lu and Little [5] further propose a*

*tracking using LKT feature trackers is shown in Figure 8. Lu et al. [8] use an LKT feature tracker to*

*for human body configuration.*

*as shown in Figure 10 [70]. The proposed system can do real-time front-view 3D human pose*

*Figure 11. A hidden Markov Model (HMM) inference graph [6].*

*Figure 12. The state transition graph for left-to-right HMM (the upper graph) and coupled*

*Figure 12. The state transition graph for left-to-right HMM (the upper graph) and coupled*

*Figure 14. The graphical structure of a HVT-HMM [17].*

*Figure 14. The graphical structure of a HVT-HMM [17].*