

Abstract

In this paper, we address the problem of pedestrians tracking in cluttered scenes using location, color and thermal cues. The Dezert-Smarandache (DSm) theoretical framework is used to combine the measurements provided by the sensors into a single and unified frame. The use of DSm Theory allows modeling the conflicts that might arise between the sensors due to the presence of clutter and high levels of occlusion. The location cue is integrated as a prior knowledge, which increases the robustness of the tracking. A belief measure is derived and used as a step in a particle filtering algorithm. Finally, experimental results are given, where the developed approach is used to track walking persons in indoor scenes with high levels of occlusion and clutter