论文与报告

基于多区域联合粒子滤波的人体运动跟踪

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摘要
针对视频人体运动跟踪中的遮挡问题, 提出了一种基于多区域联合粒子滤波器的跟踪方法. 算法把人体划分为多个关键区域, 通过基于多区域无向图的联合运动模型, 构造联合粒子滤波器, 并运用区域关联的观测评估策略对目标状态进行联合预测, 从而完成遮挡情况下目标的跟踪. 实验结果表明, 与基于单区域粒子滤波的跟踪方法相比, 本文提出的算法在具有较长时间部分和全部遮挡的跟踪问题上, 取得了较好的实验结果.
关键词　计算机视觉　目标跟踪　多区域　联合粒子滤波
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People Tracking Based on Multi-regions Joint Particle Filters

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Abstract
A people tracking algorithm based on multi-regions joint particle filters (MR-JPF) has been proposed in this paper to solve the occlusion problem of people tracking in video. Through locating multiple key regions on human body, the algorithm deals with the occlusion problem by constructing the joint particle filter, which is based on a joint motion model specified by an undirected graph, and on the regions' relation based observe-and-estimate scheme. The experimental results have demonstrated that the proposed algorithm is more effective in solving long-time partial or total occlusion problem than the tracking method based on single region particle filter.

Key words　Computer vision　object tracking　multi-regions　joint particle filters

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