

基于自适应搜索的空时上下文目标跟踪算法

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摘要: 视频监控行业已经快速进入了智能监控的时代.然而,自然非受控条件下获取的视频中,环境复杂多变,对其中各类行人目标检测跟踪带来挑战.针对各种复杂场景及不同目标,如何设计实现效率高、鲁棒性好、实时性强的目标跟踪识别技术仍然是当今业界研究的热点及难点.因此以监控领域非刚性的行人为主要研究对象,拟实现目标稳定检测跟踪,尤其是提高复杂背景下行人跟踪的精度.实验表明本文所提算法的重叠率准则(OR)和跟踪中心误差(CLE)超过现有最优目标跟踪算法,同时其跟踪速度也超过大多数算法.

关键词: 视频监控; 目标跟踪; 空时上下文; 自适应搜索

Spatio-Temporal Context-based Object Tracking Algorithm in Video Surveillance

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Abstract: The entire video surveillance industry has rapidly entered the era of intelligent surveillance. However, the environment is complex and changeable in the video obtained under natural uncontrolled conditions, which poses many challenges for the detection and tracking of various types of pedestrian targets. For a variety of complex scenarios and different goals, how to design a target tracking and recognition technology with high efficiency, good robustness, and strong real-time performance is still a hot and difficult topic in the industry. Therefore, this paper focuses on non-rigid pedestrians in the monitoring field, and uses multi-features collaborative learning to analyze and research object tracking. It is intended to achieve Spatio-Temporal Context model for tracking, especially to improve the accuracy of the descendant tracking in a complex background. Experiments show that the overlapping rate (OR) and tracking center location error (CLE) for our proposed algorithm exceed the existing optimal algorithms, and its tracking speed is more than that of most algorithms.

Key words: video surveillance; target tracking; spatio-temporal; adaptive search

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