Tracking and Computation of Characteristics of the Movement of People in Groups on Video Using Convolutional Neural Networks

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Abstract

This paper proposes an approach for tracking the behavior of people in a group on video by using convolutional neural networks. At the beginning, definitions of group movement of people are given, and features for accompaniment are defined that can be used to analyze people's behavior. Next, an algorithm is proposed for calculating the distance between people in video, which includes three stages: detection and tracking of objects, coordinate transformation, calculation of the distance between people and detection of distance violations. The results of experimental studies and comparison with known algorithms are presented, which confirms the effectiveness of the algorithm.

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Ethics declarations

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- **calculation of the distance between people**
- **video surveillance**