

- APPLICATION PROBLEMS
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Tracking People in Video Using Neural Network Features and Facial Identification Taking into Account the Mask Mode

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Abstract

Detection and tracking of people in video in distributed video surveillance systems is a difficult task, which has become even more complicated in the conditions of the mask mode, when some people may be wearing masks. To solve this problem, the paper proposes algorithms for detecting masked people and further tracking them using facial recognition systems based on neural networks. To train a neural network to detect masked faces, an approach is proposed that involves applying masks to faces from existing data sets, which makes it possible to expand the training sample and increase the accuracy of recognition of masked faces. The features of masked faces are used to establish the correspondence of people in the frames. This makes it possible to increase the efficiency of detection and tracking upon hiding of people behind objects of the background, high similarity of external features of several people, and analysis of the trajectories of their movement. Examples of detection and tracking of people are shown and appropriate recommendations are given.

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Ethics declarations

The authors declare that they have no conflicts of interest.

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