عنوان مقاله:

A novel Method for Face Detection and Tracking Using Foreground Segmentation and Kalman Filter

محل انتشار:

دومین کنفرانس ملی رویکردهای نوین در مهندسی کامپیوتر و برق (سال: 1395)

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خلاصه مقاله:

This paper presents an algorithm for real-time and robust human face detection and tracking based on template matching, skin color segmentation and motion nformation. In the first step, foreground detection is performed using background subtraction algorithm, and then skin color segmentation is performed on the foreground segmented regions using statistical models. Finally, the current template can dynamically be updated in size and content to adapt to temporal changes of the tracked face's scale and orientation. Face tracking is done by applying Kalman filter and to speed up the tracking process, system does not search the entire frame for the potential face regions. Moreover, a confidence measure representing the template's reliability is presented to guide possible template re-initialization for continuous face tracking.The proposed face detection and tracking method achieves high performance, robustness to illumination variations and geometric changes (such as viewpoint and scale changes) and at the same time entails a significantly reduced computational complexity.

کلمات کلیدی:

Face tracking, Foreground segmentation, Skin, Template matching, kalman filter

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