

ABSTRACT

Provided in the present invention is a method for tracking pinched fingertips based on a video. The method is characterized by firstly, constituting a multi-component correlation detector by a YCbCr skin colour detector, a fist detector and a pinched fingertip cascade classifier, and positioning pinched fingertips; secondly, extracting a skin colour target search area, obtaining a contour and sampling a contour point, and determining a movement distance of the skin colour target search area through matching of previous and next frames; thirdly, mapping a pinched fingertip area into a pinched fingertip skin colour mapping table, obtaining a CbCr-Gray colour feature in combination with a gray value, and calculating an HOG feature, thereby obtaining a CbCr-Gray-HOG feature; and finally, using a filter tracking method based on a Gaussian kernel function for positioning to determine a central point of the pinched fingertip area of a currently processed video frame image. The method is applied to a in-air writing system and can accurately recognize a movement locus of pinched fingertips, thereby realizing the in-air writing system by means of the pinched fingertips.

Figure 2.

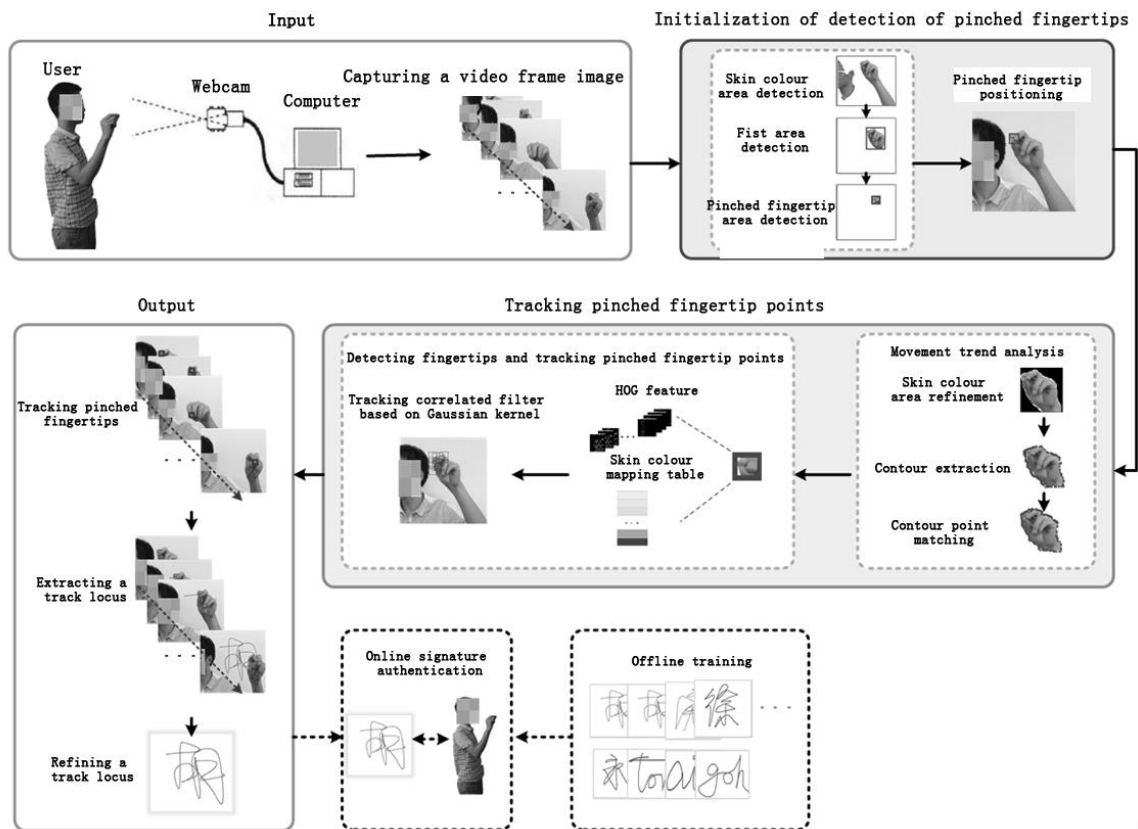


Fig. 2