

A hybrid method using haar-like and skin-color algorithm for hand posture detection, recognition and tracking

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Abstract

Human hand posture detection and recognition is a challenging problem in computer vision. We introduce an algorithm that is capable to recognize hand posture in a sophisticated background. The system combines two algorithms to achieve better detection rate for hand. Recently Viola et al. in have introduced a rapid object detection scheme; we use this approach to detect the hand posture in the first set of consecutive frames. The chromatic color distribution of skin can be found within this cluster. As the shape of hand posture keep changing in the subsequent frames, the skin regions updated dynamically. The classification of hand posture makes use of static feature for locating and counting hand fingers. Kalman Filter is used to track the face and hand blobs based on their position. In the experiments, we have tested our system in various environments, and results showed effectiveness of the approach.

Keywords: Skin, Fingers, Image color analysis, Feature extraction, Pixel, Face, Kalman filters

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