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ABSTRACT

Gesture recognition has become one of the most interesting research topics in human-computer interface. Gesture recognition is the process of recognizing the captured gesture and comparing with the assigned gesture and performing particular task assigned. Gesturised computer operation is assigning the task to a particular gesture recognised and enabling the operation of computer.

As the integration of digital cameras within personal computing devices becomes a major trend, a real opportunity exists to develop more natural Human-Computer Interfaces that rely on user gestures. In this work, we present a system that acquires and classifies users’ hand gestures from images and videos. Using inputs from low resolution off-the-shelf web cameras, our algorithm identifies the location and shape of the depicted hand gesture and classifies it into one of several predefined gestures. Our algorithm first applies image processing techniques on the images in order to cancel background and noise effects on the image, it then extracts relevant features for classification and finally classifies the gesture features using Convex Hull and also we use skin detection algorithm for image processing. The algorithm is robust and operates well on several different backgrounds, lighting and noise conditions.

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