Abstract

Gesture Recognition using Computer Vision opens up a whole new frontier in Human-Computer Interaction. Hand gestures are natural, intuitive, and require almost no learning, or remembering whatsoever. The proposed work involves developing a system to translate gestures (predetermined) performed by the user to control the active application on a computer. Viola-Jones Cascade Object Detector with Histogram of Orientation Gradients (HOG) features is used to detect Hand candidates (Open Palm or Fist). In this paper several heuristics are used to filter out false-positives. Drag patterns made by user, are then interpreted as one of the gestures in the database, using a simple pixel-wise distance based algorithm to match patterns. This approach results to robustness, and higher invariance to illumination changes, as compared to earlier works, which depend purely on known distribution of human skin-color.

References

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Index Terms

Computer Science

Information Sciences

Keywords

Gesture Recognition; Computer Vision; histogram; segmentation; open-palm; Fist.