A hand segmentation scheme using clustering technique in homogeneous background

ABSTRACT

Segmentation serves as the first step in any image analysis and it plays a very vital role as the success of the image analysis in the later stage depends very much on a suitable and robust segmentation scheme. Hand segmentation on the other hand is the first step for hand image analysis such as hand gesture recognition. An image subtraction method is implemented on a gray level image, RGB color image and image in normalized RGB color space under homogeneous background to investigate their appropriateness for segmentation. A skin color model based on the clustering property of skin color is then built to improve the segmentation result obtained from the image subtraction on the normalized RGB image. It is found that the proposed skin color modeling technique is able to improve the segmentation and provide a faster and reliable method for hand segmentation.

Keyword: Hand segmentation; Image analysis; Segmentation; RGB color; Skin color model