Abstract

Automatic face detection has been intensively studied for human-related recognition systems. To build fully automated systems that analyze the information contained in face images, robust and efficient face detection algorithms are required. In this paper, a new face detection algorithm is proposed. This speedy and robust solution developed, on the one hand is based on the segmentation of the color image to skin regions using a new approach to detect the pixels of the skin and the water shed segmentation method. On the other hand, using Gabor filters, combined with a proposed model of face, skin regions are classified into two classes: face and non-face. The integration of these tools in our algorithm permits to develop a face detector with very reasonable and efficient performances. Experimental results show that the method mentioned in this paper can achieve high detection rates and low false positives. To evaluate the detection speed of proposed algorithm, a comparison with a recent known algorithm is made too.

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Index Terms

Computer Science

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Keywords

Human face detection  Skin detection  Watershed technique  Gabor filters.