

Robust Human Face Detection In Complex Color Images

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Summary

We propose in this paper a model based technique for the detection of human faces from rich still color images. Traditionally, color images are represented in the RGB color space. RGB space, however, is not only a 3-dimensional space but also includes brightness or luminance which is not a reliable criterion for skin separation. To avoid the effect of luminance, we propose to work in the chromatic or pure color space. Using such space, a Gaussian model for the skin color pixels is developed and a skin likelihood image is obtained. Such image is then transformed into a binary image using adaptive thresholding. Finally, bright regions satisfying certain 'facial' properties are obtained followed by a template matching stage. The method presented here is shown to provide robust detection under different environments and found to achieve very satisfactory results when compared to traditional 'mug shot' based approaches.

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