
Adaptive Method for Improvement of Human Skin Detection in Colour Images

Frederico Grilo

CEM – University of Évora and the Electrical Engineering Department, EST Setubal/IPS, CESET.
Portugal
Email: fgrilo@est.ips.pt

João Figueiredo*

CEM-IDMEC, University of Evora,
Centre of Mechatronics Engineering, R. Romao Ramalho, 59
7000-671 Evora, Portugal
Email: jfig@uevora.pt

*The author for correspondence

Octavio Dias

Electrical Engineering Department, EST Setubal/IPS, CESET, INESC
Department of Information & Technology,
Setubal/IPS, CESET.
Portugal
Email: octavio.pdias@gmail.com

Abstract: In this paper a new approach to detect human skin in colour images is proposed. The method uses the classification of the three colour components of the RGB system (Red, Green and Blue), with a new approach to skin classifiers and face detection. The developed approach uses an adaptive methodology embedded in the skin classifier algorithm and a new face detection method to determine the location of the face in the image, improving the detection of the skin pixels and therefore reducing simultaneously the computational burden. The developed adaptive method varies the parameters of the base detection algorithm, for each one of the RGB colour components, in order to reduce the influence of external disturbances, namely the different illumination conditions. Experimental tests validate the proposed methodology showing very good results, in terms of skin detection with very different characteristics in face morphology, different backgrounds and illumination conditions.

Key words: Adaptive algorithms; Image processing; Skin Detection; Applications in Technology

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Biography notes: Frederico Grilo received the graduation in Electronic and Computer Engineering from the Technical University of Lisbon, Instituto Superior Técnico -IST, Portugal (1995). Currently he is a PhD student in Mechatronics Engineering at University of Evora, Portugal. He has worked at Siemens (Évora) and currently he is Assistant at the Electrical Engineering Department at the Setúbal Polytechnic Institute, Portugal.