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Identification of non-skin areas in images using neural networks

Zeynab Rostami

Department of Computer Engineering, Faculty of EngineeringArak Branch, Islamic Azad University, Arak, Iran

r.shima@yahoo.com

Baharak Heidari

Department of Computer Engineering, Faculty of Engineering, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran

B_heidari@iauksh.ac.ir

Abstract

Nowadays, the classification of human skin as a preprocessor has been proposed in the majority of processing systems on different parts of the human skin, such as face detection, face tracking and content-based retrieval of images, pornography videos and human-computer interface systems (HCI). One main challenge to this area is the diversity of color skin in different races, the existence of skin-like areas in imaging scene, illumination intensity changes and noise in image. In this design, the neural network algorithm is used to reduce detection of skin-like and non-skin areas in images. This project is able to separate skin and non-skin areas by a good approximation. The results show good performance of the proposed model with the average accuracy rate 89.05.

Keywords: skin, non-skin, images, separate, detection.

1. Introduction

To recognize skin pixels, there are many challenges on the way that one of them is the appearance of non-skin areas such as soil, brick, the body of such animals such as dog, squirrel, etc. in image which are mistakenly diagnosed as skin and this can affect related algorithms. Skin detection methods from different perspectives have different divisions that include:

- Methods based on pixels and division regions
- Parametric and non-parametric methods