Appraise of Various Colour Spaces for Skin Detection based Background Removal from Hand Sign Images

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Authors:
Sudeep D. Thepade, Nilima Phatak, Deepali Naglot, Aishwarya Chandrasekaran, Mugdha Joshi

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Abstract

Sign language is the basic medium of communication for the deaf and dumb people. It is a language which uses manual communication and body language to convey meaning. This can involve combining hand shapes, orientation and movement of hands. Communication may be the biggest challenge for the deaf and dumb in order to receive and convey information, ideas and feelings. Thus, in order to bridge the gap between them and the others, it becomes necessary to build a communicator and translator to translate American Sign Language to Indian and vice versa. In addition to this, the American and Indian sign language is also converted to text and back. During this translation, in order to ensure efficient skin detection and further processing of image, the paper focuses on obtaining appropriate results on Indian sign images based on background removal algorithms.

This paper presents the comparison among various color spaces for skin detection based on background removal from hand sign images. The color space is a useful way to specify and
conceptualize the color capabilities of a particular digital file or an image. The proposed techniques on colour spaces are executed on a dataset of 78 images. In order to analyze the results of the image based on various color spaces, this study of comparison among them is needed. It elaborates mainly on four color models: RGB, YCbCr, HSV, NTSC. This paper analyses the results of the above color spaces.

References

6. www.pics4.this-pic.com
Index Terms

Computer Science          Pattern Recognition

Keywords

Color space, RGB (Red Green Blue), HSV (Hue Saturation Value), NTSC, YCbCr.