Comparison of Global Histogram-based Thresholding Methods that Applied on Wound Images

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Abstract

Image processing is used effectively in the medical field because of the convenience it brings to human life. Incorrect data which obtained during image processing operations in the medical area can have serious consequences. Therefore, the selection of the thresholding method used as pre-image processing step is also vital. In this study, comparison of image thresholding methods was performed. The selected maximum entropy, minimum error threshold, Otsu's method, simple threshold selection minimum and simple threshold selection mean methods were tested on a special data set consisting of wound images. The methods were compared using the values obtained from the selected metrics results. According to the comparison results, the most successful methods is determined as Otsu's method and maximum entropy methods for dermatologic images which have different resolutions and image qualities. The success rates of the methods are presented in the paper using the metrics results obtained.
References

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Index Terms

Computer Science

Image Processing
Keywords

Thresholding, Global Histogram-Based Thresholding, Image Segmentation, Medical Image Processing, Dermatologic Images.