

{tag}

{/tag}

Information and Communication Technologies

IJCA Proceedings on National Conference on

© 2015 by IJCA Journal

NCICT 2015 - Number 2

Year of Publication: 2015

Authors:

I. S. Akila

Sumathi V.

{bibtex}ncict1542.bib{/bibtex}

## Abstract

Melanoma is the most dangerous skin cancer. It should be diagnosed early because of its aggressiveness. To diagnose melanoma earlier, skin lesion should be segmented accurately. To reduce the cost for specialists to screen every patient, there is a need of automated melanoma prescreening system to diagnose melanoma using images acquired in digital cameras. In this frame work, an automated melanoma prescreening system is proposed to diagnose melanoma skin cancer using Modified TDLS algorithm and SVM classifier. Representative texture distributions are obtained from texture vectors. The segmentation accuracy is improved by modification in TDLS algorithm. TD metric is calculated with lesion

texture distributions only. The entire system is tested using MATLAB software.

### Refer

### ences

- Jeffrey Glaister and David A. Clausi, Senior Member, "Segmentation of Skin Lesions From Digital Images Using Joint Statistical Texture Distinctiveness" IEEE Transactions on Biomedical Engineering, Vol. 61, No. 4, pp. 1220-230, April. 2014.
- Pedram Ghamisi, Micael S. Couceiro, Fernando M. L. Martins, Jon Atli Benediktsson, "Multilevel Image Segmentation Based on Fractional-Order Darwinian Particle Swarm Optimization", IEEE Transactions on Geoscience and Remote sensing, vol. 52, no. 5, pp. 2382-2394, May 2014.
- J. Glaister, R. Amelard, A. Wong, and D. A. Clausi, "MSIM: Multi-stage illumination modeling of dermatological photographs for illumination corrected skin lesion analysis," IEEE Transactions on Biomedical Engineering, vol. 60, no. 7, pp. 1873-1883, Jul. 2013.
- C. Scharfenberger, A. Wong, K. Fergani, J. S. Zelek, and D. A. Clausi, "Statistical textural distinctiveness for salient region detection in natural images," In IEEE Conference on Computer Vision and Pattern Recognition. Jun. 2013, pp. 979–986.
- M. Celebi, H. Kingravi, and P. A. Vela, "A comparative study of efficient initialization methods for the k-means clustering algorithm," Expert Systems with Applications, vol. 40, no. 1, pp. 200–210, Sep. 2012.
- P. G. Cavalcanti and J. Scharcanski, "Automated prescreening of pigmented skin lesions using standard cameras", Elsevier, Computerized Medical Imaging Graphics , vol. 35, no. 6, pp. 481–491, Sep. 2011.
- M. Silveira, J. Nascimento, J. Marques, A. R. S. Marcal, T. Mendonca, S. Yamauchi, J. Maeda, and J. Rozeira, "Comparison of segmentation methods for melanoma diagnosis in dermoscopy images," IEEE Journals of Selected Topics in Signal Processing. vol. 3, no. 1, pp. 35–45, 2009.
- R. Nock and F. Nielsen, "Statistical region merging," IEEE Transactions on Pattern Analysis and Machine Intelligence , vol. 26, no. 11, pp. 1452–1458, Nov 2004.

### Index Terms

Computer Science

Image Processing

**Keywords**

Melanoma Skin Lesion Tdls Svm Dermatoscope