



RECOGNITION OF PSORIASIS FEATURES VIA DAUBECHIES D8 WAVELET TECHNIQUE

H. Hashim¹, S. Ramli¹, N. Wahid², M. S. Sulaiman², N. Hassan²

Faculty of Electrical Engineering

¹Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia.

²Universiti Teknologi MARA Terengganu, 23000 Dungun, Terengganu, Malaysia.

Emails: hadzli120@salam.uitm.edu.my, nurbaiti@tganu.uitm.edu.my,
suhaimisulaiman_2003@yahoo.com, nurhaffizah@tganu.uitm.edu.my,

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Abstract- This paper presents a study in an efficient methodology for analysis and characterization of digital images psoriasis lesions using Daubechies D8 wavelet technique. The methodology is based on the transformation of 2D Discrete Wavelet Transform (DWT) algorithm for Daubechies D8 at first level to obtain the coefficients of the approximations and details sub-images. For classification method, statistical approach analysis is applied to identify significance difference between each groups of psoriasis in terms of mean and standard deviation parameter. Results performances are concluded by observing the error plots with 95% confidence interval and applied independent T-test. The test outcomes have shown that approximate mean and standard deviation parameter can be used to distinctively classify erythroderma from the other groups in consistent with visual observations of the

error plots. Whilst, in order to discriminate guttate from the other groups, standard deviation parameters for horizontal, vertical and diagonal can be utilized. Based on the results, plaque is distinguishable with guttate and erythroderma by using standard deviation vertical sub-images parameter. Results of Daubechies D8 is compared with study done previously by using Daubechies D4 and Daubechies D12 in order to observe the reliability of the results in Daubechies families. The resultant parameters can be used to design computer-aided system in diagnosis the skin lesion of psoriasis.

Index terms: Discrete Wavelet Transform (DWT), DWT algorithm, doubechies, t-test, psoriasis, plaque, guttate, erythroderma