Abstract

Microscopic analysis of skin cancer images for detection of melanoma or lesion has drawn significant medical interest over the last few years. Various kinds of skin abnormalities are not well detectable from mere observation of the microscopic images. Most of the detection of skin abnormality has been relied on the variation of the texture of a specific region of the skin in comparison to the neighborhood of the area. Therefore image processing has been widely used for such detection techniques. However, such detection technique fails to distinguish between different types of abnormalities. In case of a blister in the skin which appears the same abnormal way that a probable tumor or a sun burn in a specific area in the skin. Due to variation of the skin texture in the presence of any common abnormality like sun burn, blister, etc., it is extremely difficult for the present systems to differentiate a melanoma or a skin tumor or a cancer from the other skin diseases. Therefore in this work a unique system is developed to detect skin abnormality using a machine learning framework to classify a skin abnormality as melanoma more effectively. The proposed machine learning system relies on extraction of advanced texture features such as harlick GLCM features and CS LBP features in order to
detect melanoma in the dermoscopy skin images. A total of 300 images from standard dataset dermquest.com are considered to carry out experimentation, and accuracy of the system using KNN is 79.7315% and SVM is 84.7615%.

References

10. Di Ming, Quan Wen, Juan Chen Wenhao liu “A Generalized Fusion Approach for Segmenting Dermoscopy Images Using Markov Random Field” 978-1-4799-2764-7/13/$31.00 ©2013 IEEE.
12. Catarina Barata1 Mario A. T. Figueiredo2 M. Emre Celebi3 Jorge S. Marques1 “COLOR IDENTIFICATION IN DERMOSCOPY IMAGES USING GAUSSIAN MIXTURE MODELS” 978-1-4799-2893-4/14/$31.00 ©2014 IEEE.
15. Priyadarshini D1, Rengini D 2 “Automatic Melanoma Detection Using Local Binary
A Novel Texture based Skin Melanoma Detection using Color GLCM and CS-LBP Feature

Index Terms

Computer Science

Artificial Intelligence

Keywords

Texture pattern, GLCM, CS LBP, KNN, SVM