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SURVEY ARTICLE

Implementation of ANN Classifier using MATLAB for Skin Cancer Detection

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Abstract — *Skin cancer is the deadliest form of cancers in humans. Skin cancer is commonly known as Melanoma. Melanoma is named after the cell from which it presumably arises, the melanocyte. Skin Cancers are of two types- Benign and Malignant Melanoma. Melanoma can be cured completely if it is detected early. Both benign and malignant melanoma resembles similar in appearance at the initial stages. So it is difficult to differentiate both. This is a main problem with the early skin cancer detection. Only an expert dermatologist can classify which one is benign and which one is malignant. The Artificial Neural Network based Classification methodology uses Image processing techniques and Artificial Intelligence for early diagnosis. Main advantage of this computer based classification is that patient does not need to go to hospitals and undergo various painful diagnosing techniques like Biopsy. In this Computer Aided Classification, dermoscopy image of skin cancer is taken and it is subjected to various pre-processing and image enhancement. The cancer affected region is separated from the healthy skin using Segmentation. In order to reduce the complexity of classification, some unique features of malignant and benign melanoma are extracted. 2DWavelet transform is the Feature Extraction Method used. These features are given as the input to the Artificial Neural Network Classifier. It classifies the given data set into cancerous or non-cancerous.*

Keywords— *Melanoma; Biopsy; Segmentation; 2DWavelet transform; Artificial Neural Network*

Full Text: <http://www.ijcsmc.com/docs/papers/ICMIC13/ICMIC13S8.pdf>