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<u>*Segmentation Techniques Of Medical image Processing For Skin Lesion Recognition.*</u>

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Computer vision based diagnosis systems which are non-invasive have experienced a wide acceptability ratio in the recent years. Deaths arising from skin cancers have increased tremendously in the past decades. Skin Cancer Melanoma is dangerous and accounts for maximum number of deaths. A recent survey conducted for the United States of America alone, states that more than 75% of the deaths arising from skin cancers are due to melanotic skin lesions. Skin cancer melanomas are generally diagnosed by adopting biopsy procedures recommended by dermatologists. Studies have proved that the mortality rate could be reduced if melanotic lesions are detected at a very early stage.

The research work presented here puts forth the MPECS (Multi Parameter Extraction and Classification System) to aid early detection of in-situ melanoma and classification of skin lesions. The dermoscopic images of skin lesions are represented as a set of 21 features or parameter extracted phase wise. The skin lesions represented as a set of features need to be classified. Statistical analysis carried out for a parameter set obtained post extraction were inconclusive in classifying the skin lesions hence there was a requirement for advanced classification mechanisms to be incorporated into the MPECS . Machine learning algorithms are adopted for accurate classification. A   MFNN classifier trained using the back propagation algorithm is adopted. The training phase of the MPECS enables the system to understand the features that exhibit properties of specific classes defined during training. Subsequently the MPECS can be utilized for classification of testing data set. The proposed methodology is compared with the popular SVM classifier.

This talk discusses the literature survey about skin cancer melanoma diagnosis systems and classification methodologies adopted by researchers. The next section discusses the proposed MPECS at length along with the MFNN (Multi Feed Forward Neural Network) classifier. The experimental evaluation and comparisons are discussed in the penultimate section of this talk . The conclusion of the research work presented in this talk will be discussed in the last section.

Thank You.