



AIUB DSpace Publication Details

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Abstract

Skin cancer is one of the most common malignancy in human, has drawn attention from researchers around the world. As skin cancer can turn into fatal if not treated in its earliest stages, the necessity of devising automated skin cancer diagnosis system that can automatically detect skin cancer efficiently in its earliest stage in a faster process than traditional one is of crucial importance. In this paper, a computer aided skin cancer diagnosis system based Convolutional Neural Network method has been shown. Our proposed system consists of five stages namely image acquisition, image preprocessing, image segmentation, feature extraction and classification. We remove hair any noise from the images using dull then use median filter to smoothen the images. Next, k-means algorithm was applied for image segmentation on the preprocessed images. Finally, the segmented images were fed into CNN model for feature extraction and classification. The developed system can classify benign and melanoma type skin cancers from Dermoscopic images as accurate as 80.47%. While developing the skin cancer detection system, we compare accuracy score of other models such as Artificial Neural Network (ANN), K-Nearest Neighbor (KNN) and Random Forest with our proposed system. The proposed method has been tested on 'ISIC Challenge 2016' test dataset and an accuracy rate of 80.47% was obtained for accurately classifying benign and malignant skin lesions by our proposed model.

