COMPUTER VISION FOR SKIN CANCER DETECTION AND DIAGNOSIS

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Abstract

— Skin-cancer is the most common type of cancer among all other types of cancers spreading both developed and developing countries. In this paper, a web service is developed in order to help physicians as well as individuals to upload an image and diagnose the particular types of lesion. Computer vision is used to analyse lesions on images by providing computers with somewhat similarity as humans do. For this a Convolution Neural Network (CNN) is used with multi classification on International Skin Imaging Collaboration (ISIC) 2018 dataset with HAM10000 images. This dataset is a meta-data which has various types of images with seven different labels. At first, the model is trained with a larger training set and saved in a zip folder. Secondly, a web service is created where users or a doctor can upload an image for classification. Thirdly, the images uploaded are pre-processed as there is noise, hairs on image. Techniques like resizing, normalisation, thresholding, black-hat filtering and inpainting are used for this purpose. After this, the saved model is called to define whether the uploaded image is benign or malignant. The experimental results reveal that the proposed model is superior in terms of detection and diagnosis accuracy as compared to modern methods.

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