



Skin Cancer Classification using ResNet

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Abstract:

Since skin disease is one of the most well-known human ailments, intelligent systems for classification of skin maladies have become another line of research in profound realizing, which is of incredible importance for the dermatologists. The exact acknowledgement of the infection is very challenging due to complexity of the skin texture and visual closeness of the disease. Skin images are filtered to evacuate undesirable noise and furthermore process it for improvement of the picture. We have used 25,331 clinical-skin disease images, the training images from varying lesions of eight categories and having no-skin ailments at different anatomic sites to test 8238 images. The classifier was used for classification of skin lesions such as Melanoma, Melanocytic nevus, Basal cell carcinoma, Actinic keratosis, Benign keratosis, Dermatofibroma, Vascular lesion and Squamous cell carcinoma. Complex techniques such as Residual Neural Network (ResNET) which is a type of Convolutional Neural Network is used to classify the image and obtain the diagnosis report as a confidence score with high accuracy. ResNet is used to make the training process faster by skipping the identical layers. There is an effective improvement in training process in every successive layer. Analysis of this investigation can help specialist to in advance diagnosis, to know the kind of infection and begin with any treatment if required.

Biography:

Niharika is pursuing her Masters in Computer Science from Universita Degli Studi Dell'Aquila, L'Aquila in collaboration with Amrita Vishwa Vidyapeetham, Bangalore. Her interests include machine learning, data analysis and mathematics.



Publication of speakers:

1. Radha D., and Amudha, J., "Effectual Training for Object Detection Using Eye Tracking Data Set", in 2nd International conference on Inventive Computation Technologies (ICICT-2017), Coimbatore, 2017.
2. J. Tressa Jose, Amudha, J., and Sanjay, G., "A Survey on Spiking Neural Networks in Image Processing", in Advances in Intelligent Informatics, E. - S. M. El-Alfy, Thampi, S. M., Takagi, H., Piramuthu, S., and Hanne, T., Eds. Cham: Springer International Publishing, 2015, pp. 107-115
3. A Shrivastava, J Amudha, D Gupta., "DeepLearning Model for Text Recognition in Images", in Conference: 2019 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT)
4. Lindsay, Erica, "The High Cost of Drug Diversion," Pharmacy Times, <https://www.pharmacytimes.com/contributor/erica-lindsay-pharmd-mba-jd/2016/01/the-high-cost-of-drug-diversion>, Jan. 2, 2016.

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