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Skin Burn Detection using Image Processing

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Abstract: *Skin cancer at its early stages can be cured. But when it is not recognized at its early stages, it begins to spread to other parts of the body and can be deadly. Benign Melanoma is simply appearance of moles on skin. A normal mole is usually an evenly coloured brown, tan, or black spot on the skin. It can be either flat or raised. Skin burns are the deadly form of cancers in humans. If skin burns are detected at early stages, it can be cured completely. So, an early detection of skin cancer can save the patients. Skin burns are of two types- Benign and Malignant Melanoma. Benign melanoma is not a deadly condition, but malignant melanoma is a deadly form. Both resemble same in appearance at the initial stages. Only an expert dermatologist can classify which one is benign and which one is malignant. The CNN based Classification methodology uses Image processing techniques. Main advantage of this computer-based CNN classification is that patient does not need to go to hospitals and undergo various painful diagnosing techniques like Biopsy.*

Keywords: Convolutional neural network, Image processing, Deep learning

REFERENCES

[1]. D.P. Yadav, A. Sharma, M. Singh, A. Goyal Feature extraction based machine learning for human burn diagnosis from burn images IEEE J Transl Eng Health Med, 7 (1800507) (2019), pp. 1-7, 10.1109/JTEHM.2019.2923628 View Record in Scopus Google Scholar

[2]. A.J. Singer, S.T. Boyce Burn wound healing and tissue engineering J. Burn Care Res., 38 (3) (2017), pp. 605-613, 10.1097/BCR.0000000000000538 Google Scholar Cambridge Wireless Essential Series, May 2009.

[3]. K.B. Mitchell, E. Khalil, A. Brennan, H. Shao, A. Rabbitts, N.E. Leahy, R.W. Yurt, J.J. Gallagher New management strategy for fluid resuscitation: quantifying volume in the first 48 hours after burn injuryJ. Burn Care Res., 34 (1) (2013), pp. 196-202, 10.1097/BCR.0b013e3182700965View Record in ScopusGoogle Scholar

[4]. U. S¸ evik, E. Karakulluk¸cu, T. Berber, Y. Akba¸s, S. T¨urkyılmazAutomatic classification of skin burn colour images using texture-based feature extractionIET Image Process., 13 (11) (2019), pp. 2018-2028, 10.1049/ietipr.2018.5899CrossRefView Record in ScopusGoogle Scholar

[5]. Emami, H.; Dong, M.; Nejad-Davarani, S.; Glide-Hurst, C. Generating Synthetic CTs from Magnetic Resonance Images using Generative Adversarial Networks. Med. Phys. 2018, 45, 3627–3636.

[6]. Qin, Z.; Liu, Z.; Zhu, P.; Xue, Y. A GAN-based Image Synthesis Method for Skin Lesion Classification. Comput. Methods Programs Biomed. 2020, 195, 105568. [CrossRef] [PubMed] 15

[7]. Barile, B.; Marzullo, A.; Stamile, C.; Durand-Dubief, F.; Sappey-Marinier, D. Data Augmentation using Generative Adversarial Neural Networks on Brain Structural Connectivity in Multiple Sclerosis. Comput. Methods Programs Biomed. 2021, 206, 106113. [CrossRef]

[8]. Abazari, M.; Ghaffari, A.; Rashidzadeh, H.; Badeleh, S.M.; Maleki, Y. A Systematic Review on Classification, Identification, and Healing Process of Burn Wound Healing. Int. J. Low. Extrem. Wounds 2022, 21, 18–30. [CrossRef]