





















- [7] R. Garnavi, M. Aldeen, M. E. Celebi, G. Varigos, S. Finch, A. Bhuiyan, and C. Dolianitis, "Automatic segmentation of dermoscopy images using histogram thresholding on optimal color channels," *Computerized Med. Imaging Graph.*, vol. 35, no. January, pp. 105–115, 2011.
- [8] A. Chopra and B. R. Dandu, "Image Segmentation Using Active Contour Model," *Int. J. Comput. Eng. Res.*, vol. 2, no. 3, pp. 819–822, 2012.
- [9] H. Zhou, G. Schaefer, M. Celebi, H. Iyatomi, K.-A. Norton, T. Liu, and F. Lin, "Skin lesion segmentation using an improved snake model.," *Conf. Proc. IEEE Eng. Med. Biol. Soc.*, vol. 2010, no. 1, pp. 1974–7, 2010.
- [10] S. N. Deepa and B. Aruna Devi, "A survey on artificial intelligence approaches for medical image classification," *Indian J. Sci. Technol.*, vol. 4, no. 11, pp. 1583–1595, 2011.
- [11] S. Mathew and D. Sathyakala, "Segmentation of skin lesions and classification by neural network," *International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE)* Volume 4, Issue 2, February 2015.
- [12] J. Ko, S. M. Swetter, H. M. Blau, A. Esteva, B. Kuprel, R. A. Novoa, and S. Thrun, "with deep neural networks," *Nature*, pp. 1–11, 2017.
- [13] A. A. I. Mohamed, M. M. Ali, K. Nusrat, J. Rahebi, and A. Sayiner, "Melanoma Skin Cancer Segmentation with Image Region Growing Based on Fuzzy Clustering Mean," *International Journal of Engineering Innovations and Research*, vol. 6, no. 2, pp. 91–95, 2017.
- [14] M. A. Sabri, A. Ennoui, and A. Aarab, "Automatic estimation of clusters number for K-means," 2016 4th IEEE International Colloquium on Information Science and Technology (CiSt). Pages: 450 - 454, DOI: 10.1109/CiSt.2016.7805089. Electronic ISSN: 2327-1884. 24-26 Oct. 2016
- [15] P. Mohanaiah, P. Sathyanarayana, and L. Gurukumar, "Image Texture Feature Extraction Using GLCM Approach, *International Journal of Scientific and Research Publications*, Volume 3, Issue 5, May 2013 1 ISSN 2250-3153".
- [16] Z. Waheed, "An Efficient Machine Learning Approach for the Detection of Melanoma using Dermoscopic Images," pp. 316–319, 2017.
- [17] M. E. Celebi, H. A. Kingravi, B. Uddin, H. Iyatomi, Y. A. Aslandogan, W. V. Stoecker, and R. H. Moss, "A methodological approach to the classification of dermoscopy images," *Comput. Med. Imaging Graph.*, vol. 31, no. 6, pp. 362–373, 2007.
- [18] L. I. Rudin, S. Osher, and E. Fatemi, "Nonlinear total variation based noise removal algorithms," *Phys. D Nonlinear Phenom.*, vol. 60, no. 1–4, pp. 259–268, 1992.
- [19] J. F. Aujol, G. Aubert, L. Blanc-Féraud, and A. Chambolle, "Image decomposition into a bounded variation component and an oscillating component," *J. Math. Imaging Vis.*, vol. 22, no. 1, pp. 71–88, 2005.
- [20] Y. Filali, A. Ennoui, and M. A. Sabri, "Multiscale approach for skin lesion analysis and classification," *International Conference on Advanced Technologies for Signal and Image Processing (ATSIP)*. ISBN: 978-1-5386-0551-6. DOI: 10.1109/ATSIP.2017.8075545. 22-24 May 2017. Fez, Morocco.
- [21] R. M. Haralick, K. Shanmugam, and I. Dinstein, "Textural Features for Image Classification," 1973.
- [22] [22] U. T. a. Rahman, "Gabor filters and gray level co occurrence matrices in texture classification," Citeseer, 2007.
- [23] L. Ruiz, a Fdez-Sarria, and J. Recio, "Texture feature extraction for classification of remote sensing data using wavelet decomposition: a comparative study," *Int. Arch. Photogramm. Remote Sens.*, vol. XXXV, no. 1, pp. 1682–1750, 2004.
- [24] A. Marghoob, R. Braun, and A. Kopf, "Interactive CD-ROM of Dermoscopy". London, U.K.: Informa Healthcare; 2007.
- [25] K. Sirinukunwattana, S. Raza, Y. Tsang, D. Snead, I. Cree, and N. Rajpoot, "Locality Sensitive Deep Learning for Detection and Classification of Nuclei in Routine Colon Cancer Histology Images," *IEEE Trans. Med. Imaging*, vol. 62, no. February, pp. 1–1, 2016.
- [26] D. A. L and M. I. M, "k -Means Clustering and Ensemble of Regressions: An Algorithm for the ISIC 2017 Skin Lesion Segmentation Challenge," pp. 1–5, 2017.
- [27] R. Amelard, S. Member, J. Glaister, S. Member, A. Wong, D. A. Clausi, and S. Member, "High-Level Intuitive Features ( HLIFs ) for Intuitive Skin Lesion Description," vol. 62, no. 3, pp. 820–831, 2015.
- [28] A. M. Solomon, A. Murali, R. B. Sruthi, M. K. Sreeekavya, S. Sasidharan, and L. Thomas, "Identification of Skin Cancer based on Colour , Subregion and Texture," vol. 6, no. 7, pp. 8331–8334, 2016.
- [29] E. Almansour and M. A. Jaffar, "Classification of Dermoscopic Skin Cancer Images Using Color and Hybrid Texture Features," vol. 16, no. 4, pp. 135–139, 2016.

**Yousef FILALI** 13 March 1992 in fez, received his Master's degree from faculty of Sciences Ben M'Sik Casablanca Morocco in 2015. He is pursuing his PhD. degree in Faculty of Sciences Dhar-Mahraz, Sidi Mohamed Ben Abdellah University in LIAN Laboratory. His doctoral study focused on machine learning and deep learning for medical image analysis.