Automatic Image Segmentation for the Detection of Illness in Cash Crops Extended Data Set Method & Deep Learning

Prof. Jayantkumar Rathod[1], Abhishek[2], Bhuvana[3], Sathwik U Shetty[4], Shivaraj[5]

Associate Professor, Department of Information Science and Engineering[1]

Students Department of Information Science and Engineering[2,3,4,5]

Alva's Institute of Engineering and Technology, Mijar, Mangalore, Karnataka, India

Abstract: *The economy of our country heavily depends on agrarian produce. This is the driving force behind Recognizing unhealthy leaves is the key to preventing crops from declining and yield from declining. It required a tremendous amount of labour, knowledge of the leaf diseases, and a tremendous lot of time. As a result, methods for image processing are used to find and identify unhealthy plant leaf conditions. Automatically identifying plant leaf diseases is helpful because it reduces the laborious task of observing in large farms and identifies disease symptoms right away. The stages of image acquisition, image pre-processing, picture segmentation, feature extraction, and classification are involved in the detection and identification of plant leaf diseases. The methodologies for pre-processing images, picture segmentation algorithms for automatic recognition, and research on potential plant leaf disease classification algorithms are all included in this work.*

Keywords: Image processing; segmentation; Support Vector Machine; Decision Support System.

REFERENCES

[1]. Al-Hiary, H., Bani-Ahmad, S., Reyalat, M., Braik, M., Alrahamneh, Z., 2011. Fast and accurate detection and classification of plant diseases. Int. J. Comput. Appl. 17, 31–38.

[2]. Bock, C. H. , et al. "Plant Disease Severity Estimated Visually, by Digital Photography and Image Analysis, and by Hyperspectral Imaging." CRITICAL REVIEWS IN PLANT SCIENCES 29.2(2010):59-107.

[3]. Carranza-Rojas, J., Goeau, H., Bonnet, P., Mata-Montero, E., Joly, A., 2017. Going deeper in the automated identification of Herbarium specimens. BMC Evol. Biol.

[4]. Ghaiwat Savita N, Arora Parul. Detection and classification of plant leaf diseases using image processing techniques: a review. Int J Recent Adv Eng Technol 2014;2(3):2347–812. ISSN (Online).

[5]. Pydipati R, Burks TF, Lee WS. Statistical and neural network classifiers for citrus disease detection using machine vision. Trans ASAE 2005;48(5):2007–14.

[6]. Saradhambal .G , Dhivya. R, Latha. S, R. Rajesh "Plant Disease Detection and Its Solution using Image Classification" International Journal of Pure and Applied Mathematics. Volume 119 No. 14 2018, 879-884

[7]. Sanjeev S Sannakki, Vijay S Rajpurohit, V B Nargund, Pallavi Kulkarni"Diagnosis and Classification of Grape Leaf Diseases using Neural Networks" 4th ICCCNT 2013

[8]. Wan Mohd Fadzil, Shah Rizam, Jailani R, Nooritawati M.T, "Orchid leaf disease detection using Border Segmentation technique," IEEE Conference on Systems, Process and Control (ICSPC), Vol.1, pp.168- 179, December 2014.

[9]. Sethy, P.K.; Barpanda, N.K.; Rath, A.K.; Behera, S.K. Deep feature based rice leaf disease identification using support vector machine. Comput. Electron. Agric. 2020, 175, 105527.

[10]. R. Balodi, S. Bisht, A. Ghatak, and K. H. Rao, "Plant disease diagnosis: Technological advancements and challenges," Indian Phytopathology, vol. 70, no. 3, pp. 275–281, 2017.