

Fruits and Vegetables Disease Prediction using CNN

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Abstract: When fruit and vegetable diseases are not treated quickly, they dramatically diminish yield. Fruit and vegetable diseases are often brought on by pests, insects, and pathogens. Farmers are losing money as a result of several illnesses. These issues that farmers are facing have a remedy in the suggested system. The suggested system offers a solution to the problems that farmers are experiencing. Pre-processing is used during the first stage. The noisy and fuzzy portions of the segmented image are removed in the second phase using a variety of features, and finally, images are classified into one of the classes using a multi-class algorithm. We examined fruit and vegetable illnesses as a test case. Our findings show that the suggested strategy can significantly aid in the accurate detection and automatic recognition of vegetable and fruit diseases.

Keywords: Attributes, Classification, Convolution Neural Network, Prediction, Image Processing

REFERENCES

- [1]. Shakya, Subarna. "Analysis of artificial intelligence based image classification techniques." Journal of Innovative Image Processing (JIIP) 2.01 (2020): 44-54.
- [2]. Awate, Ashwini, et al. "Fruit disease detection using color, texture analysis and ANN." 2015 International Conference on Green Computing and Internet of Things (ICGCIoT). IEEE, 2015.
- [3]. Fruit Disease Detection Using Rule-Based Classification. Vippon Preet Kour and Sakshi Arora.
- [4]. Maturity and Disease Detection in Tomato using Computer Vision. Tanvi Mehra, Vinay Kumar, Pragya Gupta. 2016 Fourth International Conference on Parallel and Distributed Computing.
- [5]. Shiv Ram Dubey, Anand Singh Jalal "Adapted Approach for Fruit Disease Identification using Images".
- [6]. Hetal N. Patel, Dr. M. V. Joshi "Fruit Detection using Improved Multiple Features based Algorithm" International Journal of Computer Applications (0975- 8887), Volume 13- No.2, January 2011.
- [7]. Monica Jhuria, Ashwini Kumar, Rushikesh Borse "Image Processing for Smart Farming: Detection of Disease and Fruit Grading" Proceeding of the 2013 IEEE Second International Conference on Image Processing.
- [8]. Manisha A. Bhange, Prof. H. A. Hingoliwala "A Review of Image Processing for Pomegranate Disease Detection" International Journal of Computer Science and Information Technologies, Vol. 6 (1), 2015, 92-94.
- [9]. Dewliya, S., Singh, P.: Detection and classification for apple fruit diseases using support vector machine and chain code. Int. Res.J. Eng. Technol. (IRJET) 02, 04 Aug 2015
- [10]. Dubey, S.R., Jalal, A.S.: Detection and classification of apple fruit diseases using complete local binary patterns. In: Third International Conference on Computer and Communication Technology (ICCCT), pp. 346-351, 23-25 Nov 2012
- [11]. Shiv Ram Dubey, Pushkar Dixit, Nishant Singh, Jay Prakash Gupta "Infected Fruit Part Detection using K-Means Clustering Segmentation Technique" International Journal of Artificial Intelligence and Interactive Multimedia, Vol. 2, 2013.
- [12]. Bhange, M., Hingoliwala, H.A.: Smart farming: pomegranate disease detection using image processing. In: Second International Symposium on Computer Vision and the Internet (VisionNet'15), pp. 280-288, 22 Aug. 201

- [13]. P. Vimala Devi and K. Vijayarekha “Machine Vision Application to Locate Fruits, Detect Defects and Remove Noise: A Review” Vol.7 | No.1 | 104-113| January – March | 2014
- [14]. Tejal Deshpande, Sharmila Sengupta, K. S. Raghuvanshi “Grading & Identification of Disease in Pomegranate Leaf and Fruit” International Journal of Computer Science and Information Technologies, Vol. 5 (3), 2014, 4638-4645.
- [15]. Hetal N. Patel, Dr. M. V. Joshi “Fruit Detection using Improved Multiple Features based Algorithm” International Journal of Computer Applications (0975 – 8887), Volume 13– No.2, January 2011.