

Survey Paper: Plant Disease Detection using CNN

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Abstract: “Agriculture provides employment opportunities for village people on large scale in developing country like India. Most of Indian farmers are adopting manual cultivation due to lagging of technical knowledge. In addition that, Plant leaf disease has been one of the major threats to for plants since long ago because it reduces the crop yield and compromises. plant diseases are studied in the literature, mostly focusing on the biological aspects. They make predictions according to the visible surface of plants and leaves. This paper presents a system that is used to classify and detect plant leaf diseases using machine learning techniques. In our work, we have taken specific types of plants; include tomatoes, pepper, and potatoes, as they are the most common types of plants in the world and in Iraq in particular. Using machine learning algorithms, which comprise procedures like dataset construction, loading images, prepping, segmentation, feature extraction, training a classifier, and classification, it is possible to classify plant diseases. This paper presents a Convolutional Neural Network (CNN) model algorithm based method for Agricultural leaf disease detection and classification. So, the neural networks can capture the colours and textures of lesions specific to respective diseases upon diagnosis.

Keywords: Disease Detection, Convolutional Neural Network

REFERENCES

- [1]. H. Durmus E. O.G ünés , and M.Kırcı , “Disease detection on the leaves of the tomato plants by using deep learning”, In Agro-Geoinformatics, IEEE 6th International Conference on, pp.1-5,2017.
- [2]. Diptesh Majumdar, Dipak Kumar Kole, ArunaChakraborty, An Integrated Digital Image Analysis System for Detection, Recognition and Diagnosis of Disease in Wheat Leaves, 2019
- [3]. M. Francis and C. Deisy, "Disease Detection and Classification in Agricultural Plants Using Convolutional Neural Networks", A Visual Understanding Computer Science 2019 6 th International Conference on Signal Processing and Integrated Networks (SPIN) , 2019.
- [4]. MelikeSardogan, AdemTuncer and YunnusOzen, "Plant Leaf Disease Detection and Classification Based on CNN with LVQ Algorithm", 3 rd International Conference on Computer Science and Engineering (UBMK) Posted, 2018.
- [5]. M. Francis and C. Deisy, "Disease Detection and Classification in Agricultural Plants Using Convolutional Neural Networks", A Visual Understanding Computer Science 2019 6 th International Conference on Signal Processing and Integrated Networks (SPIN) , 2019.
- [6]. Indian agriculture economy.”. Available: [http:// statistics times.com/economy/sectorwise-gdp-Contribution-ofindia](http://statistics.times.com/economy/sectorwise-gdp-Contribution-ofindia).