Plant Leaf Disease classification techniques using Leaf Images: A Study

Arun Pandian J[1]*, Geetharamani G[2], Mohit Agarwal[3], Suneet Kumar Gupta[3]

[1]Department of Computer Science and Engineering, M.A.M. College of Engineering and Technology, Trichy, India
[2]Department of Mathematics, University College of Engineering, Anna University - BIT Campus, Trichy, India
[3]Department of Computer Science Engineering, Bennett University, Greater Noida, India

Abstract : Automatic Plant disease identification has become a major challenge in precision farming. In this research, an overview of the applications of computer vision techniques on the identification of Plant leaf disease is presented. This paper reviews the 28 research efforts that employ the most common artificial intelligence techniques related to plant leaf disease identification using leaf images. The techniques namely nearest neighbors, Support vector machine, Artificial neural network, and Convolutional neural network are illustrated and analyzed. Present challenges and opportunities of these techniques also highlighted. The review would help researchers to understand the applications of these techniques in plant disease detection.
Keywords: Artificial Intelligence, Artificial Neural Network, Back Propagation, Convolutional Neural Network, Deep Learning, K-Nearest Neighbors, Machine Learning, Plant Leaf Disease Identification, Support Vector Machine.

✲✲✲✲✲