

IoT based Plant Disease Prediction using Convolutional Neural Network

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ABSTRACT

Indian Economy mainly depends on agricultural productivity. The productivity decreases due to various plant diseases. Manual detection of diseases may require time and expertise. Therefore, the automatic detection of plant disease plays a significant role in agriculture. To improve the production, plant diseases can be detected in the beginning stage to avoid the problems to the farmers. In this work, the effort has been made to detect the plant disease automatically with the use of IoT and Deep learning techniques. In this, Plants images are collected using IoT devices and stored in the database for further processing. Then the images are collected, analysed and interpreted using deep learning techniques. Deep learning provides quick and accurate results for prediction. CNN is used for classification and identification of plant disease images. CNN is considered as the best approach for image and plant disease recognition. In our experiment, DenseNet has been used which consistently improves the accuracy with the number of epochs and achieve better performance. DenseNet architecture works with a minimal number of parameters and also avoids overfitting and performance deterioration problems.

