Diagnosing Plant Diseases Using Convolutional Neural Network

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Timely detection of plants diseases is one of the challenges to protect food security. If we cannot detect the plant diseases on time, there will be a lot of damage to the sustainability of agriculture. The development of deep learning techniques for images classification has reached high accuracy recently. There was no published dataset about the rice plant and its diseases. In this project, we present a images classification model for detecting the diseases on the rice plant and published our dataset. We captured images on the field, then preprocessed and labeled them. We published our dataset on Kaggle. We trained the model using different architectures and training methods. About the achievements, the dataset's prototype has 3 classes, they are 2 classes of diseases (Brown spot, Leaf blight) and 1 class of healthy leaves. We can effectively predict 3 classes of the rice plant, with the best accuracy of 99.84% on the test set of the dataset's prototype.

Awards Won: