

Deep learning approach for recognition and classification of yield affecting paddy crop stresses using field images

ABSTRACT

On-time recognition and early control of the stresses in the paddy crops at the booting growth stage is the key to prevent qualitative and quantitative loss of agricultural yield. The conventional paddy crop stress recognition and classification activities invariably rely on human experts identifying visual symptoms as a means of categorization. The work presented in this paper aims to design a deep convolutional neural network (DCNN) framework for automatic recognition and classification of various biotic and abiotic paddy crop stresses using the field images. The work has adopted the pre-trained VGG-16 CNN model for the automatic classification of stressed paddy crop images captured during the booting growth stage. The trained models achieve an average accuracy of 92.89% on the held-out dataset, demonstrating the technical feasibility of using the deep learning approach.

SOFTWARE REQUIREMENT

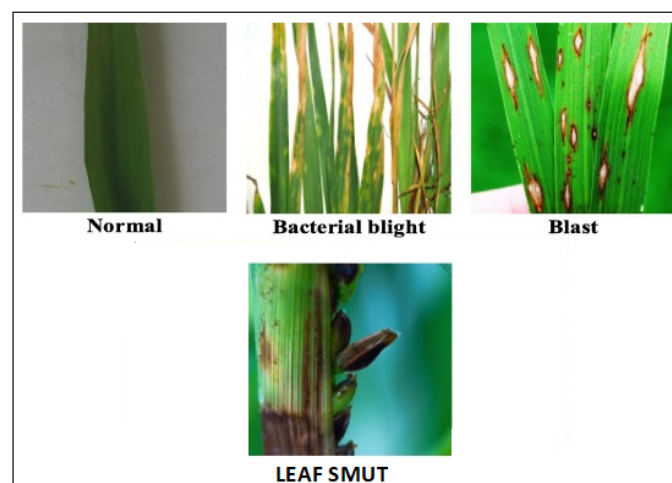
OS: Windows 10

Front end: HTML5, CSS,

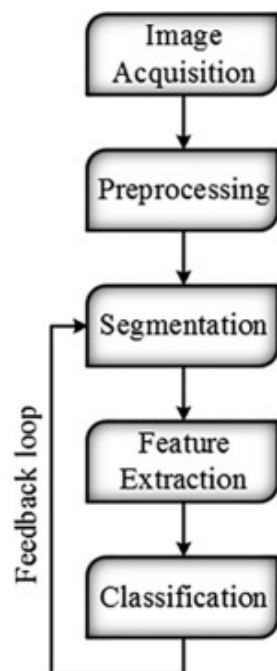
Back end: Python

Library: TensorFlow

DATASET: Rice_leaf_diseases (stresses: Bacterial blight, Fungal blast, leaf smut)



PROPOSING METHODOLOGY



- Comparision between BPNN amd VGG-16 model for the classification of normal and stressed paddy crop images.
- Using CNN Classification
- Features: Color, Shape, Texture.