**CONCLUSION**

This paper presents a machine learning approach to detect

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This proposed system attempted to automate the recognition and classification of stresses affecting paddy crops and successfully demonstrated by employing deep learning techniques. The proposed system uses CNN, VGG-16, Inception-V3 and MobileNet deep convolutional network architectures as classifiers. The Inception V3 model based approach outperforms the three other methods, resulting in a maximum average stress classification accuracy of 98% across the four stress types on paddy crops considered. Compare to other recognition models, Inception-V3 has high efficiency both in prediction and less error rate. It has a better training performance, faster convergence rate as well as better detection ability than other models. The Deep convolutional neural network achieves greater performance accuracy in machine learning fields.

**Advantages**

The key Features are:

* Early diagnosis of the stressed paddy crop
* No need of an expert knowledge to identify the affected paddy crop stress.
* The system suggests remedies for the predicted stress so that it can be cured at the early stage.

**Future Enhancement**

The project can be enhanced to higher extend by including more stresses which can affect the paddy crops. The stress classification performance of the Inception-V3 model will be compared with the similar state of- the-art models such as ResNet, GoogLeNet, VGG-19 and LeNet as a future scope. As an enhancement, hardware devices can be used to capture live images from the field and also finds applications in developing the decision support systems and mobile applications for automating the field crop and resource management practices.