# Crop Identification using Mobile App

**Mr. K. Surendra[1], Sanjana[2], Tejaswini R[3]**

Assistant Professor, Department of CSE[1]

Students, Department of CSE[2,3]

Alva's Institute of Engineering and Technology, Mijar, Moodbidri, India

**Abstract:** *The primary purpose of doing the project was to determine the species of a plant seedling from an image of the plant seedling using Deep Learning. The need for this project is related to improving farming techniques leading to better crop yields as well as better stewardship of the environment. Computer vision has grew recently in the past few years with the advent of deep learning algorithms. Convolutional Neural Networks have become the state-of-the-art algorithm for image detection and classification tasks. With the help of popular modern deep learning framework Keras, the process of building and deploying a DL model has become easy. As such, more and more focus can be made on solving the actual problem instead of dealing with the intricacies of working of our model.The project involved preprocessing of plant images, masking those images, building the CNN model, validating the model, testing the model, and finally deploying the CNN model to an optimised version that can be used in an Android app. The key challenge in the project was preprocessing and masking the images. These images consisted of unwanted information in the background which was being unnecessarily computed while training the model. With the help of OpenCV library, we could cut out the sections of image containing the plant and darken the background of the image. These images were then directly fed to the CNN model, leading to greater accuracy in the results.*

**Keywords:** CNN Model, Emotion Detection, Image Processing

## REFERENCES

[1]. Wenjiang Huang, Qingsong Guan, Juhua Luo, Jingcheng Zhang, Jinling Zhao, Dong Liang, Linsheng Huang, and Dongyan Zhang, "New Optimized Spectral Indices for Identifying and Monitoring Winter Wheat Diseases", IEEE journal of selected topics in applied earth observation and remote sensing,Vol. 7, No. 6, June 2018.

[2]. .K.Thangadurai, K.Padmavathi, "Computer Visionimage Enhancement For Plant Leaves Disease Detection", 2017 World Congress on Computing and Communication Technologies.

[3]. Monica Jhuria, Ashwani Kumar, and Rushikesh Borse, "Image Processing For Smart Farming: Detection Of Disease And Fruit Grading", Proceedings of the 2017 IEEE Second International Conference on Image Information Processing.

[4]. ulkifli Bin Husin, Abdul Hallis Bin Abdul Aziz, Ali Yeon Bin, Md Shakaff Rohani Binti S Mohamed Farook, "Feasibility Study on Plant Chili Disease Detection Using Image Processing Techniques", 2015 Third International Conference on Intelligent Systems Modelling and Simulation.

[5]. Mrunalini R. Badnakhe, Prashant R. Deshmukh, "Infected Leaf Analysis and Comparison by

[6]. Otsu Threshold and k-Means Clustering", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 2, Issue 3, March 2017