

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,
BELAGAVI-590018**



A PROJECT REPORT ON

CNN-BASED HEVEA LEAF DISEASE DETECTION

Submitted in partial fulfilment of the award of degree in

BACHELOR OF ENGINEERING

IN

INFORMATION SCIENCE & ENGINEERING

By

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DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

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CERTIFICATE

This is to certify that **"CNN-BASED HEVEA LEAF DISEASE DETECTION"** has been successfully completed by

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The Bonafide students of **Information Science & Engineering Department, Alva's Institute of Engineering and Technology, Moodubidire**, affiliated to **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI**, during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

Using deep learning to identify commercial crop diseases has become a research point in identifying plant diseases. However, recent research has shown that insufficient historical data and insufficient knowledge of crop images can lead to deep learning biases in the use of ideas. To solve this problem, in this paper, we propose a method to detect functional diseases using automatic image segmentation and deep learning of continuous data. An automatic image segmentation algorithm (AISA) based on the GrabCut algorithm has been developed to remove background information from the image while preserving the lesions. There is no need to manually select objects while rendering and the time cost is lower than the GrabCut algorithm. A DenseNet Convolutional Neural Network (CNN) model was chosen as the deep learning model and many clipping images and internet resources were added to expand the public knowledge. PlantVillage enhances all the capabilities of DenseNet. However, images processed by AISA can be used to eliminate some diseases, which reduces computational cost and improves the management of crop diseases. We have also developed commercial viruses for use on smart mobile devices.

INTRODUCTION