A REPORT

ON

AI-DRIVEN CROP DISEASE PREDICTION AND MANAGEMENT SYSTEM

Submitted by,

Ms. Parinitha M	20211CSE0271
Ms. Nethra K	20211CSE0334
Ms. Yukthi V	20211CSE0272

Under the guidance of,

Dr. Ramesh Sengodan

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS
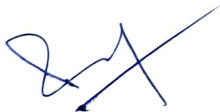
PRESIDENCY UNIVERSITY

BENGALURU

MAY 2025

PRESIDENCY UNIVERSITY

PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Internship/Project report **"AI-Driven Crop Disease Prediction and Management System"** being submitted by Parinitha M, Nethra K, and Yukthi V bearing roll number 20211CSE0271, 20211CSE0334, and 20211CSE0272 in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a Bonafide work carried out under my supervision.

Dr. Ramesh Sengodan
Professor
School of CSE&IS
Presidency University

Dr. Asif Mohamed H B
Professor & HoD
School of CSE&IS
Presidency University

Dr. Mydhili Nair
Associate Dean
PSCS
Presidency University

Dr. Sameeruddin Khan
Pro-Vc Chancellor - Engineering
Dean –PSCS / PSIS
Presidency University

PRESIDENCY UNIVERSITY

PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

I hereby declare that the work, which is being presented in the report entitled **AI-Driven Crop Disease Prediction and Management System** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of my own investigations carried under the guidance of **Dr. Ramesh Sengodan, Professor, School of Computer Science Engineering & Information Science, Presidency University, Bengaluru.**

I have not submitted the matter presented in this report anywhere for the award of any other Degree.

Parinitha M	20211CSE0271	Parinitha M
Nethra K	20211CSE0334	Nethra. K
Yukthi V	20211CSE0272	Yukthi V

ABSTRACT

Agriculture plays a crucial role in sustaining the global economy, providing food and raw materials to billions of people. However, crop diseases remain a major challenge, threatening agricultural productivity and leading to significant financial losses and food shortages. Traditional disease detection methods rely heavily on manual observation, which can be time-consuming, labor-intensive, and susceptible to human error. These limitations highlight the need for a more efficient, scalable, and accessible solution.

An AI-Based Crop Disease Prediction and Management System presents a revolutionary solution by leveraging the capabilities of artificial intelligence and deep learning to identify crop diseases from images of plant leaves. Leveraging sophisticated image processing methods and pre-trained (ResNet9) convolutional neural networks, the system can identify a vast array of crop diseases with high accuracy based on observable symptoms. Farmers can easily upload a picture of an infected plant using a web-based interface, and the model automatically scans the picture, makes a prediction of the disease, and gives customized advice for treatment and prevention.

The system is made user-friendly, accessible through any internet-enabled device, and allows integration with other crop and disease types in the future. By reducing reliance on human inspection and allowing for accurate disease detection, this AI-based solution not only increases agricultural productivity but also helps ensure global food security. As deep learning technology advances, such systems have the potential to transform crop disease management and support the vision of smarter, more resilient farming ecosystems.