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PIP4004 Internship/University Project Project Submission check list

SL. No	ITEM	Give Completion Status as Yes / No. If No - Mention the problem you have.
1	Are the contents in the report arranged in the specified sequence?	Y
2	Are the page dimensions and binding specifications followed?	Y
3	Are the typing instructions followed as given?	Y
4	Proof of publications/Conference Paper Presented /Certificates of all students enclosed?	Y
5	Include certificate(s) of any Achievement/Award won in any project-related event enclosed if any	Y
6	Similarity Index / Plagiarism Check report clearly showing the Percentage (%)- first page enclosed?	Y
7	Details of mapping the project with the Sustainable Development Goals (SDGs) enclosed?	Y
8	Are the Documents uploaded by students in GITHUB and Drive Shared 1. Complete Code (with all the supporting files). 2. Signed Final Report PDF. 3. Final Review PPT.	Y

Guide Name: Dr Naveen MN

Guide Signature: [signature]

Semester: 8

Reporting HoD Name:

Date: 16/5/2025

PRESIDENCY UNIVERSITY

School of Computer Science and Engineering

PIP4004 Internship/University Project Check list

SUBMISSION CHECK LIST

SL. No	ITEM	Give Completion Status as Yes / No. If No - Mention the problem you have.
1	Are the contents arranged in the specified sequence? 1. Cover & Title Page 2. Certificate 3. Declaration 4. Abstract 5. Acknowledgement 6. List of Tables, Figures & Table of Contents 7. Chapters (Introduction, Literature review, Research Gaps of Existing Methods, Proposed Methodology, Objectives, System Design & Implementation, Timeline for execution of Project, Results & Discussions, Conclusion, References) 8. Appendices A, B & C.	Y
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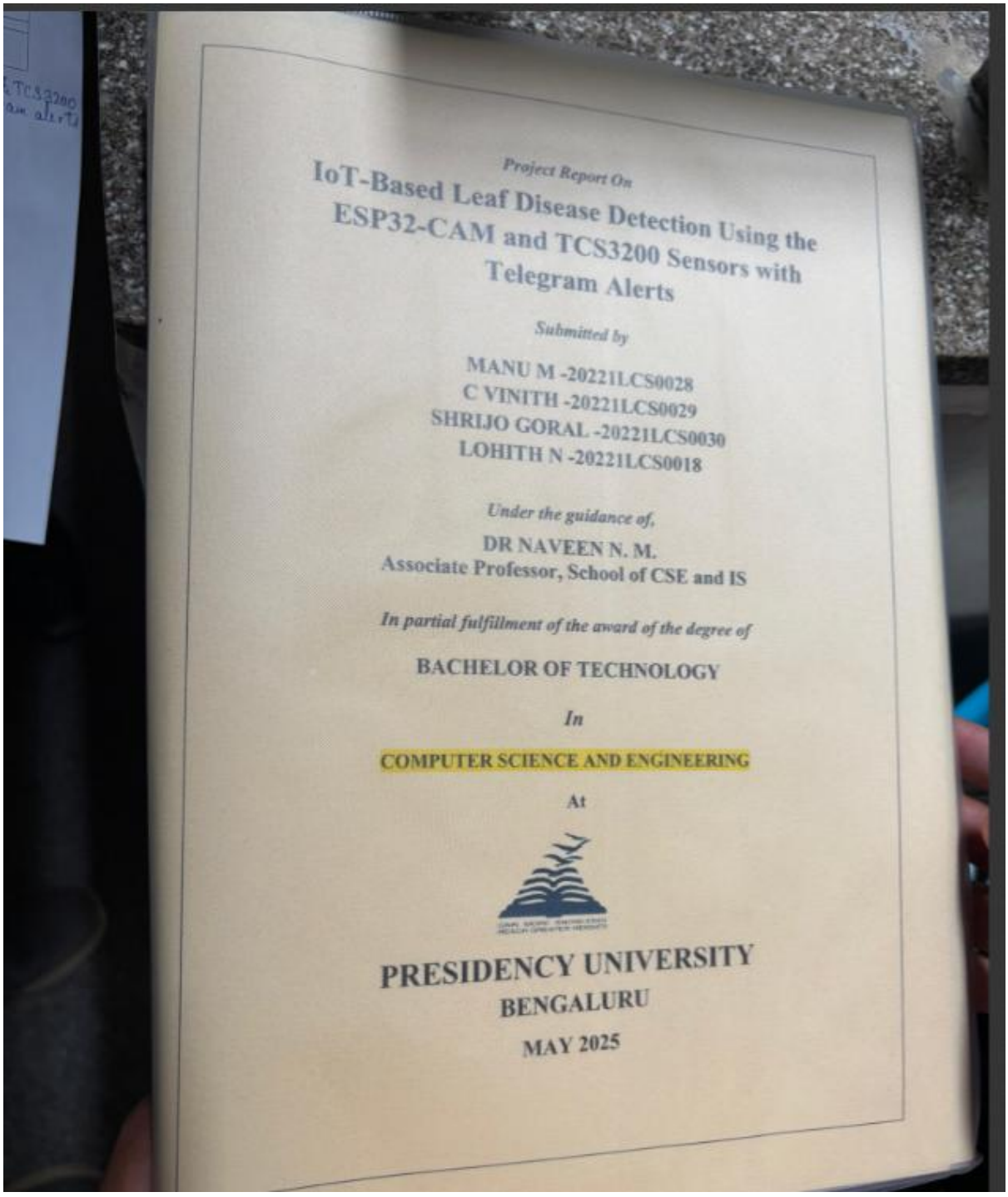
Group No: CSEG-66

Program: B.Tech

Title: IOT Based Real Distance Detection Using the ESP32 CAM & TCS3200 Sensors with telegram alerts

Team Leader Name: Shashi Jotyoral

Team Leader Mobile No: 9380183306



Project Report On

IoT-Based Leaf Disease Detection Using the ESP32-CAM and TCS3200 Sensors with Telegram Alerts

Submitted by

MANU M -20221LCS0028
C VINITH -20221LCS0029
SHRIJO GORAL -20221LCS0030
LOHITH N -20221LCS0018

Under the guidance of,

DR NAVEEN N. M.
Associate Professor, School of CSE and IS

In partial fulfillment of the award of the degree of

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE AND ENGINEERING

At

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BENGALURU

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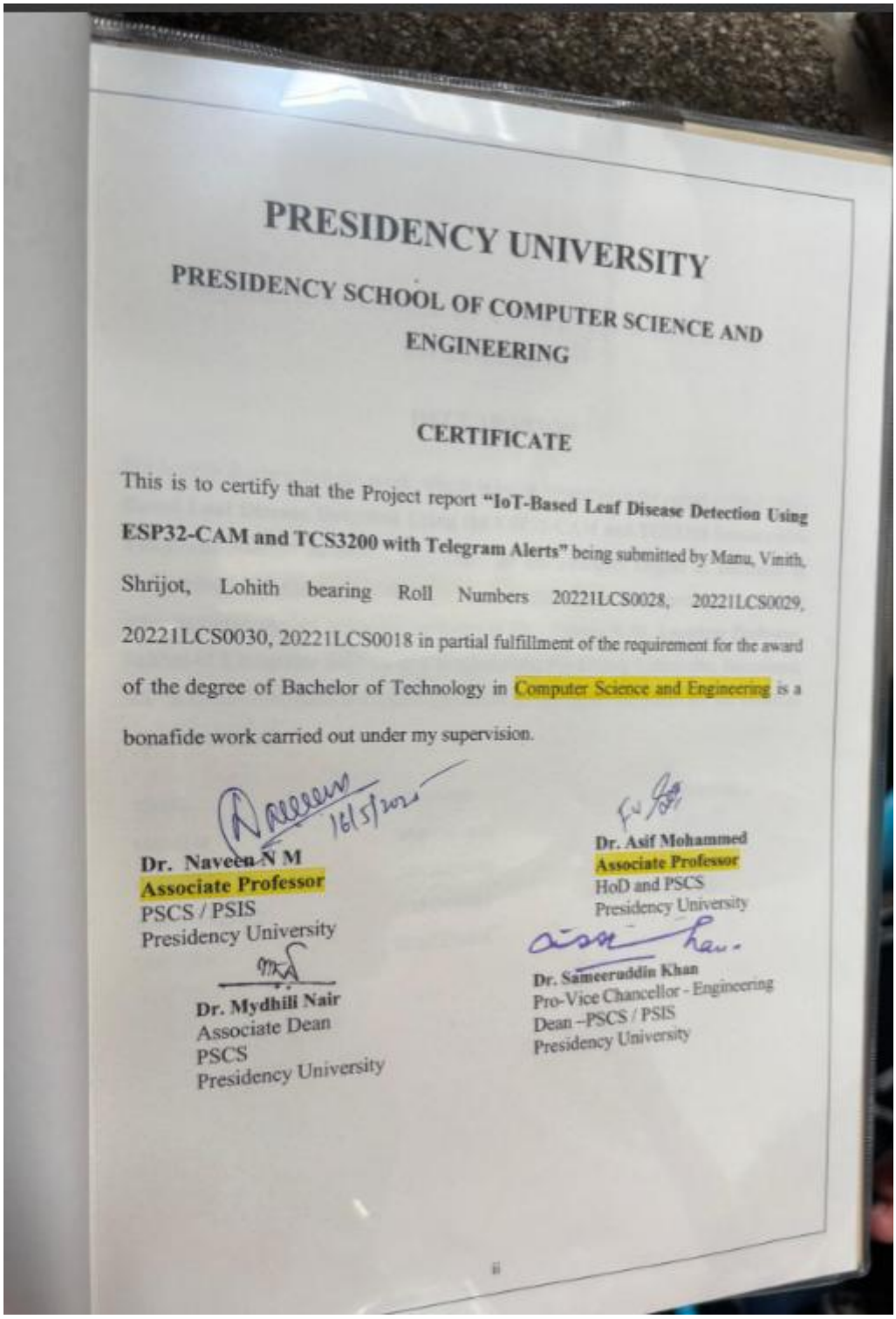

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CERTIFICATE

This is to certify that the Project report **"IoT-Based Leaf Disease Detection Using ESP32-CAM and TCS3200 with Telegram Alerts"** being submitted by Manu, Vinith, Shrijot, Lohith bearing Roll Numbers 20221LCS0028, 20221LCS0029, 20221LCS0030, 20221LCS0018 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.

16/5/2025

Dr. Naveen N M
Associate Professor
PSCS / PSIS
Presidency University

Dr. Mydhili Nair
Associate Dean
PSCS
Presidency University

Dr. Asif Mohammed
Associate Professor
HoD and PSCS
Presidency University

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

PRESIDENCY UNIVERSITY

PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

We hereby declare that the work, which is being presented in the report entitled **"IoT-Based Leaf Disease Detection Using the ESP32-CAM and TCS3200 Sensors with Telegram Alerts"** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of our own investigations carried under the guidance of **Dr. Naveen N M, Associate Professor, School of Computer Science and Engineering, Presidency University, Bengaluru.** We have not submitted the matter presented in this report anywhere for the award of any other Degree.

NAME	ROLLNO	SIGNATURE
MANU M	20221LCS0028	
C VINITH	20221LCS0029	
SHRIJOT GORAL	20221LCS0030	
LOHITH N	20221LCS0018	

ACKNOWLEDGEMENTS

First of all, we indebted to the **GOD ALMIGHTY** for giving us an opportunity to excel in our efforts to complete this project on time.

We are greatly indebted to our guide **Dr. Naveen N M, Associate Professor** and reviewer **Prof. Tintu Vijayan, Assistant Professor,** Presidency School of Computer Science and Engineering, Presidency University, for inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the internship work.

We express our sincere thanks to **Dr. Md. Sameeruddin Khan**, Pro-VC - Engineering and Dean, School of Computer Science and Engineering and School of Information Science, Presidency University for getting us permission to undergo the project.

We express our heartfelt gratitude to our beloved Associate Dean **Dr. Mydhili Nair,** School of Computer Science and Engineering, Presidency University, and **Dr. Asif Mohammed**, Head of the Department, School of Computer Science and Engineering, Presidency University, for rendering timely help in completing this project successfully.

We would like to convey our gratitude and heartfelt thanks to the Project Coordinator **Mr. Md Ziaur Rahman and Dr. Sampath A K,** Department Project Coordinators and Git hub coordinator **Mr. Muthuraj.**

We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

- **MANU M, VINITH, SHRIJOT GORAL, LOHITH N**

ABSTRACT

This project aims to detect color changes in leaves using the TCS3200 color sensor to identify non-green or abnormal leaf colors, which may indicate plant stress or disease. An ESP32-CAM module is integrated to capture real-time images of the affected leaves. When an unusual color is detected, the ESP32-CAM triggers an alert system. The system sends a notification to a designated Telegram account, optionally including the captured image of the leaf for verification. This IoT-based solution offers a low-cost, automated method for remote plant health monitoring. The color sensor continuously scans the leaf surface, comparing RGB values to predefined healthy leaf thresholds. If the detected color deviates from the expected green spectrum, an anomaly is flagged. The system is suitable for use in agriculture, greenhouses, or home gardening. It enables proactive monitoring, reducing the reliance on manual inspection. The use of Telegram ensures quick and accessible alerts on mobile devices. This helps in early detection of diseases or deficiencies. The project supports data-driven decision-making in plant care. It also demonstrates the practical application of IoT and computer vision in smart agriculture.