A

MINI PROJECT REPORT

on

IOT BASED AGRICULTURE PROTECTION FROM WILD ANIMALS

Submitted in partial fulfillment of the Requirements for the award of

Degree of

BACHELOR OF TECHNOLOGY

in

Dept. of Electronics & Communication Engineering

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2024-2025

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CERTIFICATE

This is to certify that the project entitled "**IOT BASED AGRICULTURE PROTECTION FROM WILD ANIMALS"** that is being submitted by **SREERAMOJU MADHAN(22681A0454),VARRE BHAVANI (22681A0457), JANNEPALLY SAIDI(21681A0411) & YENREDDY TEJASWINI (22681A0428)** in partial fulfillment of the requirements for the award of degree of **Bachelor of Technology** in "**Electronics & Communication Engineering**" and submitted to **Christu Jyothi Institute of Technology and Science, Jangoan,** is a record of bonafide work carried out by them under our guidance and supervision.

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2024-2025

Dept. of Electronics & Communication Engg.

Institution Vision and Mission

VISION

To admit and groom students from rural background and be a truly rural technical institution, benefiting society and nation as a whole institute.

MISSION

- The mission of the institution is to create, deliver and refine knowledge. Being a rural technical institute, our mission is to.
- Enhance our position to one of the best technical institutions and to measure our performance against the highest defined standards.
- Provide highest quality learning environment to our students for their greater well- being so as to equip them with highest technical and professional ethics.
- Produce engineering graduates fully equipped to meet the ever-growing needs of industry and society.

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2024-2025

Dept. of Electronics & Communication Engg.

Department Vision & Mission

VISION

To be an established center of excellence in Electronics and Communication Engineering facilitating youth towards professional, leadership and industrial needs.

MISSION

- Impart theoretical and practical technical education of high standard with quality resources and collaborations.
- Organize trainings and activities towards Overall personality development in time with industrial need.
- Promote innovation towards sustainable solutions with multi discipline team work with ethics.

HOD

DECLARATION

The project entitled **"IOT BASED AGRICULTURE PROTECTION FROM WILD ANIMALS**" is a record of the bonafide work undertaken by us towards partial fulfilment of the award of Degree of **Bachelor of Technology** in Electronics and Communication Engineering, to Christu Jyothi Institute of Technology and Science, Jangaon, affiliated to JNTU, Hyderabad is an authentic work and has not been submitted to any other university or institution for award of the degree.

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ABSTRACT

Agriculture plays a vital role in the economy of many countries, and protecting crops from external threats is essential for ensuring optimal yield and food security. One of the common problems faced by farmers, especially in rural and forest-adjacent areas, is the intrusion of wild animals into agricultural fields. These intrusions often lead to significant crop damage and economic losses. To address this issue, this project proposes an **IoT-based agriculture protection system** that helps in detecting and alerting about the presence of wild animals using a cost-effective and reliable setup.

The system is built using components such as **laser diodes**, **Light Dependent Resistors (LDRs)**, **GSM SIM900A module**, **Arduino Uno**, **buzzer**, and an **LCD with I2C**. Laser beams are aligned with LDR sensors across the periphery of the field. When an animal passes through the setup, the laser beam is interrupted, causing a change in the resistance of the LDR. This disruption is detected by the Arduino Uno microcontroller, which then activates a buzzer to produce an audible alert.

Simultaneously, the system uses the GSM SIM900A module to send an SMS alert to the farmer's mobile phone with the message: **"Animal in field, please check."** This ensures that the farmer is immediately informed, even if they are not near the field. Additionally, the LCD display connected via I2C shows the message **"Animal Detected"** for on-site monitoring.

This project offers a smart, low-power, and automated solution to prevent crop damage by wild animals. It combines basic electronics and IoT technologies to enhance agricultural security, reduce manual monitoring, and improve crop safety effectively.

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ACRONYMS

IoT	Internet of Things
LDR	Light Dependent Resistor
LCD	Liquid Crystal Display
I2C	Inter-Integrated Circuit
Vcc	Voltage Common Collector (Power Supply Voltage)
DC	Direct Current
PCB	Printed Circuit Board
ICSP	In-Circuit Serial Programming
EEPROM	Electrically Erasable Programmable Read-Only Memory
MCU	Microcontroller Unit
RX	Receive
TX	Transmit
USB	Universal Serial Bus
ADC	Analog to Digital Converter
PWM	Pulse Width Modulation
LED	Light Emitting Diode
SMS	Short Message Service
GSM	Global System for Mobile Communications