Society of Agricultural Robotics Engineers (SARE)

About SARE

The Society of Agricultural Robotics Engineers (SARE) is a student-led engineering society focused on applying robotics, automation, and artificial intelligence to solve real-world agricultural and environmental problems. We are a community of innovators, builders, and problem-solvers who believe engineering should be practical, impactful, and forward-looking.

Our activities combine learning, experimentation, and real project development, giving members exposure to both technical skills and teamwork required in modern engineering practice.

Our Mission

To empower students with practical engineering skills and innovative thinking needed to solve agricultural and environmental challenges using robotics, automation, and emerging technologies.

Our Vision

To become a leading student-driven hub for agricultural robotics innovation, producing engineers capable of building sustainable, scalable solutions for an AI-driven world.

CTRL LABS

What is CTRL LABS?

CTRL LABS is SARE's structured training and skill-development initiative. It is designed to train both members and non-members through hands-on, project-based learning rather than theory alone.

Training Approach

CTRL LABS focuses on a project-based curriculum where participants learn by building real systems. Each session emphasizes practical application, teamwork, and problem-solving, helping participants gain industry-relevant experience.

Core Pillars

- Robotics and Embedded Systems
- Software Development and AI
- Hardware Design and Prototyping
- System Integration and Problem Solving

Frequency

CTRL LABS sessions are held once every two weeks, allowing participants enough time to practice, build, and improve between sessions.

Sample Projects Built

- Smart Love Bin (Robotics Dustbin)
- Attendance Note Taker System
- Automatic Door Opener
- Voice-Activated AI-Powered Home Automation System
- Intruder Alert System
- And many other experimental and prototype projects

Build Sessions

Overview

Build Sessions are exclusive to registered SARE members. These sessions focus on deeper engineering work, long-term system development, and collaborative builds that go beyond training exercises.

Projects Built in Build Sessions

- Air Quality Monitoring System (AQMS)
- Autonomous Seed Planter

These projects are designed to address real agricultural and environmental needs while exposing members to system-level engineering and teamwork.

Research and Development Department

Role of the R&D Department

The Research and Development department drives innovation within SARE. It is responsible for ideation, system research, testing, documentation, and improvement of projects.

Functions

- Researching new technologies and engineering methods
- Designing and testing prototypes
- Improving existing systems
- Supporting project documentation, papers, and presentations

The R&D department ensures that SARE projects are not only built but are technically sound, innovative, and scalable.

Conclusion

SARE provides a platform for students to learn, build, and innovate through practical engineering. From open training sessions like CTRL LABS to exclusive member Build Sessions and focused research through R&D, the society prepares engineers for a future shaped by artificial intelligence and automation.