



ROBOTICS & SYSTEM INTELLIGENCE

INTERNSHIP PROGRAM 2026



16 Weeks Internship for **Final-Year** Engineering Students

Build intelligent robots. Learn full-stack robotics. Become industry-ready.



FANUC

Infosys

NASA

ADDVERB



BOSCH

accenture

tcs TATA
CONSULTANCY
SERVICES

BostonDynamics



ROBOTICS & SYSTEM INTELLIGENCE INTERNSHIP

Internship Outcome

- Design and develop embedded and robotic systems using industry-relevant platforms such as Arduino, ESP32, Raspberry Pi, and Jetson Nano
- Integrate sensors, actuators, motor drivers, and communication modules for intelligent robotic control systems
- Build IoT-enabled robotics solutions with real-time communication using MQTT, cloud dashboards, telemetry pipelines, and remote monitoring systems
- Develop AI-powered edge robotics applications using computer vision and YOLO-based object detection.



Key Deliverables

1 - Team Charter & Final Problem Statement
 2 - SRS Document (Functional + Non-Functional)
 3 - Bill of Materials + Project Plan

4 - Electronics Wiring Schematics & Mechanical Layouts
 5 - Arduino, ESP & Raspberry Pi Codebases
 6 - IoT Dashboards & Communication Pipelines

7 - Jetson Nano AI Model Integration (YOLO-based pipeline)
 8 - Complete Robotics Prototype (Hardware + Software + AI)
 9 - Calibration Logs, Field Test Reports & FMEA Sheets

Microcontrollers and Boards



Documentation & Version Control



Fabrication Tools



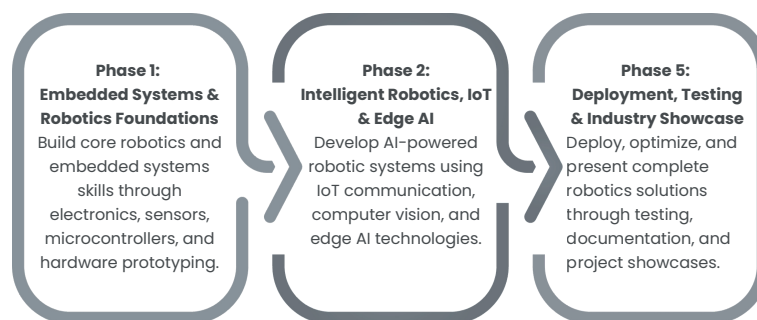
Programming Platforms



AI & Vision Tools



Internship Phases



Phase 1: Embedded Systems, Design Thinking & Robotics Foundations

- This phase introduces interns to the core principles of robotics, embedded systems, and engineering problem-solving. Interns apply design thinking methodologies to identify real-world industrial and community challenges while learning the fundamentals of electronics, microcontrollers, and system architecture.
- Interns work with platforms such as Arduino, ESP32, and Raspberry Pi to understand hardware interfacing, circuit design, and embedded programming workflows. The phase also focuses on working with sensors, actuators, motors, and communication modules while building foundational prototypes and control systems.
- Interns gain hands-on exposure to electronics assembly, wiring schematics, component integration, and debugging techniques. By the end of this phase, interns develop a strong understanding of embedded hardware ecosystems and robotics development fundamentals.

Phase 2: Intelligent Robotics, IoT & Edge AI Systems

- This phase focuses on developing intelligent robotic systems using AI, IoT, and automation technologies. Interns build connected robotics solutions with real-time communication pipelines using MQTT, cloud dashboards, telemetry systems, and remote monitoring architectures. Participants work on integrating multiple hardware and software components to create scalable and efficient robotics workflows.
- The phase also introduces edge AI and computer vision concepts using Jetson Nano, OpenCV, TensorFlow, and YOLO-based object detection models. Interns develop autonomous perception systems capable of image processing, object detection, navigation, and intelligent decision-making. Emphasis is placed on system integration, AI inference optimization, real-time robotics control, and industry-standard development practices used in modern intelligent automation systems.

Phase 3: Robotics Deployment, Validation & Industry Showcase

- The final phase focuses on transforming prototypes into deployment-ready intelligent robotics solutions. Interns work on complete hardware-software integration, calibration, field testing, and performance optimization of robotic systems.
- Interns learn deployment workflows, version control practices, system documentation, and production-oriented debugging methods commonly used in robotics and automation industries.
- Alongside technical implementation, this phase emphasizes professional engineering communication and project showcasing. Interns prepare technical documentation, architecture diagrams, GitHub repositories, testing reports, and final presentations to demonstrate their end-to-end robotics solution.
- By the end of the internship, participants complete an industry-aligned robotics and AI prototype that showcases practical skills in embedded systems, IoT, edge AI, and intelligent automation engineering.

WHY CHOOSE THIS INTERNSHIP



Built for Final-Year Students



Hands-On Learning at Innovation Hubs



Real-World Project Experience



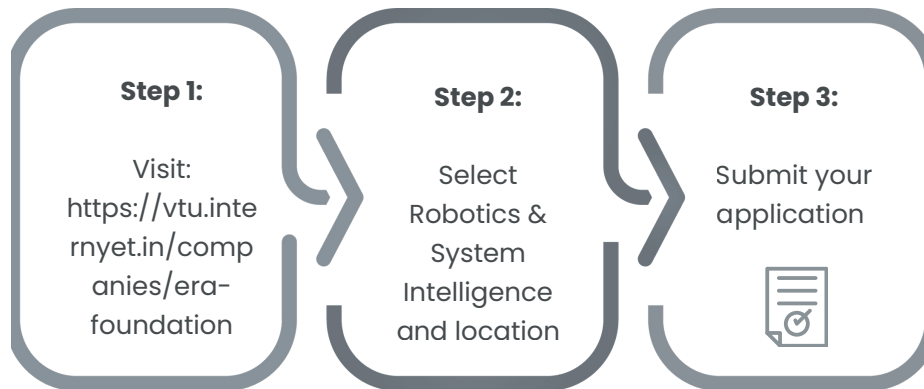
Career-Ready Outcomes



Industry-Relevant Curriculum

APPLICATION PROCESS

The Robotics & System Intelligence Internship is available to VTU-affiliated college students through the official VTU Internship Portal.



Our Locations

Yelahanka
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