Aravind V

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Objective

Final-year Electronics and Communication Engineering student with strong, hands-on experience in automation, robotics, IoT, and AI-based inspection systems using OpenCV. Skilled in developing embedded control solutions on ESP32/Arduino, real-time monitoring systems, and machine-vision workflows. Adept with PLC concepts and industrial automation fundamentals. Seeking a Trainee role where I can apply practical engineering, machine vision, and automation skills to improve manufacturing reliability and efficiency.

Education

Agni college of technology
BE Electronics and communication engineering *2026*
8.3(till now)

Valluvar Gurukulam higher secondary school
HSC *2022*
70.8

Experience

EMERTXE *Jan 2025 - Feb 2025.*
Embedded system intern

Implemented MQTT-based communication for real-time sensor data acquisition in IoT applications and optimized data pipelines to improve reliability and efficiency in industrial monitoring systems.

EMERTXE *September 2025 - October 2025*
Internet Of Things (IOT) intern

Built an IoT home automation system using Arduino, PicsimLab, and Blynk with real-time monitoring and control, implementing smart lighting, temperature sensing, cooler/heater control, and water-level automation. Performed complete system simulation, debugging, and cloud dashboard integration to ensure reliable end-to-end functionality.

Skills

- Embedded Systems: ESP32, Arduino, Embedded C, Sensor Interfacing
- Tools: MATLAB Simulink, LTspice, PICSim Lab, KiCad
- Industrial IoT: Blynk IoT, MQTT, Real-time Data Monitoring
- RPA: UI Path, Workflow-based Automation, Rule-based Task Automation
- AI & Vision: OpenCV, Camera Integration (ESP32-CAM)
- Protocols: UART, SPI, I²C

Project

PCB design - headphone amplifier
Designed a low-noise op-amp–based headphone amplifier with gain ≈ 5 (14 dB), operating on ±12 V supply.
Achieved 20 Hz–20 kHz bandwidth, stable operation with 32 Ω headphones, and output up to ~100 mW with low noise and distortion.

IOT Home Automation using simulation
Built an IoT home automation system using Arduino, PicsimLab, and Blynk with real-time monitoring and control.
Implemented smart lighting, temperature sensing, cooler/heater control, and water-level automation.
Performed system simulation, debugging, and cloud dashboard integration.

Smart Energy Management System with Edge
Developed IoT system using ESP32 to automate appliance control, reducing manual intervention by 60%
Created Blynk dashboard for real-time energy monitoring and remote control
Skills Demonstrated: Automation, Data-driven optimization, IoT control systems

Smart Surveillance Robot with AI Vision & Obstacle Avoidance
Integrated OpenCV-based facial recognition (95% accuracy) with 1-second latency for real-time security alerts
Used ESP32 CAM and ultrasonic sensors for obstacle detection and live video streaming via Blynk IoT
Skills Demonstrated: Robotics, AI-based inspection, Automation, Troubleshooting

Activities

- Department Event Coordinator – ACT
- Member – Rotaract Club, Agni College of Technology
- Volunteer in Intercollegiate Cultural Events

Certification

Embedded Systems and MATLAB & Simulink (NIELIT)

NPTEL Elite + Silver (Soft Skills & Personality Development)

Conference

Artificial intelligence workshop
Artificial Intelligence Workshop, IIT Madras. Completed training on core AI concepts and practical implementations.

ACHIEVEMENTS

Best Researcher Award (Bharath University): For "Oil Spill Detection using CNN and Deep Learning" (AI-based inspection project)

Strength

Proficient in cross-functional collaboration and process optimization

Fast learner with sustainability-driven approach to engineering

Good listener with the ability to understand and respond appropriately in team settings