Rohit Rajesh Acharya

B.Tech Electrical Engineering

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Portfolio: portfolio-seven-inky-37.vercel.app

Objective

Electrical Engineering undergraduate at IITRAM with hands-on experience in circuit design, MATLAB/Simulink simulation, and analog electronics. Seeking a Summer Internship 2026 or project-based opportunity to work on core electrical domains including power systems, control, electronics, and electrical infrastructure.

Education

B.Tech in Electrical Engineering **2023 – 2027**
Institute of Infrastructure, Technology, Research and Management (IITRAM), Ahmedabad *CGPA: 8.5 / 10*

Relevant Coursework

- Circuit Theory & Electronics: Network Theory, Electronic Devices and Circuits, Linear Integrated Circuits
- Power & Infrastructure: Electrical Machines, Power Systems, Power Electronics, Electrical Infrastructure
- Control & Signal Processing: Signals and Systems, Control Systems
- Communication Systems: Analog and Digital Communication Fundamentals
- Measurement & Digital Systems: Instrumentation and Measurements, Digital Systems

Technical Skills

Programming & Simulation: MATLAB (numerical analysis, plotting, control simulations), Simulink (block modeling, system response analysis), Python (basic scripting) **Electrical & Lab Tools:** Oscilloscope, Function Generator, Multimeter, Sensors and Transducers, Electrical Measuring Instruments **Core Competencies:** Circuit Analysis and Simulation, Analog Electronics, Power Generation, Transmission and Distribution

Projects

Automatic Plant Watering System using Op-Amps **Academic Project**
Analog Electronics and Instrumentation
- Designed an automatic irrigation system using soil moisture sensing and op-amp based comparator circuits.
- Implemented threshold-based motor control logic without using microcontrollers, relying purely on analog signal conditioning.
- Enabled autonomous water control, reducing manual intervention and improving irrigation efficiency.

Low-Cost Quadruped Robot using Microcontroller **Academic Project**
Embedded Systems, Power Electronics, Robotics
- Designed and developed a quadruped robot using Arduino Mega 2560 and eight MG90S servo motors with a 2-DOF leg architecture.
- Implemented a distributed power architecture using four LM2596 buck converters to eliminate servo brownouts and improve electrical stability.
- Developed a stable crawl gait algorithm ensuring static stability and reduced torque stress on low-cost servos.
- Integrated HC-05 Bluetooth module for wireless teleoperation with reliable command handling up to 8–10 meters indoors.
- Designed the system to be modular and expandable for ESP32-CAM integration, sensors, and semi-autonomous navigation.

Certifications & Achievements

- Dean's Certificate for Academic Excellence – IITRAM
- Certification of Participation: *Machine Learning with Python – A Hands-on Approach*, COE-AIML IITRAM

Interests

- Electrical machines and industrial equipment
- Circuit simulation and analog electronics design
- Power generation, transmission, and electrical infrastructure systems