ASHWANI RAWAT
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Availability: Immediate Joining — Chennai WFO — Laptop Available — 6 days/week

SUMMARY

Final-year Electronics & Communication Engineering student with hands-on experience in microcontroller-based development (8051, Arduino), circuit simulation, and structured debugging. Built embedded projects involving GPIO interfacing, control logic, and real-time signal handling. Worked on CAN communication simulation with fault/error-frame testing and battery SoC estimation using Kalman filtering via system modeling. Seeking a 6-month Embedded Internship at Innotrat Labs (Chennai) to contribute to embedded development, testing, validation, and reliability-focused implementation.

TECHNICAL SKILLS

- Embedded: Embedded C, 8051, Arduino, ESP32 (Basics), GPIO, interrupts (Basics)
- Interfaces (Basics): UART, I2C, SPI, PWM
- Communication: CAN frames, error frames, fault simulation
- Tools: Keil, Proteus, Wokwi, Git, GitHub, VS Code
- Programming: C, Python, Java
- Simulation/Modeling: OpenModelica, system-level simulation
- Strengths: debugging mindset, testing/validation, documentation, teamwork

PROJECTS

1. Motion Based Door Opener using 8051 Microcontroller (Embedded C)

- Designed a proximity-triggered automatic door-opening system using 8051 microcontroller
- Implemented GPIO interfacing, embedded control flow, and real-time signal handling
- Performed repeated testing to ensure stable and reliable operation

2. CAN Communication and Error Frame Simulation (Python, python-can)

- Simulated CAN message transmission and reception using a virtual CAN bus environment
- Implemented error-condition testing (bit errors, stuffing errors) to evaluate fault handling
- Documented communication behavior under simulated failure scenarios

3. Battery Discharge and SoC Estimation using Kalman Filter (OpenModelica)

- Built a battery discharge simulation model using OCV, internal resistance, and rated capacity
- Applied Kalman filtering to estimate state of charge under varying discharge conditions
- Improved estimation stability through structured tuning and validation

CERTIFICATIONS

- Oracle Cloud Infrastructure 2025 Certified Generative AI Professional (Aug 2025 – Aug 2027)
- AICTE — Java Full Stack with React.js and AI (Dec 2024)
- upGrad and Microsoft — Generative AI Foundations (Jul 2025)
- AWS Modules — CLF-C02 Practice Set, Introduction to Amazon Athena