# Madhavi Gavara

🏠 Palakol, India | 📞 +91 6302731108 | ✉ gavaramadhavi@gmail.com

## Professional Summary

Enthusiastic and detail-oriented Firmware Engineer with hands-on experience in embedded systems, firmware development, and hardware interfacing. Skilled in C, C++, Python, and embedded protocols like UART and I2C. Passionate about innovating and enhancing electronic solutions.

## Work Experience

* Associate Engineer
* L&T Technology Services | Hyderabad, India  
  September 2023 – Present
* Cube Power Management Project

- Developed a system to monitor lead-acid battery characteristics using the LTC1462-S chip.  
- Designed system architecture, developed firmware using Code Composer Studio (CCS), and implemented UART communication via Modbus.  
- Programmed and flashed firmware using UniFlash and JTAG, followed by debugging, testing, and documentation.  
- Improved battery management system efficiency and reliability.

* Smart Extension Box Project

- Developed a smart extension box to control home appliances through Wi-Fi modules.  
- Focused on both hardware design and C++ development.

* Automatic Street Lights Project (STM32, PDLC Concept)

- Designed and developed a system to automatically control streetlights based on ambient light using LDR sensors.

## Personal Projects

- Brake Failure Indicator: Developed a simple 555 timer-based circuit to detect brake system failures with audio-visual alerts.  
- Cruise Control Simulation: Simulated cruise control for electric vehicles using MATLAB to maintain constant vehicle speed.  
- Brain Tumor Detection: Created a MATLAB-based model to assist early detection of brain tumors.  
- Automatic Street Lights: Designed an automated street lighting system using STM32 microcontroller and LDR sensors.

## Education

Bachelor of Technology (B.Tech) – Electronics and Communication Engineering

Sri Vishnu Engineering College for Women, Bhimavaram  
August 2019 – May 2023  
CGPA: 8.79/10

## Skills

Programming Languages: C, C++, Python, Embedded C  
Communication Protocols: UART, I2C  
Operating Systems: Windows, Linux  
Tools: Code Composer Studio (CCS), UniFlash, JTAG, MATLAB

## Certifications

- Certificate in C Programming – Simplilearn  
- Certificate in Git – Simplilearn  
- Certificate in Artificial Intelligence – 1STOP

## Achievements

- ONGC Merit Scholarship (2019–2023): Awarded for academic excellence during B.Tech.

## Languages

- English – Full Professional Proficiency  
- Telugu – Native/Bilingual Proficiency

## Interests

- Sketching and Painting  
- Web Surfing on Emerging Technologies