Devadath S

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Profile

Dedicated student with a strong foundation in embedded systems and firmware development. Seeking positions that offers growth opportunities and the potential for career advancement.

Education

2022 – present Amritapuri, India	**Bachelor of Technology in Electrical and Computer Engineering** *Amrita Vishwa Vidyapeetham* Current CGPA: 8.9
2020 – 2022 Elamakkara, India	**Higher Secondary Examination** *Saraswati Vidyaniketan Public School* 86%
2019 – 2020 Vaduthala, India	**Secondary School Examination** *Chinmaya Vidyalaya* 95.4%

Projects

2025	**Smart Mobility Cane** Designed and built a smart assistive cane for the visually impaired using a NodeMCU ESP8266 microcontroller. The system integrates ultrasonic and IR sensors for real-time obstacle detection and communicates proximity alerts through an Android app via a self-hosted Wi-Fi Access Point. Created the companion mobile app using MIT App Inventor.
2025	**CHIP-8 Emulator** Developed a fully functional CHIP-8 emulator from scratch in C. Implemented the CPU, memory, stack, timers, and 35 original opcodes. Built a simple graphics renderer and input handler using SDL library. Used Makefiles to manage modular code structure and handle dependencies efficiently during compilation.
2024	**Bi-Axial Solar Tracker** Designed and implemented a biaxial solar tracking system using an Arduino Uno board to automatically align a solar panel with the sun by adjusting its position along both azimuth and elevation axes for maximum sunlight exposure. Employed an array of LDR sensors to detect the direction of maximum sunlight and controlled two servo motors for precise panel alignment.

Skills

Programming Languages
Embedded C, Python, Rust, Bash, Java

Microcontroller Platforms
ATMega328p, ATtiny85, ESP8266, ESP32

Software Tools
Arduino IDE, CMake/Makefiles, Cargo

Internship Experience

2025/04 Kochi, India	**Intern at NeST Digital** Completed an internship at NeST Digital where I designed a smart mobility crane for visually impaired individuals that provided real-time obstacle alerts using ultrasonic and infrared sensors. Worked with the ESP8266 microcontroller to implement sensor and actuator integration, gaining hands-on experience in sensor interfacing, and basic IoT concepts.

Area of Interest

Embedded Systems
Passionate about designing and developing efficient hardware-software solutions for real-world applications.

Firmware Development
Interested in firmware development, focusing on low-level programming, embedded system optimization, and real-time performance.

Extracurricular Activities

2024	**SSR - Student Social Responsibilty** Conducted a digital media literacy seminar for 6th-grade students at Amrita Vidyalayam, Pandalam as part of the Student Social Responsibility (SSR) initiative. Collaborated with a team to raise awareness on cybersecurity, responsible social media use, misinformation, and cyberbullying through interactive sessions and practical demonstrations.

Hobbies

Sports	**Reading**	**Emulation**
Football, Cricket, Chess		

Languages

- English, Malayalam - Read, Write, Speak and Understand
- Hindi - Speak and Understand