

Charles Marsh

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EDUCATION

California Polytechnic State University, San Luis Obispo

2022 – 2026

B.S. Computer Engineering

Dean's List (multiple quarters) · Honors Calculus series · Recognized as a campus standout student leader

EXPERIENCE

High School Math Teacher, San Luis Obispo Classical Academy High School

Aug 2026 – present

- Teach Algebra 1 and Geometry.
- 9th grade advisor and senior project advisor.

Software Engineer, Circular Momentum & Xponential Systems, Remote

May 2026 – present

- Building applications and automation tools in the IT and Data Storage industries.

Freelance web & automation developer, Independent

2026 – present

- Build websites and workflow automation for small businesses, including healthcare practices, starting with Optimize Therapy Services, a pediatric therapy provider.

Lead Instructor, YouthTech Inc., San Luis Obispo County, CA

Jun – Aug 2025

- Taught computer science and technology to more than 120 students aged 8–16.
- Built and delivered curricula in programming, game design (Roblox Studio, Lua), video and photo editing, web development, animation and graphic design.

UNIVERSITY PROJECTS

Senior Project, CHIIP wireless structural health monitoring

Dec 2025 – Jun 2026

- Redesigning a wireless earthquake-monitoring device from 9 microcontrollers down to a single ESP32, cutting the cost per unit by 85% (\$586 to \$87).
- Wrote dual-core ESP32 firmware (C++, FreeRTOS) that streams time-synced sensor data from 4 devices to a Flask and SQLite dashboard, tested on a large-scale shake table.

Team Lead & Hardware Engineer, Cal Poly Capstone, with NeoCharge

Jan – Jun 2025

- Led a team building a smart EV-charging system: an OCPP server plus current-transformer load monitoring that adjusts charge rate in real time (Python).
- Integrated CT clamps, ESP32, Raspberry Pi, a variac and a step-down transformer with Dockerized software and CI/CD.

Research Assistant & Software Engineer, Cal Poly, sponsored by Northrop Grumman

Jan – Jun 2025

- Built and deployed a Flask web app for request submission and ticketing on a graduate research server, including an admin interface for managing every entry.

MUSIC

Vocalist, Cal Poly Chamber Choir

2022 – 2026

- Performances include Carnegie Hall, professional sporting events, a California high-school tour and Bach Week.

Board member, vocalist & vocal percussionist, Take It SLO A Cappella

2023 – 2026

- Arranged songs for festivals, gigs and school performances, and helped run the group.

SKILLS

Languages	C, C++, RISC-V assembly, SystemVerilog / Verilog, Python, Bash, Swift, Java, JavaScript
Platforms	ESP32, STM32, Raspberry Pi, Xilinx FPGAs, Linux, iOS (SwiftUI), Cloudflare Workers
Tools	Git, Docker, Vivado, STM32CubeIDE, Xcode, VS Code, Flask