

Charles B. Marsh

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Education:

California Polytechnic State University, San Luis Obispo

GPA: 3.2 / 4.0, June 2026

Major: B.S. Computer Engineering

Achievements: Dean's List (Multiple Quarters), Invited & Participated in Honors Calculus Series, Recognized as Campus Standout Student Leader

Skills:

- Proficient: C, Python, Java, Assembly Language (RISC-V), Microsoft Office Applications, Windows 10/11, MacOS
- Familiar: Bash, Verilog, HTML/CSS/JS, Flask, C++, MATLAB, Linux (Debian/Ubuntu), Unix environments
- Applications: STM32CubeIDE, Xilinx Vivado, VSCode, Pycharm, IntelliJ, LTspice, Unreal Engine, ESP32IDF

Technical Project Experience:

Team Lead & Hardware Engineer - Cal Poly Capstone Project - Electric Vehicle Charging Solution 01/2025 - 06/2025

- Partnered with NeoCharge to develop a smart EV charging solution, implementing an OCPP server, and utilizing CT clamp technology for real-time energy load monitoring and adaptive control in python.
- Integrated hardware (CT Clamps, ESP32, Raspberry Pi, Variac, Step-down transformer) with software (Python, Docker, CI/CD) to prototype dynamic EV charging.

Research Assistant & Software Engineer - Cal Poly Northrup Grumman Server Project 01/2025 - 06/2025

- Developed and deployed a Flask-based web application to streamline internal processes, enabling efficient request submission and ticketing management for students and professors.
- Designed and implemented an admin interface within the application, facilitating robust oversight and management of all form entries.

Other Projects

- RISC-V OTTER Implementation: Developed a RISC-V processor, incorporating a 5 stage pipeline and branch predictor to increase performance.
- Sequence Memory Game: Designed and implemented an LED sequence memory game on an STM32 microcontroller.
- Custom UDP Protocol: Built a reliable data transfer protocol over UDP, including TCP-like flow control and reliability mechanisms, including packet recovery.

Work Experience:

Lead Instructor - Youth Tech Inc., San Luis Obispo County CA 06/2025 - 08/2025

- Led engaging and comprehensive instruction for over 120 different students, aged 8-16, introducing foundational computer science principles as well as diverse technology, and computer literacy skills.
- Developed and delivered curricula spanning computer programming, video game design and development (including Roblox Studio with Lua/Luau), video and photo editing, web development, animation, and graphic design.
- Empowered students with practical skills in various programming languages and software, including Java (Bitsbox), Scratch, and Lua/Luau, fostering creativity and technical proficiency.

Store Associate - In-N-Out Burger, San Diego CA 06/2021 - 01/2022

- Performed in a fast-paced setting, engaging in customer service, food preparation, and maintaining store cleanliness.

Extracurricular Activities:

Cal Poly Chamber Choir – Vocalist (10 hours per week) 09/2022 - Present

- Notable Performances: Carnegie Hall, various professional sports games, tour around California performing at high schools, Bach Week, graduation ceremonies.

Take it SLO A Cappella – Board Member / Vocalist / Vocal Percussionist 01/2023 - Present

- Created arrangements of songs for performances at various festivals, gigs, and school performances.
- Developed skills in music arrangement, project management, and organization management of people.