

Alex Herman

Website: alexherman11.github.io | Email: 1wheelalex@gmail.com | LinkedIn: linkedin.com/in/alex-herman04

Education

California State Polytechnic University, San Luis Obispo

Bachelor of Science in Computer Engineering

- ★ **Expected Graduation:** June 2026
 - ★ **GPA:** 3.61
 - ★ **Relevant Coursework:** Microcontrollers and Embedded Systems, Computer Design and Assembly Language, Data Structures, Digital Signals and Systems, Systems Programming
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Technical Experience and Projects

BeatBox: A Terminal-Based GarageBand-style Music Maker |

Fall 2024

Individual Final Design Project

Technologies: C, STM32CubeIDE, UART, PWM, Circuit Design, Technical Reports

- ★ Fully designed, in stages, a circuit and program for use on an STM32-Nucleo board that allowed a user to create songs by selecting notes in the terminal, which could then be saved and played by a speaker and servo (configurable drum kit) that were wired to the board.
- ★ An in-terminal ASCII display allowed note timing changes, key adjustment, and drum configuration.

Foot Mouse for Sally - Empower Club |

Fall 2024 - Present

Technologies: ArduinoIDE, Mentorship, CAD, Technical Diagramming, Presenting

- ★ Selected as hardware design technician for an accessible foot mouse project (5 engineers). Under client specification and project constraints, designing and prototyping an Arduino solution for seamless integration into the clients existing workflow. Presenting our ideas and product to the client.

Prototype Vehicle Lab (PROVE) |

Fall 2023 – Spring 2024

Interface Designer and Low-Voltage Business Liaison

Technologies: C, Android Studio, Git

- ★ Designed and implemented a user-friendly tablet interface for driver interaction in a battery-powered vehicle that implemented a UART-to-tablet data transfer protocol with custom packet structure.
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Leadership and Extracurricular Activities

Ultimate Frisbee Team Captain |

Fall 2022 – Present

- ★ Achieved A-team placement as a freshman, demonstrating exceptional athletic and team skills.
- ★ Elected captain of the B-team, balancing leadership responsibilities with academic priorities.
- ★ Currently designing and hosting a website for team organization and communication.

Ocean Lifeguard – City of Santa Cruz Fire Department |

Summer 2021 – Present

Beach Lifeguard I, Junior Guard Instructor

- ★ Ensured beach safety through vigilant water monitoring, rescues, and proactive public engagement.
 - ★ Trained and mentored Junior Guard participants, fostering leadership and water safety skills among youth.
 - ★ Coordinated instructional activities and managed volunteer and staff schedules.
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Programming Languages: C, Verilog, Python, RISC-V Assembly, Java

Software Tools: LTSPICE, Fusion 360, Vivado, Matlab, Android Studio, STM32CubeIDE

Languages: Spanish (Conversational)

Certifications: CPR and Title 22 First Aid, Cal Poly Emerging Leaders Certificate

Interests: Rock Climbing | Cooking | Botany | 90s Hip Hop | Watercolor