Aaron Chou

Computer Engineer
(916) 838-4928 | aaronchou6976@gmail.com
https://www.linkedin.com/in/aaron-chou-a6b926251/
https://github.com/achou05

TECHNICAL SKILLS

Languages | Python, C/C++, Java, JavaScript, SystemVerilog, RISC-V Assembly
Tools | Spring Boot, PostgreSQL, Git, STM32CubeIDE, Xilinx Vivado, VS Code, PyCharm, IntelliJ
Hardware | STM32, BASYS3 FPGA, LTspice, UART, PWM, I2C, SPI

PERSONAL SKILLS

Communication, Problem-solving, Teamwork, Time management, Work ethic, Attention to detail

EXPERIENCE

MiTiara | Backend Developer
1 Grand Avenue, San Luis Obispo, CA 93407 | Hybrid June 2024 - September 2024

- Built the MiTiara backend in Spring Boot + PostgreSQL, delivering an event-vendor booking platform for Hispanic community celebrations.
- Collaborated with frontend developers to align contracts and error-handling flows, enabling seamless UI integration and faster development cycles.
- API testing and performance optimization, leading to improved reliability and user satisfaction.

Battle Bots Project | Electrical & Control Systems Engineer
California Polytechnic State University September 2025 - Present

- Developing the motor control and power systems for a 250 lb competitive BattleBot in collaboration with Mechanical Engineering teammates.
- Diagnosing and repairing RoboClaw motor controllers, calibrating AmpFlow DC motors, and synchronizing wheel speeds with differing diameters through embedded control logic.
- Designing safe and reliable PWM-based drive systems, wiring layouts, and kill-switch mechanisms compliant with official BattleBots regulations.

PROJECTS

32-bit Otter MCU | *System Verilog, RISC-V Assembly, BASYS3 FPGA* September 2024 - December 2024

- Implemented a custom 32-bit RISC-V MCU in SystemVerilog with an OTTER ISA featuring compliant interrupt handling.
- Verified CPU functionality through simulation and synthesis on a BASYS3 FPGA.
- Enhanced MCU performance with a 5-stage pipeline, hazard detection, forwarding logic, and cache integration.

Automatic Parking Gate | *Embedded Systems Project* April 2024 - June 2024

- Developed an automatic parking gate system integrating an ultrasonic sensor, motor driver, and keypad for secure vehicle access control.
- Implemented low-level C firmware with direct register manipulation to handle RNG-generated passcodes, UART display, PWM motor control, and interrupt-driven sensor detection.
- Tested and debugged hardware timing, sensor reliability, and motor accuracy.

EDUCATION

California Polytechnic State University - Bachelor of Science, Computer Engineering September 2022 - Present