Sam Asbell

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EDUCATION

University of California, Davis — Davis, CA
Bachelor's in Computer Science Engineering — *Sep. 2023 – Dec 2025*

Sierra College — Rocklin, CA
Computer Science Engineering Transfer — *Jan. 2022 – May 2023*

PROGRAMMING SKILLS

C • C++ • C# • Python • Java • MATLAB • Verilog • Git • Javascript • ReactJS • NodeJS • MongoDB • ExpressJS • Linux Shell • ARM Assembly • Multithreading • OOP • Computer Networks • OpenMP • JUnit • Selenium • SQL • SpringBoot

PROFESSIONAL EXPERIENCE

Software Engineer Intern — June 2024 – Present
California Department Of Motor Vehicles — *Sacramento, CA*

- Implemented automated testing solutions using JUnit and Java Selenium, successfully eliminating deadlocks in legacy scripts, increasing smoke test efficiency and throughput by over 50%, streamlining the testing process, and reducing manual intervention.
- Designed and deployed a Java-based application leveraging JS Executor to capture and stitch screenshots from development testing scripts, improving website fault detection and providing the Dev and IT teams with clear, actionable insights for quality assurance.

Student Researcher — May 2023 – Aug. 2023
University of Michigan — *Ann Arbor, MI*

- Automated data analysis for over 500 Monte Carlo simulations, increasing testing automation speed by more than 25% using advanced Python scripting, which optimized the workflow and reduced processing times.
- Engineered a sophisticated MATLAB algorithm for automating the placement of Mg in various locations within gallium nitride crystals, significantly improving the accuracy of comparative analyses in ion scattering experiments
- Designed and fabricated an electronic testing device utilizing a novel magnesium doping technique in GaN, resulting in improved testing accuracy and material efficiency.
- Successfully resolved metal contact adhesion issues and optimized annealing temperatures, cutting project timelines by 30% while boosting data reliability and project efficiency.

Systems Engineering Intern — July 2022 – October 2022
Matrix Switch Corp. — *Grass Valley, CA*

- Verified handshakes between a micro-controller and fast analog switching boards, enhancing system reliability through detailed I2C data analysis using a logic analyzer.
- Replaced faulty C code with Python to streamline communication buses, with PySerial and PyI2C libraries.
- Troubleshooted hardware faults with production PCBs using electronic measurement equipment, reducing downtime by 20% and ensuring equipment reliability.

Advanced Math Tutor — Jan. 2022 – May 2023
Sierra College — *Rocklin, CA*

- Enhanced the mathematical understanding and performance of over 200 students in courses from precalculus to differential equations through targeted in-person tutoring.
- Elevated student performance, with 85% of tutored students achieving grades of B or higher, by employing tailored problem sets and interactive whiteboard sessions.

RELEVANT COURSEWORK

Advanced OOP (Java, C++) • Machine Programming (ARM) • Operating Systems (C, Linux) • Statistical Programming (R) • Data Structures (C++) • Advanced Algorithms (Python) • Embedded Systems (C, ARM) • Computer Architecture (Verilog) • Circuits Design and Analysis (OrCAD) • Parallel Algorithms (CUDA) • Computer Networks (Python) • Software Engineering (Java)