Benjamin Miller

(925) 270-9677 • bem002@ucsd.edu • Concord, CA - Bay Area
linkedin.com/in/benjamin-miller-ucsd/ • github.com/BenMiller0
bit.ly/benjamin_portfolio

EDUCATION

Computer Science B.S. - University of California, San Diego (UCSD) Sept. 2023 – June 2027
GPA: 3.8/4.0, Jacobs School of Engineering, UC San Diego Scholar's Society
Regent Scholar (Merit-based scholarship awarded to UC undergraduates)

Relevant Coursework: Advanced Data Structures and Algorithms (**C++**), Software Engineering (**JavaScript, HTML, CSS**), Embedded Programming (**C, ARM Assembly**), Components and Design Techniques for Digital Systems (**Verilog**), Algorithm Design and Analysis, Software Tools and Techniques (**Linux, Shell Scripts**), Object Oriented Design (**Java**)

SKILLS

- Programming Languages: **C/C++, ARM Assembly, System Verilog, Python, MATLAB, Java, JavaScript, TypeScript**
- Hardware: **ESP 32, Raspberry Pi, sensors (e.g., accelerometers, gyroscopes), motors, camera modules, power supply units, and communication modules**
- Operating Systems: **Linux**, **macOS**, **Windows**
- Other: **PyTorch, Git Version Control, Bash, CI/CD, Scrum/Agile, Virtual Machines, MongoDB**

EXPERIENCE

Software Developer Intern, Center for Applied Internet Data Analysis Apr. 2025 - Present
- Worked on the development and maintenance of a website receiving 2,000+ unique daily visitors by leveraging JavaScript and other web development tools, as shown by consistent site reliability.
- Enhanced website usability by modifying and developing JavaScript and Python scripts, as demonstrated by streamlined content management and maintenance workflows, while using Git for version control in a large-scale team environment.

Technical Software Lead, Project in a Box at UCSD June 2024 - Present
- Designed and led the technical architecture for a full-stack web event check-in application with integrated hardware components.
- Accomplished seamless event check-ins via ESP 32 sending data to a web application, measured by increased efficiency in event logistics and enhanced attendee experience.

Software Engineering Lead & President, Themed Entertainment Association at UCSD June 2024 - Present
- Accomplished leadership of the organization's software development initiatives via Agile methodologies and collaborative sprints, as reflected by successful deployment of software based projects at on campus events and on-time project milestones.
- Organized and represented UCSD in national engineering team competitions, as evidenced by successful participation in events requiring interdisciplinary design and engineering skills, by coordinating team efforts and ensuring effective collaboration.

Resident Advisor at COSMOS, UCSD July 2024 - Aug. 2024
- Provided guidance and mentorship as a counselor for the Video Game Programming and Game AI Design group, as demonstrated by meaningful interactions and personalized advice that empowered students to enhance their skills and pursue their interests in programming.

PROJECTS

AI Camera-Based Gesture Response System in Python May 2025 - Present
- Accomplished responsive gesture-controlled actuation on a Raspberry Pi AI camera, as measured by reliable physical component activation, by training and deploying customized machine learning models for real-time gesture detection in Python.

Multi-threaded Sensor Scheduler Program in C Jan. 2025
- Developed a multithreaded sensor interaction program, as measured by improved response time and seamless data processing, by optimizing thread management and synchronization.

Interactive Robotic Figure in C/C++ Dec. 2024
- Implemented real-time voice-controlled motor actuation to simulate lifelike robotic mouth movements via optimized audio processing on a Raspberry Pi in C, as validated by precise synchronization between audio input and servo motion.