David Uzunov

github.com/DavidUzunov | linkedin.com/in/DavidUzunov | (+1) 818-649-0476 | david.uzunov@gmail.com

Education

B.S. in Computer Engineering **Sep 2024 - Jun 2028**
University of California: Santa Barbara Santa Barbara, CA

Experience

Electronics Intern **Hikari Medical Technologies** **Sep 2025 - Present**

- Migrated embedded device code from Arduino to native C, implementing Bluetooth Low Energy for wireless communication and achieving up to **50%** performance gains over Arduino libraries.
- Helped design and implement full software architecture, including HAL, driver layer, main application, remote machine processing, and command issuance, ensuring modularity, scalability, and maintainability.
- Developed a Hardware Abstraction Layer (HAL) and refactored code, reducing redundant code by **40%** and enabling switching between Arduino, ESP32, and nRF52 microcontrollers.

Project Lead **UCSB IEEE** **Jun 2025 - Present**

- Led weekly electronics workshops for IEEE student members, guiding them through end-to-end project builds involving Arduino and PCB prototyping.
- Managed project scope and resources to align with 10-week learning goals, resulting in 100% participant completion and successful final presentations.
- Provided one-on-one mentorship, helping members master core concepts like circuit design, soldering, and embedded programming.

IT Support **Donna Uzunow CPA** **Dec 2023 - Present**

- Launched a new company website and implemented SEO strategies, increasing traffic by **50%**.
- Maintained and upgraded PC hardware and software for organizational workstations, optimizing system performance through boot sequence configuration, dependency management, and regular diagnostics.
- Secured systems by deploying and managing antivirus solutions, configuring user access controls, and implementing firewall and network hardening protocols.
- Administered user accounts, roles, and permissions across multiple systems; ensured data integrity through the configuration and monitoring of onsite and offsite backup solutions.
- Supported digital operations by improving software patching workflows and contributing to online marketing efforts, leading to increased ad reach and enhanced web visibility.

Programming Instructor **Glendale Unified School District** **Oct 2022 - May 2023**

- Taught 2 classes of 15–20 elementary students programming fundamentals using Scratch, emphasizing logic, sequencing, and conditionals.
- Created and delivered an age-appropriate curriculum that led students to understand programming fundamentals and create independent projects.
- Guided students in building original interactive games, helping apply their skills.
- Fostered student engagement and collaboration through hands-on activities and creative problem-solving challenges.

Projects

Mechanical Macropad **Jun 2025 - Jul 2025**

- Designed and fabricated a custom PCB featuring N-key rollover using an ATmega32u4 microcontroller and LED matrix.
- Assembled PCB with hand-soldered SMD and through-hole components; integrated switches, LEDs, and controller.
- Programmed and deployed QMK-based firmware with advanced key mapping and macro support.
- Modeled and 3D printed a durable, cable-optimized case using CAD tools; performed full integration and troubleshooting.

RC Tank **Jan 2025 - Mar 2025**

- Developed and tested an Arduino-based remote-controlled tank with integrated motor control and sensors.
- Wired and soldered components to create a compact, reliable electronics system.
- Collaborated on CAD modeling and 3D printing of custom mechanical parts for enhanced functionality.
- Debugged hardware and software systems to ensure responsive and seamless remote operation.

Skills

Programming Languages: C++, JavaScript / TypeScript, HTML / CSS, Python
Hardware & Robotics: Arduino, Raspberry Pi, KiCad, Motor Control, Sensor Integration
Machine Learning: TensorFlow, Scikit-learn, NumPy
Cybersecurity: Linux & Windows Hardening, Network Security, Wireshark, Cryptography
Tools: Git, VS Code, Logic Analyzer, Soldering (SMD & Through-Hole)