Roderick Brown

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Education

University of California, Davis: BS in Electrical Engineering — Sept 2022 – June 2026

- GPA: 3.85/4.0
- Awards: University Honors Program, Dean's Honors List
- Coursework: MOS Analog Circuit Design, RF & Microwaves, Radiation & Antennas, Digital Systems
- M.S. in Electrical and Computer Engineering (Integrated Degree Program), Sept 2026 – June 2027 (Expected)

Related Experience

Systems Electrical Engineering Intern, Dept. of Viticulture & Enology – Davis, CA — June 2025 – Present

- Maintained and repaired Integrated Fermentation Control Systems (IFCS) units in winery lab to track important data such as temperature, brix, and pumpovers throughout fermentation process.
- Worked on IFCS RF communication, soldering 0402 resistors, and programming individual nodes.
- Developed a waste water monitor system with Click PLC and HMI. Complete with automated pump control, temperature, pH, and level sensors.

Embedded Systems Intern, Jeong Research Laboratory – Davis, CA — July 2024 – Aug 2024

- Collaborated on two research projects under Professor Jeong's mentorship, advancing skills in firmware development, sensor integration, and applied machine learning for medical devices.
- Created an application in PyCharm to synchronize and analyze data from two distinct sensors for a Restless Leg Syndrome study, providing insights into the relationship between physiological metrics.

Math with Robotics Curriculum Intern, Barobo, Inc – Davis, CA — Mar 2024 – June 2024

- Developed engaging K-12 math curriculum using block-based programming and robotics, enhancing student learning in STEM subjects.
- Created hands-on coding and robotics activities for math classes, connecting abstract concepts to real-world applications.

Projects

Sensor Integration

- Developed firmware in VS Code for an epilepsy detection device, implementing a sensor using I2C communication, sending data to a machine learning application to process accelerometer data.
- Gained experience in machine learning, sensor integration, and firmware architecture.
- Tools Used: C++, nRF Connect, Edge Impulse

Audio Sensing Robot

- Designed and built an audio electronic system that identifies and locates sound direction, enabling the robot to autonomously move toward the source.
- Enhanced skills in circuit design, soldering, and troubleshooting through hands-on construction and testing of the audio sensing system.
- Tools Used: C, TI Kit

Other Experience

Rec Sports Manager, Rec Sports at UC Davis – Davis, CA — Nov 2023 – Present

- Manage several rec sports leagues and club sport teams, overseeing and training a team of 25 staff members.
- Earned promotion through active program engagement, demonstrating leadership and strong communication skills.

Treasurer, Phi Delta Theta – Davis, CA — Dec. 2024 – Dec. 2025

- Analyzed financial data to make sustainable decisions and provided reports in weekly meetings.
- Created quarterly budgets and oversaw the cash flow of over $150,000 annually, ensuring accurate accounting.

Skills

- Software: Altium, HFSS, LT Spice, Cadence, Quartus, VS Code, Git, MS Office
- Electrical Debugging and Tools: DMM, Oscilliscope, Function Generator, Soldering (SMD & THT)
- Programming Languages: C/C++, MATLAB, Java, Python, Verilog, Ladder logic