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Education

University of California, Santa Cruz, Santa Cruz, CA

M.S. Electrical & Computer Engineering (Robotics)

Sept 2024–Jun 2025

B.S. Robotics Engineering, with Honors

Sept 2019–Jun 2024

Minor: Electrical Engineering

Coursework: Microcontroller Design, Sensing & Sensors, Analog Electronics, Feedback Control Systems, Mechatronics, Kalman Filters, System Identification

Technical Skills

ECAD/PCB: Siemens Xpedition, HyperLynx (SI/PI), Valor (DFM), Teamcenter (PLM), KiCad, Circuit Design

Programming: Python, C, C++, MATLAB, Verilog, Git

Robotics: ROS, PID Control, Mechatronics, Pneumatics

ML/CV: TensorFlow, PyTorch, OpenCV, CNNs, Object Detection

Modeling: SolidWorks, Onshape, NX CAD, COMSOL, Signal Processing, UAV Control

Prototyping: FDM/SLA 3D Printing, Laser Cutting, Welding

Languages: English, Mandarin

Experience

ECAD Applications Engineer

Feb 2026–Present

Amazon Leo (formerly Project Kuiper), Redmond, WA

Support and automate the Siemens Xpedition ECAD toolchain for satellite hardware design teams.

- Automated a 10–20 min/machine manual procedure into a 4-second script run across a 200-machine fleet, cutting a routine 20-machine pass from ~5 hours to under 2 minutes.
- Serve as internal Xpedition Enterprise expert for 500+ engineers, resolving tool and workflow issues and keeping tool versions consistent across the fleet.
- Built dashboards and automated exports giving engineers self-service access to component library, fleet/license, and design project data previously gathered by hand.
- Instrumented the Xpedition EDM server to capture usage, performance, license-checkout, and vault-activity telemetry, giving visibility into tool adoption and server health.

Electrical Mechanical Engineering Specialist

Jun 2025–Oct 2025

Braingeneers, Santa Cruz

Owned PCB design and simulation for bioelectronics research hardware.

- Took electroceutical boards end to end: schematic capture, layout, part selection, and fab/assembly handoff.
- Optimized electroceutical PCBs, decreasing size by 75%.
- Verified electrode designs against spec through parametric COMSOL studies.
- Authored build and usage documentation, enabling researchers to run the hardware without engineering support.

Lab Technician

Dec 2024–Jun 2025

Baskin Engineering Laboratory Services (BELS), Santa Cruz, CA

Enhanced prototyping workflows and trained staff and researchers in advanced fabrication tools.

- Standardized 3D printer & laser-cutter protocols; increased safety/throughput by 30%.
- Trained entry-level engineers; reduced failed prints by 25%.
- Built sensor calibration tools; cut measurement error by 15% across 20+ projects.

Researcher (Soft Robotics)

Jun 2023–Aug 2023; Jan 2024–Aug 2024

Tactile Manipulation Laboratory

Developed system identification models and closed-loop controllers for soft robotic actuators.

- Built the MATLAB/Simulink system identification pipeline: data collection, model fitting, and validation against hardware.
- Identified ARMAX model; designed PID for fluid-elastic actuator, improving tracking by 40–43%.
- Prototyped silicone end-effectors and test rigs; boosted experiment throughput by 25–30%.

Projects

Robotics & Controls: Soft Robotics PID (+40% precision); Robot Arm Control (Jacobian planner, +30% efficiency); Autonomous Robot (navigation system, +25% accuracy); D.O.R.A UAV simulation.

Embedded Systems: Verilog VGA Game (HW/SW integration); STM32 Bluetooth (+20% connectivity); Auto-Ranging Flashlight (LiDAR-based).

Computer Vision: Fake Coin Detector (98% accuracy with CNN/OpenCV).