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Education

University of California, Santa Cruz, Santa Cruz, CA

M.S. Electrical & Computer Engineering (Robotics)

B.S. Robotics Engineering, with Honors

Minor: Electrical Engineering

Sept 2024–Jun 2025

Sept 2019–Jun 2024

Technical Skills

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

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

Robotics: ROS, PID Control, Kalman Filtering, Mechatronics, Pneumatics

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

Electronics: KiCad, Circuit Design, Signal Processing

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

Languages: English, Mandarin

Experience

Electrical Mechanical Engineering Specialist

Jun 2025–Present

Braingeneers, Santa Cruz

Supported bioelectronics research through PCB design, and simulation development.

- Optimized electroceutical PCBs, increasing efficiency by 75%.
- Conducted parametric studies in COMSOL, improving electrode design.
- Collaborated with multidisciplinary teams to meet milestones.
- Resolved engineering challenges, improving system performance.

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.

UCSC Rocket Team Graduate Technical Advisor

Aug 2024–Jun 2025

Santa Cruz, CA

Advised on mechanical and electrical design for competition-level rocketry projects.

- Optimized mechanical components, improving performance by 20%.
- Enhanced power distribution, reducing system weight by 100g.
- Guided fin and capstan design, reducing assembly time by 15%.

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.

- 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%.

ECE118 Mechatronics Tutor

Jun 2024–Aug 2024

University of California, Santa Cruz

Mentored and supported students through robotics design labs and final projects.

- Tutored 90+ students, improving project success by 20%.
- Mentored in robotics, reducing system design errors by 15%.

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).

Coursework

Robot Kinematics & Dynamics, Feedback Control Systems, Mechatronics, Bioelectronics, UAV Systems, Microcontroller Design, Linear Dynamical Systems, Kalman Filters, System Identification, Sensing & Sensors, Analog Electronics, Convex Optimization, Capstone & Thesis in Robotics