Josephine Dominguez

(760) 889-3481 • Santa Cruz, CA • jocadomi@ucsc.edu

EDUCATION

University of California, Santa Cruz | Environmental Studies B.S., Minor in Electrical Engineering   June 2026
- MESA Engineering, Society of Women Engineers, Fencing Team

EXPERIENCE

Undergraduate Researcher: Josephson Smart Sensing Lab   Mar. 2023 - Present

UCSC Baskin Engineering, Prof. Colleen Josephson | Santa Cruz, CA

- Contribute electrical hardware and PCB design to multiple projects
- Develop hardware for soil moisture-sensing technology to improve accessibility, performance, and cost
- Assist with reverse-engineering components to increase power yield of microbial fuel cells

Visiting Researcher   June 2023 - Sept. 2023

UCSD Engineers for Exploration NSF REU | La Jolla, CA

- Participated in multidisciplinary student research projects with the broad goals of protecting the environment, uncovering mysteries related to cultural heritage, and providing field deployments around the world
- Fabricated Smartfin 3.0 PCB in Altium to track datasets while surfing, assisted with Radio Telemetry Tracking and FishSense lens optics
- Experience with embedded systems, electronic integration, and project management

Technical Support Specialist   Oct. 2022 - Present

Internet Technology Services, UCSC | Santa Cruz, CA

- Intake, image, and deploy campus computers for staff and student use
- Process Internet Technology service tickets using ServiceNow, including hardware repairs
- Safely dispose of sensitive data and campus e-waste according to UCOP security policy

Hardware Chair   Sept. 2023 - Present

Society of Women Engineers, UCSC | Santa Cruz, CA

- Collaborate with SWE officers to provide resume tips, career advice, and networking opportunities to women-identifying STEM students
- Lead soldering and other hard skills workshops to expand accessibility of lab space and clubs to under-represented people in engineering

Peer Navigator   Sept. 2023 - Dec. 2023

Crown College, UCSC | Santa Cruz, CA

- Navigate freshman through their "core" class and campus life by introducing healthy study habits, writing skills, and campus resources
- Host residential college-wide movie nights and other community outreach opportunities
- Assist professor and facilitate discussions with students about emerging technologies and their implications

PROJECTS

Smartfin 3.0 PCB   June 2023 - Sept. 2023
- PCB designed for the SmartFin 3.0, a surfboard fin used by locals to track ocean data to assist with climate research
- Remapped peripherals from original microcontroller to new system-on-module, re-sourced components in Altium library

ROV Lighting PCB   Dec. 2022 - Feb. 2023
- Driver board PCB used to power and regulate ROV ring light system for MATE robotics
- Worked with constrained spacing, surface-mounted components, and pulse-width modulation
- Constructed PCB in Altium

Antweight Combat Robot   Dec. 2022 - Feb. 2023
- Worked with a team to fabricate a 1-pound Antweight combat robot for the Norcal Smackdown Tournament
- Soldered and installed electronic components to ensure proper communication and weapon efficacy

Buck Converter   Nov. 2022
- Step-down converter designed to reduce voltage from 9V to 6V with little heat loss and low voltage noise
- Utilized LM2576 step-down switching regulator IC
- Constructed PCB in Autodesk EAGLE

Astable Multivibrator   Oct. 2022
- 555 Timer-based power dimming circuit
- Utilized LM555 IC
- Prototyped from breadboard to perf board

SKILLS

Relevant Coursework: Electronic Circuit Design, Computer-Aided Design and 3D-Printing, Circuit Analysis, Computer Systems and C Programming, Physics (mechanics, waves/optics, electricity/magnetism, thermodynamics), Assembly Language, Signals and Systems

Software: Altium, KiCAD, Eagle, Solidworks, Onshape

Hard Skills: PCB Design, Soldering, SMD Reworking, 3D Printing, EDA Workflow, Oscilloscopes

Soft Skills: Public Speaking, Project/Team Management, Teaching, Administrative Tasks, Customer Service

AWARDS AND HONORS

- Society of Women Engineers - Amateur Radio Digital Communications Scholarship (Apr 2024)
- Society of Women Engineers - General Electric Foundation Engineering Scholarship (Apr 2023)
- Society of Women Engineers - Amateur Radio Digital Communications Scholarship (Apr 2022)
- UCSC Crown College - Sci-Fi Flash Fiction, First Place (Dec 2022)
- Carlsbad Educational Foundation, Viasat, Judith Campbell Foundation - District Scholarship (Jun 2022)
- FIRST Tech Challenge - Qualcomm Regional Scholar (Mar 2022)
- Society of Women Engineers - NEXT WE Local Innovator Award (Nov 2021)
- FIRST Tech Challenge - Dean's List Finalist (May 2021)