

‘Aukai Kalaniopio Kaai

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SKILLS

Software: SolidWorks, Fusion 360, Creo, ANSYS, MATLAB, Python, C++, Microsoft 365, Capella MBSE, BlueBeam, Forma
Hardware: Machining, Welding, Fabrication, Mill/Lathe/Router CNC, Soldering, 3D Printing, Prototyping, GD&T, DFM/DFA.
Team: Agile Methodology, Team coordination, Project Presentation, Collaborative design.
Systems: V&V, Test planning & Procedure development, Subsystem Integration, Configuration control, RCCA, FMEA
Construction: RFIs, submittals, NCRs, testing logs, discrepancy reports, closure tracking, LEED documentation

EDUCATION

University of Hawaii at Mānoa, College of Engineering

Expected: December, 2026

B.S. Mechanical Engineering, Aerospace concentration

GPA: 3.42/4.0

Relevant Coursework: Fluid Mechanics, Gas Dynamics, Machine System Dynamics, Systems Engineering, Orbital Mechanics

EXPERIENCE

Hawaiian Dredging Construction, Honolulu HI

October 2024 - Present

Engineering Intern

- Managed requirements-verification workflow for 10+ discrepancy reports on a \$100M+ project, coordinating with engineering, architecture, and contractor teams to support resolution and closure.
- Maintained configuration control records across 200+ drawing sheets, documenting root cause, verification evidence, corrective actions, and final closure status.
- Reviewed construction drawings, project specifications, and field conditions to identify design/field discrepancies and support QA/QC documentation.
- Assisted project engineers and QC staff with submittals, RFIs, NCRs, as-built documentation, testing logs, and closeout tracking.

NASA Space Grant Consortium, Honolulu HI

January 2026 - Present

Undergraduate Research Intern

- Investigated micrometeoroid-driven lunar regolith ejection, a hazard to future Artemis landing sites, equipment, and surface infrastructure.
- An initial MATLAB model couldn't support mission decisions without knowing its sensitivity to uncertain inputs, so I ran 1,000 Monte Carlo simulations across impact energy, ejecta velocity, and particle size to quantify how each variable drove the hazard area.
- Mapping dust trajectories didn't show whether it could damage hardware, so I compared simulated impact energies against published damage limits for optics, thermal radiators, spacesuits, and habitat surfaces to identify which ejecta posed a real engineering hazard.

PROJECTS

Hi-Tech Sat 1 (University)

July 2026 – Present

- Contribute to development of a modular 3U CubeSat platform designed to simplify payload integration and support future university satellite missions.
- Lead the design and fabrication of test beds and fixtures for the comm subsystem, Phoenix camera payload, and R-Pi CM5. Developed radiation-shielding designs for the CM5 to evaluate radiation susceptibility and guide mitigation of potential hardware failures.
- Designed and fabricated subsystem mounts using CAD and CNC machining to accommodate a broader range of commercial off-the-shelf (COTS) hardware.

Formula SAE (University)

January 2026 – Present

- Support the design and analysis of front-wing and spoiler components for the team's Formula SAE electric race car.
- Assist with fabrication of aerodynamic components, translating team designs into physical hardware for vehicle integration.

MagDrive: Magnetically Controlled Vehicle System (Personal)

January 2026 – May 2026

- Designed and fabricated a 4-wheel rover for custom steering and rear differential assemblies.
- Programmed closed-loop control system on Arduino using MLX90393 magnetometer input, PWM motor actuation, deadzone filtering, and auto-calibration.
- Integrated mechanical, electrical, and controls components into a working prototype and tested vehicle response.

LIFE CubeSat Mission – NASA SIMPLEx Proposal (University)

January 2024 – Present

- Lead the systems engineering, Utilized MBSE to create STM, requirements, Conops, Gantt, Architecture diagrams, Budgets, and utilized the Pugh selection method to select our components.
- Supported PDR preparation through technical documentation and subsystem coordination.