

Sakura Chiwata

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EDUCATION

University of California, Davis
B.S. in Mechanical Engineering

Expected Graduation: June 2028
GPA: 3.80/4.00

WORK EXPERIENCE

Hutzper Inc., Tokyo, Japan

Jun. 2026 - Sep. 2026

Mechatronics Engineering Intern

- Designed, built, and commissioned a dual-roller inspection system for cylindrical products up to 7 kg, validating 360° imaging across 15.6–107.5 mm diameters with 30+ captures and no dropped frames.
- Redesigned the belt drive with an adjustable, spring-loaded idler, replacing 11 size-specific timing belts with a single belt across the full operating range.
- Selected mechanical and servo components using inertia, torque, shaft-deflection, fit, and belt-tension calculations; produced manufacturing drawings, BOMs, and supplier-ready specifications.
- Tuned servo response to reach commanded speed in 30 ms versus 150 ms, reducing the camera start delay required for distortion-free imaging from 148 to 80 ms.
- Developed a bilingual, PLC-connected web application that calculates motor and camera parameters from product diameter, image resolution, and rotation time, enabling one-click image acquisition.

ASUCD Bike Barn, Davis, CA

Dec. 2025 - Present

Bike Mechanic

- Repair drivetrains, brake systems, and wheel assemblies for 10+ bicycles per shift, diagnosing mechanical issues and verifying safe operation while meeting customer deadlines.

PROJECTS & ENGINEERING EXPERIENCE

EcoCAR EV Challenge – Rear Cargo Subsystem (Deputy Lead)

Sep. 2025 - Present

- Redesigned cargo-floor bracket geometry and mounting arrangements to fit vehicle packaging constraints while maintaining structural support and electrical-enclosure accessibility.
- Performed bending-stress calculations and linear static FEA in Siemens NX to assess bracket response under a 180 lb distributed load prior to fabrication.
- Coordinated with electrical and controls teams to resolve clearance and wiring constraints, reducing electrical-enclosure access time from 90 to 64 seconds during team testing.

Additive Manufacturing Lab – UC Davis

Dec. 2025 - Present

- Conducted ultrasound-based resin additive-manufacturing experiments and implemented manual grinding to address ball-milling contamination, improving material purity by 18 percentage points.

Motion-Tracking Fan

Mar. 2025 - Jun. 2025

- Designed and assembled a servo-driven platform for a camera-based motion-tracking fan, refining 3D-printed components for tracking alignment, component fit, wiring clearance, and airflow.
- Integrated cooling pads that lowered test-surface temperature by 15°F versus operation without pads; reduced measured noise from 56 to 32 dB through shroud and vibration modifications.

Snack Vending Machine

Jul. 2025 - Sep. 2025

- Designed a servo-driven helical-coil dispensing mechanism with ESP32 and achieved jam-free operation across 45+ test cycles by adjusting servo angles, coil position, and product clearances.

SKILLS

CAD & Design: Fusion 360, SolidWorks, Siemens NX, Engineering Drawings, GD&T, DFM/DFA

Analysis & Testing: Linear Static FEA / Stress Analysis, 3D Printing, Dimensional Inspection, Experimental Data Analysis

Controls & Integration: PLC Ladder Logic, Servo Configuration, I/O Wiring, Electrical Troubleshooting