Hayden Kenji Fujimoto

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EDUCATION

Drexel University — Philadelphia, PA
Bachelor of Science in Mechanical Engineering — *Expected May 2028*
GPA: 3.67 — Dean's List (Sept. 2023 – Present)

WORK EXPERIENCE

Leonardo Helicopters — Philadelphia, PA
Aerospace Manufacturing Engineer Co-Op — *Apr. 2026 – Sept. 2026*

- Engineered and executed the company's first sling lift of a 900 kg, $4M+ nacelle, previously moved only with dedicated tooling; modeled assembly CG in CATIA V5, calculated rigging loads, and designed a 3-point rig.
- Led installation of 2 AW609 tiltrotor nacelles onto the wing, directing a 4-person crew and calculating offsets from FARO laser-tracker data for first-time-right alignment; cut install time from 2–3 weeks to under 1 week.
- Designed and modified 20 tools and fixtures in CATIA V5, saving $25K+ per year in material and labor.
- Resolved 100+ tooling quality issues in SAP through root cause analysis and in-house repair instead of replacement, spending under $42K of a $262K annual budget in 6 months.

GE Vernova — Parsippany, NJ
Manufacturing Engineering Co-Op — *Apr. 2025 – Sept. 2025*

- Designed a multi-operation electrochemical machining (ECM) fixture in SOLIDWORKS, replacing 3 fixtures with 1 to qualify a newly purchased machine for 3 unique operations.
- Authored the first ECM fixture design standard (25+ pages), benchmarking 50+ fixtures to define standard dimensions, nesting, tolerances, and materials; currently in use for new fixtures.
- Designed and fabricated 17 CNC-machined and 3D-printed production tools, including a water-filter alignment ring and ECM alignment clips, retrofitting existing fixtures and avoiding 6 new machined fixtures.
- Conducted 6 time studies and co-led a Kaizen event that raised part throughput 78% (27 to 48 parts/day) and freed one production machine.

Drexel University – Chang Battery Lab — Philadelphia, PA
Research Assistant — *Dec. 2024 – Sept. 2025*

- Synthesized carbonate components of the solid electrolyte interphase (SEI) for Li-ion batteries in a glovebox.
- Used Fourier Transform Infrared Spectroscopy (FTIR) to characterize carbonate precipitate structure and verify synthesis success; processed FTIR data in Python.

PROJECTS

Sim Racing Wheel & H-Pattern Shifter — Personal Project
Designer & Builder — *Nov. 2025 – Mar. 2026*

- Designed a direct-drive force-feedback wheel in SOLIDWORKS targeting 10–15 Nm around a repurposed hoverboard hub motor with 14-bit magnetic-encoder feedback and an open-source FFBeast motor controller.
- Designed and fabricated an H-pattern shifter mechanism, 3D printed apart from the threaded shaft and hardware, using a Hall effect sensor and two limit switches for gear detection, read by an Arduino Uno.

Solar-Powered Fountain — Senior Project
Design Lead — *June 2022 – June 2023*

- Designed a solar-powered fountain in Onshape, sizing the pump and solar panel to a target flow rate and coordinating fabrication with outside contractors.
- Raised $1,100 online, led assembly and installation, and handed off a maintenance plan to student owners.

SKILLS & ACTIVITIES

CAD & Analysis: CATIA V5, SOLIDWORKS, Onshape, GD&T, SOLIDWORKS FEA
Fabrication: CNC, Manual milling/turning, EDM, ECM, 3D printing (FDM), Forging, Sheet Metal Fabrication
Lean & Quality: Root cause analysis, Kaizen, TPM, 5S
Software: Python, MATLAB, Excel, SAP
Activities: American Society of Mechanical Engineers (ASME), Society of Asian Scientists and Engineers (SASE)