GIO CERUTTI

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EDUCATION

B.S. Mechanical Engineering, Clarkson University *May 2024*
GPA: 3.9
Minor: Computer Science
Relevant graduate courses: Vibration Modeling & Control, Deep Learning, Symbolic Artificial Intelligence
Organizations: Mountain Bike Team, Outing Club, AIAA, ASME

EXPERIENCE

Electromechanical Engineer, Propulsion Motion Controls June 2025 - Present
Northrop Grumman (formerly Orbital ATK) *Elkton, MD*

- Sole owner of acceptance & qualification testing of 10-channel cold gas thruster & SRM TVC system
- Led integration & test of hundreds of actuators, controllers, complete control systems, and GSE
- Owned two high profile failure investigations & root cause analyses by performing statistical analysis on test data in Excel & MATLAB, then dissecting & inspecting hardware and finally recommending disposition
- Qual tests performed single-handedly: Four full high-altitude manifold/valve static fires, >20 HIL, >150 EMI/EMC, electrical edge case qual, and 11 high-altitude individual nitrogen thruster qual tests
- Formally approve all acceptance data prior to control system shipment by analyzing with MATLAB, then lead TVC & ACS installation on rocket
- Automating acceptance testing & quality control with MATLAB scripts to help the program accelerate from development to high rate production with minimal involvement from engineers

Systems Engineer, Product Line Alignment June 2024 - June 2025
Northrop Grumman *Baltimore, MD*

- Owned over 100 platforming strategy docs for the NG product line center of excellence
- Built 4 dashboards, 3 data pipelines, & dependency management tools to monitor adoption of platforming strategy & automatically maintain technical documentation
- Served as intern from May 2023 - June 2024 prior to retuning as engineer

PROFICIENCIES

Software Onshape, Solidworks, Excel, MATLAB, Python (TF, Torch, Gym, etc.), C++
Certifications FAA Commercial Drone Pilot (Part 107), DoD Secret Clearance, FCC Radio Technician (Element 2) License, ATF Employee Possessor of Explosives

PROJECTS

Tailsitter VTOL sUAS December 2025 - March 2026

- Designed low-cost tailsitter sUAS for high payload mass fraction missions using Ardupilot
- Aircraft designed for quick reconfiguration & testing by eliminating adhesives from design
- Reduced weight by using a slung payload strategy with a unique control algorithm to cancel payload swinging

Senior Design: Clarkson Formula SAE August 2022 - May 2024

- Designed composite axle prototypes by performing hand calculations, simulating load cases, performing trade studies, & picking adhesives and materials
- Determined feasibility of the axles by designing tests & load test fixture to verify prototype performance

Deep Quantitative Agent November 2024 - June 2025

- Designed & implemented self-improving RL decision making strategy using fully-custom RL environments & training schemes, thanks to advanced large scale data collection, cleaning, & augmentation

Other Projects

- Electric coffee grinder (2024), simulated boundary layer visualizer (2022), modular micro quadcopter (2025)