



JULIUS GOLDBERG

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I'm looking to expand my knowledge of CAD, DFM, and rapid prototyping by tackling challenging projects

EDUCATION

Cornell University, College of Engineering · Cumulative GPA: 3.894 (*Dean's List*)

Ithaca, NY

Major: Mechanical Design Engineering

Expected May 2026

Coursework: Heat Transfer, Fluid Mechanics, Dynamics, Statics & Mechanics of Solids, Architectural Robotics

Certifications: Autodesk Associate in CAD for Mechanical Design, Part 107 SUAS Pilot, 2nd Dan Taekwondo Black Belt

EXPERIENCES

Mechanical Engineering Intern | *NetworkOcean (YC S24)*

August 2024 - December 2024 | San Francisco, CA

- Prototyped a two-loop cooling system to connect 40 kW heat exchangers with a 10x difference in required flow rates, achieving an industry-leading Power Usage Effectiveness (PUE) in testing with only \$3,500 spent
- Developed computational tools in Google Sheets to rapidly evaluate critical design parameters such as pressure drop, passive cooling, and the cost/time efficiency of various maintenance operations
- Deployed a temperature sensor array to analyze heat dissipation from the external heat exchanger, using Python to post-process and visualize test data and confirm negligible impact on surrounding marine environment
- Refined the vessel's SolidWorks model using technical drawings from the manufacturer, then generated professional-grade renderings in Keyshot for pitch decks and marketing materials

Mechanical Test Engineering Intern | *Zipline*

May 2024 - August 2024 | San Francisco, CA

- Spearheaded testing protocols for the Droid Parachute system, developing fixtures to measure part performance in critical corner cases, processing data, identifying incidents, and root-causing them to inform design decisions
- Implemented a design change based on analysis of failed deployments which improved ejection speed by ~70% and reduced the failure rate of the part from 27% to 0%
- Project managed the test campaign for the parachute system by leading weekly meetings, proactively adjusting the test schedule, and identifying blockers and issues alongside 10+ senior engineers from cross-functional teams
- Collaborated with Reliability, Design, Manufacturing, and Software teams to update test requirements, suggest design improvements, and support other testing

Airframe Engineer | *Cornell Unmanned Air Systems (4th 2023 Student Unmanned Aerial Systems Competition)*

October 2022 - May 2024 | Ithaca, NY

- Designed the tail to boom connection for the 2024 twin-boom VTOL UAV Atlas so the tail could be pressed in vertically, improving ease of use and reducing the weight of the connection by 93% from the last plane
- Performed vacuum-bagged wet composite layups with carbon fiber, Nomex honeycomb, fiberglass, and epoxy
- Led monthly design reviews, defining top level functional & non-functional project requirements, justifying design decisions with calculations, testing, and visual tools, and providing machining documentation
- Optimized 3D printing techniques with PLA, PLA composites, CF Nylon, and TPU to efficiently prototype, construct testing rigs, and create tooling for project development

SKILLS

- **Manufacturing:** 3D Printing, Laser Cutting, Composite Layups, Woodworking, Soldering, Mill, Lathe
- **Design:** NX Siemens, SolidWorks, Fusion 360, AutoCAD, Blender, Keyshot
- **Programming:** Python, MATLAB, Arduino IDE