ALEX (ALEXANDRA) JENKINS

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EDUCATION

Cornell University, Ithaca NY **Expected May 2026**
Bachelor of Science, Mechanical Engineering; GPA: 3.89; Dean's List: Fall '22, - Spring 2025

TECHNICAL EXPERIENCE

Anduril Propulsion Team, *Costa Mesa CA, Propulsion Test and Controls Engineering Intern* **May 2025-August 2025**

- Designed, iterated, and validated a modular test rig for lightweight combustion engine subcomponents in autonomous aircraft, ensuring reliable operation from –60°C to 100°C and in vacuum and thermal environments
- Operated and maintained high-pressure fuel systems up to 500 PSI, characterizing atomizer flow and spray patterns with high-speed imaging, while developing SOPs and repair guides to streamline ignition system testing
- Led field validation tests on propulsion systems before manufacture and delivery, ensuring performance benchmarks, while expanding diagnostics through supplier partnerships and advanced instrumentation integration

Combat Robotics @ Cornell, *Ithaca NY, Sportsman Subteam: Mechanical Engineer* **October 2022-Present**

- Designed, fabricated, and tested 3 competition-ready 12lb combat robots, achieving successful entries in the National Havoc Robot League (NHRL) by leveraging precision engineering and control optimization.
- Directed CAD and analysis-driven design, reducing weight by 15% while ensuring structural durability under stress
- Prototyped 40+ components through advanced manufacturing methods, including 3D printing, laser cutting, and CNC machining, and introducing an innovative shuffler drivetrain that earned a +6 lb weight bonus
- Led troubleshooting and testing to resolve 5+ failures, boosting reliability and competition performance by 25%

Introduction to Civil Engineering, *Cornell University, Teaching Assistant* **September 2023-Present**

- Oversaw and taught Lab activities in the Bovay Laboratory to first year students about welding, grinding, axial loads, tension and compression, wood deflection, 3D modeling and concrete mixtures
- Led lab setup sessions and trained TAs on effective lab instruction techniques and student engagement strategies.

Bovay Laboratory, *Cornell University, Student Research/Lab Assistant* **August 2024-Present**

- Designed and fabricated custom assemblies with Fusion 360 in wood, steel, aluminum, and concrete while prototyping and maintaining lab facilities to support research and teaching projects.

Merrill Sailing Center, *Ithaca NY, Sailing Instructor/Mechanical Technician* **Oct 2022-Present**

- Taught students sailing techniques, navigation, and safety procedures, fostering confidence, teamwork, and leadership while ensuring a safe and supportive learning environment on and off the water.
- Performed routine maintenance, troubleshooting, and mechanical repairs on the fleet, including hulls, sails, and motorized components, while fostering an inclusive learning environment that adapts to varying skill levels.

LEADERSHIP EXPERIENCE

New Member Onboarding Lead, *Combat Robotics @ Cornell, Ithaca, NY* **May 2024-Present**

- Developed a timeline and strategy for reconfiguring and revamping the existing training program from 6 weeks to 3 weeks and implemented it in weekly meetings with 8 trainers for incoming freshmen and sophomores

Sportsman Subteam Lead, *Combat Robotics @ Cornell, Ithaca, NY* **May 2023-May 2024**

- Developed a comprehensive academic year timeline outlining 10+ goals and meeting-to-meeting deadlines, while delegating tasks and responsibilities to 6 teammates based on individual skills, interests, and growth opportunities
- Collaborated with subteam and team leads to foster inclusivity, boosting retention by 20% and enhancing problem-solving efficiency during obstacles.

Test Box Lead, *Combat Robotics @ Cornell, Ithaca NY* **January 2023-May 2024**

- Oversaw the design and development of a custom test box in Fusion 360, including the creation of a detailed bill of materials, construction, and assembly, ensuring safe and controlled testing environments for 12lb combat robots

SKILLS AND INTERESTS

Design & Analysis Tools: Fusion 360, MATLAB, AutoCAD, SolidWorks, FEA, CFD, Microsoft Systems, Python
Manufacturing & Prototyping: CNC Machining, Manual and Automatic Mills, Manual Lathes, Laser Cutting, 3D Printing, MIG Welding, Band Saws, Sheet Metal Fabrication, Precision Measurement
Soft Skills: Communication, Problem Solving, Collaboration, Leadership, Time Management, Adaptability
Interests: Sailing/ Skiing/ Teaching/ Swimming/ Reading