

# Kaila Danielson

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## EDUCATION

**Cornell University**, Ithaca, NY

Bachelor of Science, Mechanical Engineering • GPA: 3.41

Expected May 2027

## SPECIALIZED SKILLS

Autodesk Fusion 360 • Python • MATLAB • 3D Printing • Soldering • Manual Mill • Manual Lathe • Design

## TECHNICAL & PROJECT EXPERIENCE

**Kinetic Subteam Member**, Combat Robotics @ Cornell, Ithaca, NY

November 2024 - Present

- Collaborated in a team of 9 to design and build two competitive 12-lb combat robots with high-kinetic-energy weapons to perform in the Norwalk Havoc Robot League (NHRL).
- Utilized Fusion360 to model, iterate, and 3D print the main chassis of our robot with custom-fit compartments for electronic components while staying below strict weight (<12lb) constraints.
- Researched and implemented strategies to revamp weapon design and assembly, including discussing weight optimization methods, sourcing 3 new components online, and presenting design and incorporating feedback from peer review to increase functionality and durability in competition.
- Designed offensive-fork configuration to lift and destabilize opponents to gain match control and reduce damage to critical systems by ~20-30%.
- Soldered, assembled, and tested 4+ custom electric circuits to ensure reliable power supply and optimal performance during competition, prioritizing space efficiency and airflow to prevent overheating during use.
- Modeled and fabricated aluminium uprights on manual mill to be used in initial weapon spin-up testing.

**Testbox Member**, Combat Robotics @ Cornell, Ithaca, NY

January 2025 - Present

- Fabricated and assembled 3-ft x 3-ft test box to provide a safe environment for high-kinetic-energy testing.
- Cut, welded, and sanded steel frame to maintain structural integrity and durability under repeated impacts.

**CRClaw Mechanical Member**, Combat Robotics @ Cornell, Ithaca, NY

January 2025 - May 2025

- Fabricated and constructed wooden 5-ft-tall arcade claw machine frame, optimizing stability and durability.
- Designed, 3D printed, and assembled the motorized claw mechanism with maximized range of motion, mechanical reliability, and collaboration of the electrical subgroup for integration between systems.

## LEADERSHIP EXPERIENCE

**Mechanical Trainer**, Combat Robotics @ Cornell, Ithaca, NY

August 2025 - Present

- Developed and ran a 3-week intensive training program for new members, utilizing interactive lectures, exercises, and projects to emphasize team bonding, engineering design principles, and technical skill building.

**Purifresh Project Lead**, Ithaca, NY

January 2025 - May 2025

- Oversaw design of a mechanical multi-tool brush within strict project constraints, deadlines, and a \$300 budget.
- Facilitated clear communication between team members through weekly meetings and progress updates.
- Conducted user research, prototyping, and multiple rounds of iterative testing to identify flaws and refine product concept, and develop a practical solution that effectively met consumer needs.

**Engineering Team Leader & Principal Designer**, Kents Hill School, Readfield, ME

September 2022 - May 2023

- Led a small student team to successfully complete multiple engineering projects by designating roles and tasks, monitoring progress and deadlines, and providing technical guidance.
- Designed complex geometry of 1st-place, 4-ft-tall catapult, optimized for launch angle and projectile distance.
- Supervised and assisted the soldering and integration of electric circuits using doorbells, lights, and switches.

## EXTRACURRICULAR & WORK EXPERIENCE

**Volunteer Sitter**, Guiding Eyes at Cornell, Ithaca, NY

October 2023 - Present

- Trained and prepared future guide dogs for service work by socializing them with new environments, people, and experiences while reinforcing good behavior and responsiveness through consistent commands and rewards.

**Fitness Monitor**, Cornell University Fitness Centers, Ithaca, NY

May 2025 - Present

- Checked in members, maintained safety and cleanliness, provided excellent customer service, and enforced Cornell Fitness Centers policies to support a welcoming and smoothly operating work out environment.