James LaSalle

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **GPA**: 3.797; Dean's List, Fall 2022-Present

Bachelor of Science, Mechanical and Aerospace Engineering **Undergrad: Expected May 2026**

Master of Engineering, Aerospace Engineering **Masters: Expected Dec. 2026**

Relevant Courses: Fluid Mechanics, Statics, Thermodynamics, Heat Transfer, Propulsion, Automotives, Dynamics, Physics Mechanics, Mechatronics, Fluid and Heat Transfer Lab*, System Dynamics, Mechanics of Materials. (*Fall 25)

TECHNICAL EXPERIENCE

Combat Robotics at Cornell, Cornell University, *Kinetic Sub-team Member/Mechanical Engineer* **Oct. 2022-Present**

- I collaborate with a team of 5-8 other engineers to fully design and build a new 12lb combat robot with a high kinetic energy weapon from scratch to perform in the National Havoc Robot League competition each year.
- Developed and modeled the robot in Fusion360 to make sure all parts fit together and remain under 12 lb. MATLAB and Excel were extensively used for speccing calculations to make sure the robot reached a desired drive speed and torque and the weapon delivered a desired amount of energy with each hit.
- Received training in the Emerson machine shop to operate a mill and lathe. Created parts drawings for various custom robot parts that I can machine myself or outsource depending on tolerance requirements and complexity.

Fluid Mechanisms, Hauppauge, NY, *Quality Engineering Intern* **Jun. 2025-Aug. 2025**

- Inspected various helicopter parts and assemblies designed by companies like Boeing and Sikorsky to verify rivet sizes, deburring, and tolerances on the order of thousandths. I also calibrated precision tools such as micrometers.
- Worked with parts drawings, relevant paperwork, and created an extensive database of the tools used in the Quality Department to keep the department organized and save massive amounts of time on day-to-day work.

Robotic Exercise Machine Project, *Mechanical Engineer* **May 2024-Jul. 2024**

- I helped two Cornell alumni design, iterate, and prototype a robotic exercise machine for their startup company.
- Modeled and partially designed an entire prototype system of lifts, weights, mixture dispensers, and a user input device in Fusion 360. Ergonomics, aesthetics, and strict height and manufacturing constraints were kept in mind.
- Used structural analysis simulations in Fusion360 to ensure load bearing structures had a desired factor of safety.

LEADERSHIP EXPERIENCE

Full Team Co-Lead, Combat Robotics @ Cornell, *Lead and Mechanical Engineer* **Aug. 2025-Present**

- I am restructuring the team with my co-lead to create an even more competitive combat robotics team for Cornell; this includes adjusting our semester-long design timelines, extensive recruiting and onboarding processes, and budget strategies to accommodate for more competitions, more robots, and bigger sub-teams overall.
- Responsible for organizing full-team events like Clubfest, Project Team-fest, competitions, recruitment, and more.
- Responsible for consistency and fairness in grading, full-team organization and management, and overall success.

Kinetic Sub-team Co-Lead, Combat Robotics @ Cornell, *Lead and Mechanical Engineer* **Aug. 2024-May 2025**

- Developed a timeline that outlines goals and deadlines on a meeting-to-meeting basis for the entire academic year.
- Delegated tasks and responsibilities to teammates based on interest and skill level as well as provided technical guidance in things like CADing and speccing calculations to new members that were still learning.
- Worked closely with other leads of the team to maintain steady progress in the team's yearly design cycles, safety for the members, and a fun, supportive and inclusive environment for members of all experience levels.

Claw Machine Project, Cornell University, *Lead and Mechanical Engineer* **Jan. 2024-May 2024**

- I led a team of about 10 engineers and computer scientists with the goal of building a claw machine from scratch.
- I divided my team into 2 groups (people who would work on mechanical things and those who would work on coding and circuit issues) and provided a timeline for goals throughout each semester for each group. I also wrote agendas before meetings describing what I expected the team to get done for that day to hit goals for the semester.
- I led the design process of the claw machine, delegated tasks, recorded notes for what happened at each meeting, and maintained a Bill of Materials to keep track of the parts we needed, why we needed them, and all the prices.

SPECIALIZED SKILLS

Technical Skills: Fusion 360, MATLAB, Ansys, Simulink, Python, Soldering, Tapping, Machine trained, AutoCAD, Microsoft Office, 3D printing, Dynamic Event Simulations, LabVIEW.