

# Kai Rodger

2788 Clubhouse Rd. Merrick, NY 11566 | (516) 993-1297 | [kr472@cornell.edu](mailto:kr472@cornell.edu) | [Linkedin](#)

## EDUCATION

### Cornell University, College of Engineering

Bachelor of Science in Mechanical Engineering

Ithaca, NY

Master of Engineering (M.Eng), Mechanical Engineering

Expected May 2026

Expected Dec 2026

**Relevant Coursework:** Mechatronics, Dynamics, Propulsion, Spaceflight Mechanics, Statics, Physics I - III, Thermodynamics, Fluid Mechanics, System Dynamics, Engineering Materials, Automotive Engineering, Heat Transfer, Statistics

## TECHNICAL EXPERIENCE

### Combat Robotics at Cornell

Ithaca, NY

Mechanical Subteam Member

Sep 2023 – Present

- Collaborated with a team of 9 engineers in 5 weekly meetings to design, prototype, and construct 2 12lb combat robots featuring low kinetic energy weapons to compete in the Norwalk Havoc Robot League competition over 2 years.
- Mastered Fusion 360 to design and model the chassis and unique interior and exterior robot parts, compiled a bill of materials, soldered components in the circuit, and assembled components using various machine shop tools.
- Authored comprehensive design and building process documentation in Google Docs and Overleaf for future reference.

### Skanska USA Building Inc.

New York, NY

Project Engineer Intern

Summer 2025

- Worked closely with a team of 5 to support the coordination and installation of mechanical, electrical, and plumbing systems across 4 NYU Langone hospital floors, working closely with trade partners and superintendents.
- Performed BIM clash detection with subcontractors and engineers in Navisworks and reviewed mechanical drawings/submittals, flagging conflicts, generating RFIs, and updating coordinated models in Procore.
- Conducted field walks and updated daily progress and quality control reports; supported punch-list tracking.

## LEADERSHIP EXPERIENCE

### Japan U.S. Student Association

Ithaca, NY

President

Aug 2022 – Present

- Led executive board meetings to organize cultural and educational events at Cornell University, fostering a community for Japanese students and those interested in Japanese culture, while also providing related professional opportunities.
- Demonstrated organizational skills by managing a budget of \$7000, handling reimbursements, booking venues, and running fundraisers, while also engaging members through proactive management of social media platforms.
- Maintain partnerships with other culture clubs to collaborate on large-scale events, enhancing community engagement.

### Claw Machine Project

Ithaca, NY

Project Lead

Jan 2025 – Present

- Led a 7-member interdisciplinary team (Mechanical, CS/ECE, Marketing) in the design, prototyping, and build of a fully functional 6ft claw machine from scratch for Combat Robotics at Cornell project team.
- Coordinated with the team to schedule weekly 3 hour meetings, making agendas and delegating tasks for each of them.
- Balanced technical contributions and overall project leadership, guiding the development of each subsystem and ensuring collaboration across all of the disciplines, along with progress tracking and making sure to reach milestones on time.

### New York State Parks Revenue Office

Wantagh, NY

Aide 5 Revenue Clerk

Summer 2023 – 2024

- Organized collection, verification, management, and documentation of all revenue generated by Jones Beach State Park.
- Supervised revenue clerks across all zones, assigning daily tasks and providing training and mentorship.
- Resolved technical issues for other zones at the beach, ensuring accurate and smooth revenue collection processes.

## PROJECTS

### Hexapod Robot Personal Project

Merrick, NY

Personal Project

May 2025 – Present

- Conducted extensive research and documentation of six-legged walkers and 18-DOF motion using inverse kinematics, torque/load sizing, motor and electronic specing, mechatronics, and power budgeting.
- Designed the chassis and 3-link legs in Fusion 360; created wiring schematics and produced a Bill of Materials.
- 3D-printed and purchased components; assembled the robot, identified issues through testing, and resolved them.

## ADDITIONAL EXPERIENCE

Skills: 3D Printing, Manual and Automatic Mills, Lathes, Laser cutting, Soldering, Welding, CNC Machining, Japanese

Programs: Fusion 360, Solidworks, AutoCAD, Ansys, Siemens NX, Python, Matlab, R, Microsoft Office, LabView

Other Involvements: Lambda Chi Alpha Recruitment Chair, Cornell Maker Club, Cornell Snowboard Club, Doordash