

Alan Munsch

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EDUCATION

Cornell University

Bachelor of Engineering, Mechanical Engineering

August 2023 – May 2027

Ithaca, NY

- GPA: 4.0/4.0

- Relevant Coursework: Foundations of Robotics, Dynamics, Mechanical Design, Thermodynamics, Object Oriented Programming & Data Structures

EXPERIENCE

Crane ChemPharma & Energy

Design Engineering Intern

May 2025 – Aug 2025

Spartanburg, SC

- Modeled **15 assembly sockets** for Gyrolok tube fittings and created prints for manufacturing.
- Designed and machined a **layered no-go gauge** to separate ferrule sizes on the machine floor.
- Created a Power BI **dashboard** to track completion KPIs for EPDM engineering workflows.
- Trained a **regression model** on historical BOM data to predict materials needed for new tube fittings.

Bio-robotics Lab (Trash collecting robot)

Undergraduate Researcher

Aug 2025 – Present

Ithaca, NY

- Designed, 3D printed parts, and assembled a **hexapod robot with 2 DOF legs**.
- Programmed **tripod gait walking algorithms** in Arduino to achieve full planar movement.
- Integrated Jetson Nano to run edge **neural networks** for plastic water bottle detection.

Cornell University Physical Intelligence

Design Team Lead

Sep 2025 – Present

Ithaca, NY

- Led a team of 6 engineers to develop a **hexapod that coordinates tasks with our club drone**.
- Architected legs with **tendon inspired joints** to navigate uneven terrain reliably.
- Built **MuJoCo simulation of hexapod** robot for CS team to train reinforcement learning models.

Cornell University Autonomous Drone

Mechanical Team Member

Sep 2024 – Present

Ithaca, NY

- Designed and assembled a **drone and custom prop guards** to carry small payloads.
- Programmed CNC toolpaths and **machined carbon fiber** drone parts using Fusion.
- **Simulated drone airfoil** model in RealFlight Evolution to test max speeds.

Cornell Bowers Course Staff

Teaching Assistant (CS 1110 - Intro to Programming with Python)

Aug 2024 – Present

Ithaca, NY

- Manage a **40-student lab** section with python exercises twice a week.
- Hold consulting hours twice a week for programming assignments and questions.
- Coordinate in a team of other consultants and assistants to plan class sections.

SKILLS & TECHNOLOGIES

- **Skills:** CAD, 3D Modeling, Optimization, Web Development, Simulations, Finite Element Analysis
- **Technologies:** SolidWorks, Fusion, Onshape, Ansys, MATLAB, Python, Java, TypeScript, SQL, JDE, EPDM