

# Charlotte Tama

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## EDUCATION

**Cornell University**, College of Engineering, Ithaca, NY  
Bachelor of Science, Mechanical Engineering, Minor in Aerospace Engineering

**Expected Graduation May 2028**  
**GPA: 3.66**

**Relevant Courses:** Engineering Simulations & Design; Introduction to Mechanical Design; Dynamics; Statics & Mechanics of Solids; Thermodynamics; Object-Oriented Programming and Data Structures; Physics III: Oscillations, Waves, and Quantum Physics; Physics II: Electricity and Magnetism; Differential Equations; Linear Algebra; Multivariable Calculus

## RELEVANT EXPERIENCE

**Design Build Fly Project Team**, Ithaca, NY, *Aerodynamics and Controls Engineer* **Sep 2025-Present**

- Design and manufacture the wings, empennage, and control surfaces of unmanned aircraft for the American Institute of Aeronautics and Astronautics Design/Build/Fly competition.
- Create detailed design of wings and tail in SolidWorks; instruct new team members in Computer Aided Design best practices.
- Conduct aerodynamic and structural analysis in Ansys and XFLR5, including static/dynamic stability analysis and FEA.
- Manufacture wings and empennage for 3 aircraft design iterations, utilizing laser cutting, carbon fiber machining, 3D-printing, and hand tools.

**Independent Project**, *Drone Construction* **Jul-Aug 2025**

- Constructed quadcopter FPV drone incorporating 30+ mechanical and electrical components, including PCB circuitry, ESCs, LiPo battery, flight computer, motors, and propellers.
- Selected parts based on performance and integration criteria, maximizing lift-to-drag, cost-effectiveness, and operability.
- Configured drone-computer communication using PixHawk flight computer and ArduPilot software to enable remote control.
- Utilized soldering and small-scale mechanical hand tools in frame construction, employing attention to detail.

**National Air and Space Museum**, Washington, DC, *Docent* **Jan 2023-Present**

- Lead science demonstrations at interactive "discovery stations," interacting with 100+ visitors per hour.
- Explain diverse aviation and astronomy topics including the forces of flight, black holes, relativity, and rocketry, tailoring explanations to diverse audiences.
- Train new staff on visitor engagement best practices, including simplifying highly technical content for the broad public.

**Cornell Cybersecurity Club**, Ithaca, NY, *Member* **Jan 2025-May 2025**

- Participate in Capture the Flag (CTF) computer system challenges involving cryptography, web exploitation, reverse engineering, and system vulnerabilities.
- Delivered technical presentation to 20+ members on man-in-the-middle attacks and WiFi Pineapple devices.

## LEADERSHIP EXPERIENCE

**Air Force ROTC**, Cornell University, *Cadet* **Aug 2024-Present**

- Develop military and leadership skills through 5+ hours per week of structured training. Build knowledge of US Air Force missions, assets, and national defense strategy.
- Gained leadership experience through Group Leadership Project (GLP) exercises, practicing leading teams of cadets to conquer physical, tactical, or logical challenges.
- Coordinate 3+ group bonding events per semester for cadets as a Morale, Welfare, and Recreation (MWR) team lead.

**Cornell Outdoor Education**, Cornell University, *Backpacking Trip Guide* **Aug 2025**

- Led multi-day pre-orientation backpacking trip for 8 incoming freshmen, fostering a supportive and kind group culture, facilitating personal growth and new experiences, and taking personal responsibility for participant safety and well-being.
- Taught backpacking and wilderness survival skills; coordinated route-planning, lodging, gear rentals, safety protocol, and communication with participants.

**Women in Computing at Cornell**, Cornell University, *Girls Who Code Class Facilitator* **Jan-May 2025**

- Facilitated Girls Who Code weekly beginner coding classes of 20 middle school students, teaching basic Python concepts.
- Collaborated with a team of 15 undergraduate volunteers to support students in concepts and assignments.
- Guided students' creation of creative Python final projects, including designing programs for "Wordle" and "MadLibs."

## SKILLS

**Skills:** SolidWorks, Java, Python, Ansys, XFLR5, NumPy, Object-Oriented Programming

