# Andrea Wang

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## Education

**Cornell University** Ithaca, NY

*Bachelor of Science in Mechanical Engineering* *Aug. 2024–May 2027 (Expected)*

- **GPA: 4.19**
- **Relevant Coursework:** Fluid Mechanics*, Mechanics of Engineering Materials*, Intro to Aeronautics*, Thermodynamics*, Dynamics', Statics and Mechanics of Solids', Intro Computing (*in progress, 'A+)

## Experience

**Airframe Engineer** Oct. 2024–Present

*Cornell University Unmanned Air Systems (CUAIR)* *Ithaca, NY*

- Designed wings for a 35-lb custom UAV, selecting parameters such as the airfoil, planform area, aspect ratio, mounting location, etc. Performed aerodynamic analysis on the wing and tail in XFLR5 to ensure the UAV would be statically stable.
- Designed and installed a modular connection joint between the wing and fuselage, enhancing ease of assembly. Performed hand calculations and physical testing to verify that the load of fuselage could be supported.
- 3D printed a custom rotating LiDAR mount, reducing weight by 43%. Communicated weekly with software and electrical subteams for integration.
- Manufacture composite wings, tail, and fuselage of a 12-ft wingspan aircraft. Prep molds and perform wet layups using carbon fiber, fiberglass, and epoxy resin.
- Justify design choices to 20+ mechanical team members through design reviews to receive and give feedback on projects in an iterative design process. Collaborate on CAD models in SolidWorks PDM.

**Undergraduate Researcher** June 2025–Present

*Cornell Space Structures Lab* *Ithaca, NY*

- Create finite element models of thin-shell structures to aid in the design and analysis of bistable cells. Utilize Abaqus's Python scripting capabilities to automate the generation and post-processing of models with varying parameters (material, composite fiber orientation, cell dimensions) to improve cell stability and actuation energy.
- Manufacture custom silicone molds for prepreg composite layups to experimentally validate simulated results.
- Designed a new silicone mold that streamlined fabrication of multi-cell composite structures, removing the need for epoxying and cutting manufacturing time by 48 hours.

**Teaching Assistant (Statics and Mechanics of Solids)** Aug. 2025–Present

*Cornell Mechanical and Aerospace Engineering Department* *Ithaca, NY*

- Lead a discussion section of 20+ students each week, reinforcing lecture material through guided problem-solving and labs.
- Host weekly office hours to provide individualized support on homework and exam prep.

**Math Tutor** Sept. 2022–June 2024

*Mathnasium* *San Diego, CA*

- Taught 100+ K-12 students in small group settings, up to AP Calculus and AP Statistics, communicated concepts in an accessible way to diverse learners.
- Administered assessments to students to develop personalized learning plans. Communicated student progress to parents and adjusted students' curricula according to parent requests and assessment performance.

## Activities

**Crème de Cornell, Culinary Magazine** | *Layout Designer* Sept. 2024–Present

- Use Adobe Suite (InDesign, Illustrator, Photoshop) to craft eye-catching magazine layouts

**Society of Women Engineers** | *Communications Committee Member* Oct. 2024–Present

## Technical Skills

**Software and Programming Languages**: SolidWorks (CAD), Abaqus (FEA), Python, MATLAB, Microsoft Office Suite (Word, Excel, PowerPoint)
**Fabrication**: 3D printing, hand and power tools (sanding, drills, sawing), composite layups
**Creative Design**: Adobe Suite (InDesign, Illustrator, Photoshop), Clip Studio Paint, MediBang Paint, Canva