Emily Jiang

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EDUCATION

Virginia Tech Blacksburg, VA
Bachelor of Science: Mechanical Engineering Expected May 2028
Relevant Courses: Mechanical Design, Mechanical Vibrations, Fluid Dynamics, Applied Electrical Theory, Deforms, Thermodynamics, Elements of Materials Engineering, Dynamics, Statics, Manufacturing Lab, Numerical Methods

TECHNICAL SKILLS

CAD & 3D Modeling: SolidWorks, Creo, AutoCAD, Fusion 360, XFLR5, MATLAB, Python, OpenCV, VS Code, ArcGIS
Engineering Methods: Product Design, DFM, FEA, GD&T, Tolerance Analysis, Prototyping, Performance Validation, Design Optimization
Materials and Fabrication: Plastics, Composites, Metals, 3D Printing, Hand Sketching
Programming and Analysis: MATLAB, Python

EXPERIENCE

Raytheon Technologies (RTX) Woburn, MA
Systems Engineering Intern Jun 2026 – Aug 2026
- Incoming Summer 2026 intern supporting hardware engineering and integration

BodBX Blacksburg, VA
Hardware Product Engineer – Consumer Electronics Nov 2025 – Present
- Conducted failure analysis on field servo failure in a deployed consumer hardware product; identified torque deficit (0.7 to 1.8 kg/cm) and voltage supply chain risk as concurrent failure modes
- Performed tolerance and fit analysis in SolidWorks to evaluate component swap implications on mechanical enclosure geometry; bundled mount pocket revision with casing update for hardware iterations
- Redesigned internal cable routing and connector strategy to optimize signal integrity, mechanical reliability, and serviceability across product line
- Translated live field deployment feedback into rapid hardware iterations improving serviceability

Virginia Tech Undergraduate Research Blacksburg, VA
Airframe Engineer Aug 2025 – Present
- Selected as 1 of 25 students from 164 applicants for a competitive autonomous aircraft hardware design team
- Designed internal avionics shelf with notch-slot registration interface and 1mm print tolerance to constrain components under vibration loading while maintaining assembly accessibility
- Architected fuselage internal structure to integrate avionics systems while meeting CG, structural, and accessibility constraints
- Applied DFM principles to optimize 3D printed LW-PLA airframe components; tined print parameters (240 C nozzle, 15% gyroid infill) through test prints to balance dimensional accuracy and weight
- Collaborated cross-functionally with avionics and software sub teams to align mechanical design with electrical and embedded system integration requirements

Wind Turbine Blacksburg, VA
CAD Drafter Jan 2025 – May 2025
- Designed a helical vertical-axis wind turbine design focused on energy efficiency and environmental sustainability
- Conducted field testing of prototypes and evaluated structural issues, documented component flaws and proposed strategies
- Created engineering memos, validation reports outlining performance, and analyzed data utilizing MATLAB, contributing to project iteration and accountability

Design Build Fly Blacksburg, VA
CAD Drafter Sep 2024 – Dec 2025
- Contributed to mechanical and structural design of competition aircraft, achieving 7th place out of 108 teams at the 2025 AIAA competition
- Interpreted engineering drawings, schematics, and component specifications to support fabrication and assembly
- Documented field test data and conducted performance analysis to optimize mechanical systems under operational loads
- Applied CAD tools (SolidWorks, Fusion 360, AutoCAD) to design and revise structural and system components