

Emily Jiang

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EDUCATION

Virginia Tech

Blacksburg, VA

Bachelor of Science in Mechanical Engineering

- Relevant Coursework: Mechanical Design (Product Development), Design and Economics, Manufacturing Lab, Mechanics of Materials, Statics, Dynamics, Statistics, Vibrations

EXPERIENCE

BodBX - Computer-Vision Movement-Analysis Device

Blacksburg, VA

Mechanical Engineer

November 2025 – Present

- Disassembled a shipped movement-analysis device and replaced servos; inspected internal component packaging and enclosure fit and recommended design revisions
- Evaluated a proposed 3.6 g-to-9 g servo replacement against enclosure constraints, identifying 13.5 mm of additional clearance required for the larger actuator
- Revised internal wire routing and connector strategy for assembly repeatability and serviceability

Raytheon Technologies (RTX)

Woburn, MA

Systems Engineering Intern

June 2026 – August 2026

- Supported integration and testing of rack-mounted radar hardware, checking mechanical fit and interface compatibility across hardware components and cabling
- Reproduced field-reported failures in simulation, reviewed analysis code and source data, and documented validated workflow fixes for on-site engineering teams
- Presented the final internship readout to the VP of Systems Engineering after three competitive presentation rounds

PROJECTS

Single-Cell Power Bank

Herndon, VA

Mechanical Engineer, Independent Project

July 2026 – Present

- Developed a two-part enclosure in SolidWorks using listed dimensions for a nickel-tab cell (approx. 21.1 mm diameter x 70.0 mm body) and PCB (46.5 x 20.5 mm); incorporated cell retention, PCB mounting, and port access
- Measured cell and PCB geometry with digital calipers, revised SolidWorks models, and produced dimensioned prototype drawings specifying wall thickness, mounting locations, port/mating clearances, and assembly sequence
- Identified omitted PCB length in an earlier component-layout model; recalculated the packaging-volume lower bound from 85.5 to 116.2 cm³
- Analyzed five seam-gap contributors using worst-case and root-sum-square (RSS) tolerance stacks; identified a miss of the draft 0.30 mm gap limit

Pixhawk-Based Environmental Monitoring UAV

Blacksburg, VA

Mechanical Engineer

August 2025 – June 2026

- Designed an avionics shelf in SolidWorks with notch-slot registration and a 1 mm print allowance to locate electronics while preserving wiring, assembly, and inspection access
- Compared standard PLA and two LW-PLA foaming configurations using SolidWorks volumes; projected a 52% airframe mass reduction (4.68 to 2.27 lb)
- Fabricated temperature-dependent FDM test prints that informed the team's 240 C LW-PLA nozzle setting; wing structures used 15% gyroid infill with carbon spars
- Coordinated mechanical interfaces and assembly access with a six-person avionics sub-team; managed the airframe bill of materials and supplier orders

Design Build Fly (AIAA)

Blacksburg, VA

Structures Engineer

September 2024 – December 2025

- Revised aircraft structures in SolidWorks from drawings and specifications for a team that placed 7th of 108 at the 2025 AIAA competition

Helical Wind Turbine

Blacksburg, VA

Mechanical Design Engineer

January 2025 – May 2025

- Modeled three helical wind-turbine concepts in SolidWorks, built and tested prototypes in a makeshift wind chamber, and used MATLAB analysis to guide redesign

TECHNICAL SKILLS

CAD & Product Design: SolidWorks; 3D CAD, Mechanical Packaging, Materials Selection, Tolerance Analysis, Design for Manufacturing (DFM), Design for Assembly (DFA)

Prototyping & Shop: FDM 3D Printing, Manual Mill and Lathe, Laser Cutting, Hand Tools, Mechanical Assembly

Testing & Communication: Prototype Testing, Design Iteration, Hardware Integration, Technical Documentation, Technical Presentations; MATLAB