

# Catherine Boss

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**OBJECTIVE** To obtain an engineering internship position beginning summer 2026

## EDUCATION

### Bachelor of Science in Mechanical Engineering, Minor in Mechatronics

The Pennsylvania State University, University Park, PA

GPA: **3.85/4.00**

Anticipated Graduation: May 2027

**Relevant Courses:** MATLAB Programing, Effective Speech for Engineers, Hands-On Helicopters, Dynamics, Thermodynamics, Strength of Materials, Calculus of Several Variables

## SOFTWARE & SKILLS

SolidWorks Modeling and Drafting, Basic Python, Basic C++, Basic Fusion 360

Soldering, TIG Welding, Fuse Assembly, Connector Fabrication, Basic Circuit Assembly, Basic Fabrication

## WORK EXPERIENCE

### Mechanical Engineering Intern

Communications & Power Industries, State College, PA

May- Aug 2025

- Proposed a compact power supply design for improved efficiency and failure resistance, validated thermal and functional viability through simulations
- Created and updated cable assembly drawings for internal assembly and testing procedures
- Assisted with electrical and RF tasks, gaining exposure to radio communication constraints and basic PCB layout practices
- Observed manufacturing processes to understand broad machining limits and DFM considerations

### Student Trainee – Code 34

The Naval Undersea Warfare Center (NUWC), Newport, RI

May- Aug 2024

- Transformed 20+ poor quality legacy engineering drawings to comprehensive 3D models using SolidWorks, ensuring manufacture-level clarity and backwards compatibility
- Independently reverse-engineered components to created 3D models and simulations by taking precise measurements without the aid of digital documentation
- Produced manufacturer-ready technical drawings from 3D models, including modern GD&T notation and assembly instructions
- Followed, critiqued, and created Assembly Guides for multiple complex components
- Performed hands-on technical tasks, including soldering, TIG welding, connecting circuit boards, and constructing SMA and other connectors from bare wire
- Collaborated with 12+ electrical engineers as the sole mechanical engineer, offering critical mechanical feedback and support on a wide range of projects
- Presented project progress and results to dozens of stakeholders, formally and informally

### Drone Crew Member

Sky Elements Drone Shows, Dallas, TX

April 2021 – Jan 2023

- Repaired and maintained 100 UAVs per show by changing damaged propellers
- Arranged drones in predatory formations to ensure show quality
- Prepared batteries, labels, and supply kits for shows
- Monitored and inspected flammable and hazardous equipment

## LEADERSHIP & INVOLVEMENT

Dual Secretary, American Society of Mechanical Engineers (ASME)

2025 – Present

RC Car Assembly Lead, American Society of Mechanical Engineers (ASME)

Jan – April 2025

Hovercraft Team Member, American Society of Mechanical Engineers (ASME)

Jan – April 2025

Secretary, 3D Printing Additive Manufacturing Club

2023-2025

Participant, Penn State Women in Engineering Program

2023-2024