

Brian Hou

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Education

Purdue University

BS in Robotics Engineering Technology

Junior, Jan 2024 - May 2027

2025 Dean's List, Cumulative GPA: 3.5

Work Experience

GE Appliances 2024 Fall Semester Co-op

Aug 2024 - Dec 2024

Mechanical Design Engineer/ Software Developer

- Developed **CAN bus** control logic for RVAC systems, reducing system failure points by **99%**
- Collected and analyzed field test data using **TC's** and **Agilent**, accelerating NPI launch by **4+ fiscal weeks**
- Streamlined validation testing using **NI LabVIEW** and **OmniScope**, improving data analysis efficiency by **75%**
- Designed a cost-effective airflow test chamber using **SolidWorks CFD**, generating **\$30K+ in cost savings**
- Collaborated cross-functionally with Haier (China), leveraging bilingual English/Mandarin skills to ensure technical alignment and on-time execution

3H. Grand Enterprise 2023 Summer Internship

May 2023 - August 2023

Hardware Engineer

- Designed and prototyped an autonomous document delivery robot using **SolidWorks**
- Implemented and tuned **PID** control with field-relative positioning, reducing delivery times by **50%+**
- Maintained company-wide hardware and software systems, ensuring reliability and minimizing downtime

Project Experience

Boiler Robotics Club University Club

July 2025 - Present

Robotic Arm Mechanical Team Co-Lead

- Mechanical co-lead for a **URC global top-50 rover team**, overseeing 5 DoF fully articulative arm subsystems
- Designed a **5-axis robotic arm** and multi-function end effector using **Fusion 360**
- Developed an end effector capable of **7+ kg payload handling** while maintaining fine manipulation

Purdue ACM SIGBots University Club

May 2023 - June 2024

Robotic System Designer

- Contributed to a **2024 World Championship team**, earning **Design** and **Community** Awards
- Designed and detailed competition-ready robot assemblies using **Autodesk Inventor** and **SolidWorks**
- End-to-end **robot design and build**, from concept through fabrication and integration

PYRO Robotics University Club

May 2022 - April 2024

Project Lead & Mechanical Lead

- Led design and construction of **award-winning competitive robots**, overseeing mechanical development and system integration
- Designed complex mechanical systems and mechanisms using **SolidWorks**
- Reduced mechanical troubleshooting downtime by **30%** through cross-functional collaboration and design iteration

Personal Projects

- Designed and built a **3-DOF fully articulated robotic arm** with integrated **kinematics** and servo control for precise 3D motion; modeled in SolidWorks and **100% 3D printed**
- Designed and built a **golf ball launcher** (slingshot trebuchet) achieving **>46% efficiency** (top of class) and a **4.54 range-to-weight ratio**; modeled in **SolidWorks** and **95% 3D printed**

Certifications

- Solidworks CSWA-Mechanical Design

Dec 2023