

# CHOU YUCHE

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## EDUCATION

**Bachelor of Science: Mechanical Engineering**  
Purdue University, West Lafayette, IN

May 2028 (Expected)  
GPA 3.70/4.00

## SKILLS

**CAD & Design:** Siemens NX (Parametric Modeling, Assemblies, DFM), Fusion 360

**Programming & Analysis:** MATLAB, Python

**Technical:** Battery Management Systems (BMS), ERP, Manufacturing Processes, Quality Management

## WORK EXPERIENCE

**Project Management Intern - Battery Management Systems**

Jun 2026 - Jul 2026

BOHO Energy Tech

- Conducted technical research on **Battery Management Systems (BMS)**, analyzing BMU, BCMU, BAMS, and ELECMAGCTR architectures, and presented findings through technical reports and presentations.
- Evaluated engineering concepts including **ELECMAGCTR integration feasibility** and **product part numbering systems** by analyzing technical trade-offs, scalability, and system architecture.
- Produced technical reports and presentations on **procurement workflows**, **ERP business processes**, **manufacturing operations**, and **supply chain compliance** (ISO 9001/IATF 16949, JC STAR, and Conflict Minerals) for cross-functional knowledge sharing.
- Observed in ERP implementation and **cross-functional collaboration** with engineering, procurement, manufacturing, quality, and logistics teams to understand product lifecycle and manufacturing operations.

## PROJECTS

**Formula SAE Fuel Tank – Mechanical Designer**

Sep 2025 - Oct 2025

- Designed an E85 fuel tank in Siemens NX**, incorporating **internal baffles and HydraMat** to mitigate fuel slosh under high-G accelerations with an emphasis on **DFM**
- Designed a full **fuel system assembly** integrating **fuel pump, drainage valve, filler neck, and transparent sight tube** for real-time fuel monitoring
- Developed **custom mounting hardware** (brackets, bulkheads, fittings) for robust chassis integration

**Stirling Engine – Mechanical Designer**

Mar 2025 - Apr 2025

- Designed and modeled a complete Stirling engine in Siemens NX**, creating a structured **top-level assembly with multiple subassemblies** and custom components including **cylinders, pistons, crankshaft, connecting rods, and flywheel**.
- Implemented fully constrained mechanical assemblies**, applying geometric and kinematic constraints (align, touch, concentric, angle) to ensure correct motion, fit, and component interaction.

**Electromechanical Claw Machine – Designer and Builder**

Jun 2021 - Aug 2021

- Prototyped and fabricated a 3-axis electromechanical system**, managing the full lifecycle from structural frame design to electrical circuit integration
- Programmed and synchronized 4 motors** for precise multi-directional motion and reliable operation

## RESEARCH EXPERIENCE

**Wind Turbine Blade Optimization Research – Team Lead**

Apr 2025 - May 2025

- Conducted Python-based trade-off analysis of wind turbine blade aerodynamics to optimize torque output

**Linear Generator & Renewable Energy Research – Researcher**

Jul 2024 - Sep 2024

- Conducted comparative analysis of 5 fossil-fuel and 3 renewable generators**, evaluating efficiency, cost, and environmental impact
- Authored and published research** on linear generator in the International Journal of High School Research (<https://doi.org/10.36838/v6i6.11>)

## LANGUAGES

Mandarin (Native), English (Fluent)