Mitchell Henry

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Online Portfolio
https://mitchell-henry.netlify.app

Education

Kansas State University, Manhattan, KS — Expected Graduation Dec 2025
- Major: Mechanical Engineering — GPA:3.54
- Minor: Business

Work Experience

Engineering Intern at **Parker Hannifin**, Manhattan, KS — January 2024 - December 2024
- Designed and developed a nylon heat welder machine using **Inventor**, optimizing operator **safety**, **ergonomics**, and durability. Engineered a self-cleaning mechanism to ensure long-term reliability and minimal maintenance.
- Designed a **camera-based solution** to count wires per inch on moving hoses with wire as thin as 0.008". This solution fit seamlessly into existing manufacturing setups with minimal operator interference.
- Spearheaded improvements in **3D printing** on Bambu 3D printer. Created an in depth **training manual** for future employees, and upgraded the setup by introducing desiccant molecular sieves and a filament dryer.

Ride Operator at **Cedar Point**, Sandusky, OH — Summers of 2021 - 2023
- Supervised an 8-person team as an **in-charge**, ensuring **safety**, guest satisfaction, and smooth operation of machinery for thousands of guests each day.
- Recognized for **perfect attendance**.

Projects

Combat Robotics, KSU — August 2022 - May 2025
- Sole developer of an **AI-driven** combat robot equipped with a **Raspberry Pi**, lidar, encoders, an IMU, a camera, and a Time-of-Flight camera for real-time positional awareness and strategy execution.
- Created a **3D simulation** of the competition environment in **Unity**, allowing faster code iteration and proof of concept testing before real-world deployment.
- Reduced video feed latency over **Wi-Fi** to 0.15 seconds to allow external AI processing, showcasing advanced programming skills in **Python** and the **OpenCV library**.

L-Bracket Challenge, Machine Design Class — March 2024 - May 2024
- Achieved **1st place** out of 30 teams in a design competition to create the lightest 3D printed L bracket to hold 7lbs. Applied CAD, **structural analysis**, and testing to optimize the design to be only 16g.

Skills

CAD
- Proficient in **SolidWorks**, **Inventor**, **Fusion 360**, and **Onshape**.
- After excelling in my SolidWorks class, my work was selected as the **class example** for future classes.

Programming
- Experienced in **Python**, **C++**, and **C**.

Microcontrollers
- Hands-on experience with **Raspberry Pi**, **ESP32**, and **Arduino** for robotics and automation projects.