MATTHEW HUI

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Recent Mechanical Engineer Graduate with experience in CAD modeling, engineering competitions, and research. Proficient in technical standards, CAD software, PLM/PDM systems, database management, and programming. Strong background in mechanical drawings, drafting, 3D printing, prototyping, and process optimization.

EDUCATION

Purdue University - Main Campus   **West Lafayette, IN**
B.S. Mechanical Engineering Technology   **May 2024**
- GPA: 3.79, Semester Honors

EXPERIENCE

Outlier   **Remote**
Prompt Engineer   **Oct 2024 – Present**
- Evaluated 90+ pieces of AI-generated mechanical engineering content for clarity and technical accuracy
- Authored structured prompts and responses for model training, improving predictive reliability
- Worked with AI researchers to resolve systematic errors and refine technical explanations

Purdue University   **West Lafayette, IN**
Mechanical Engineering Student Assistant   **Jan 2024 – Jul 2024**
- Designed and 3D printed structural enhancements to an autonomous RC car that reduced vehicle weight by 30% while maintaining durability
- Implemented computer vision models in Python for traffic lights/stop signs detection and developed a distance estimation algorithm to improve object localization for navigation
- Troubleshoot hardware and software integration issues throughout the development process
- Achieved placement in the Quanser 2024 American Control Conference Self-Driving Car Competition, competing against top university teams

Chenbro Micom   **Ontario, CA**
Mechanical Engineering Specialist Intern   **Jun 2023 – Aug 2023**
- Designed 10+ CAD models for server chassis, rails, and heatsink caps across 5+ client build-to-order projects
- Spearheaded firmwide documentation of 3D printing prototyping processes, developing SOPs that reduced troubleshooting time
- Led technical training for the US office on 10+ STL file conversion techniques and slicer settings, improving team proficiency and reducing print setup errors

The Data Mine - Purdue University   **West Lafayette, IN**
Undergraduate Data Science Researcher   **Aug 2021 – May 2022**
- Applied PCA and k-means clustering to identify key academic performance drivers
- Automated data preprocessing workflows, reducing manual data cleaning time by 80% for future studies
- Visualized insights through an interactive Tableau dashboard, presented to the Purdue faculty at the 2022 Data Mine Symposium

PROJECT

Custom Membrane Keyboard PCB Design with 3D printed Case
- Designed and built a custom 60% membrane keyboard for office use: custom-designed PCB, 3D-printed ABS case, and customizable buttons

SKILLS

Coding / Software: Python, R, C++, SQL, HTML, JavaScript, MATLAB, Simulink, LabVIEW, SolidWorks, Creo, AutoCAD, NX, Fusion 360, Aras Innovator, Windchill, Access, Excel, Ultimaker Cura, Tableau

Hardware: Mechanical and Electrical Design / Drawing, 3D Printing, GD&T, P&ID (Piping and Instrumentation Diagrams), Sheet Metal Design, PCB Design, Arduino Development, ROS (Robot Operating System)

Documentation: SOP Writing, ECO (Engineering Change Orders) & PLM experience

Languages: Cantonese (Native), Mandarin (Fluent), Japanese (Beginner)