

YAFANG WU



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Portfolio: <https://yafang-wu.vercel.app>

EDUCATION

Electrical Engineering, Bachelors of Science

Rensselaer Polytechnic Institute

06/2023

RELEVANT COURSEWORKS

- **Microelectronic Technology**(semiconductor properties, fabrication, device operation, and doping)
- **Integrated Circuit Processes and Design**(semiconductor fabrication, imperfections, alloy, thin film, substrate, oxide masking, epitaxy, metallization, etching, and photolithography)
- **VLSI Design**(CMOS, NMOS, IC design, IC fabrication, device layout, and computer-aided layout design)
- **Engineering Processes**(usage of machines in shops & labs, fabrication process, process developments, and precision machining)

EXPERIENCES

Lab Technician

Plug Power Inc.

08/2022 - 10/2022

- Conducted daily testing on hydrogen-based fuel cells within a collaborative team, including working in cleanroom environments.
- Improved 2+ testing instruments, lowering production costs and waste, while strictly adhering to safety protocols and SOPs.
- Left this position due to unrelated health reasons and also to prioritize my academic studies. Until mid 2024, I have been in recovery.

Skills: Hand Tools, Microsoft 360, Machine Operations, Project Management, Result Analysis, SOPs, Testing, Troubleshooting.

Teaching Assistant

Rensselaer Polytechnic Institute

08/2019 - 08/2021

- Mentored students with the engineering process, the design process, the importance of safety, and operations of 5+ machines and hand tools, while maintaining a clean and organized workspace.

Skills: Drafting, Hand Tools, Laser Cutter, Precision Machining, Shop Machines, Schematics, Sensors.

Team Leader

FIRST Robotics Team 4454

09/2015 - 06/2018

- Led 2+ subsystems of 4+ teammates each year and assisted other subsystems at any opportunity.
- Became proficient in the engineering design process and participated in the research, design, prototype, CAD, and assembly of 3+ robots, and mentored new teammates.

Skills: 3D printing(ABS, Carbon Fiber, PLA, TPU), Hand Tools, Lift Mechanism, Linkage and Gear Mechanism, Motors, Pneumatic, Prototyping, Soldering, SOLIDWORKS, Wiring.

PROJECTS

Digital Twin Project with the Boeing Company

- Implemented innovative methods to digitally scan the exterior of an aircraft for the purpose of failure inspection through a digital twin with an accuracy of 0.5 inch.
- Designed a system to digitally record any potential failure with an image output precision of 0.5 inch and documentation of the failure points.
- My responsibilities were designing the Bluetooth Beacon System for the mobile camera unit location, and handled the physical implementation, including CAD design, 3D printing, electronics solderings, and final assembly.
- Collaborated with a team of 6 at RPI and professionals at the Boeing Company.

Skills: 3D printing, Bluetooth Beacon, CAD, Design Analysis, Design Report, Project Development, Prototyping, Schematics, Sensors(LiDAR, IMU), Wiring.

SKILLS

3D Printing, Adobe Illustrator, CAD, Electrical Engineering, Embedded Controls, Engineering Design Process, Epitaxy, Etching, FMEA, Hand Tools, Integrated Circuit Design, Laser Cutter, Machine Shop Tools, Material Science, Mechanism Design, Microcontrollers, Microelectronics, Microsoft 360, Photolithography, Renewable Power Generation, Schematics, Semiconductors, Sensors, Simulink, Soldering, Troubleshooting, VLSI Design

CAD PROGRAMS

AutoCAD, Autodesk Fusion 360, Cadence Virtuoso, LogicWorks, Siemens NX, SketchUp, SOLIDWORKS