PAUL JACOBSON

Location ◇ Phone Number ◇ Email
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EDUCATION

University of Wisconsin Platteville 2023
Bachelor of Science in Engineering Physics, Minor in Computer Science GPA 3.47

SKILLS

Technical Skills Python, Java, C/C++, Matlab, git, Linux, 3D Printing, Matlab, LaTeX

EXPERIENCE

Electronic Theater Controls *Middleton, WI*
Advanced Research Group Extern Jun 2022 - Aug 2022

- Conducted research on color space and human color perception, utilizing Python for test equipment interfacing and data analysis. Additionally, engineered fixtures to optimize experimental equipment.Mechanical Design Engineer

Wire Harness Assembler Seasonally Jun 2017 - Jan 2023

- Manufacturing wire harnesses using technical drawings to high-quality specifications

RELEVANT CLASSES & ASSOCIATED PROJECTS

- Circuit Modeling I&II
- Electric and Magnetic Fields
- Engineering Physics Senior Design[1]
- Engineering Quantum Mechanics[2]
- Intro to Software Engineering[3]
- OOP & Data Structures I&II
- OO Analysis & Design[4]
- Operating Systems
- Real-Time Embedded Systems[5]
- Sensors Lab[6]

1. **Pre-Writing Pen:** Developed a machine-learning-enabled pen housing to facilitate pre-writing skills in developmentally delayed or young students. Contributed to training the ML model, designed the integrated circuitry, and led a comprehensive redesign of the mechanical system to meet project constraints.

2. **Quantum Well Superlattice:** Utilized class-acquired knowledge to develop a MATLAB application that models the probability function of a quantum superlattice.

3. **AI Story Game:** Developed an AI-driven interactive game combining Mad Libs with generative storytelling, and supplemented with dynamically generated images. Utilized Python for backend logic and Qt for the graphical user interface.

4. **Battle Pets:** Developed a game featuring pets with unique skills and weaknesses. Employed Object-Oriented Programming, design patterns, and polymorphism in the coding process, while practicing team management and utilizing version control for effective collaboration.

5. **Coil Gun:** Developed a real-time embedded system using a Raspberry Pi Pico with FreeRTOS to interface with custom-designed H-bridge circuit boards for optimized performance.

6. **RPM Sensor:** Developed an RPM sensor using Arduino and interrupts, integrating an optical sensor through custom circuit design. Implemented real-time RPM data output via a 7-segment display and achieved motor speed control by interfacing with an existing speed controller.

LEADERSHIP

- President of the Pioneer Drone Club at UW-Platteville, led club operations, managed equipment, and coordinated educational events focused on FPV drone piloting. This leadership role was complemented by specialized expertise in designing, building, and piloting FPV drones, in accordance with safety and regulatory standards.

EXTRA-CURRICULAR ACTIVITIES

- Engaged in Campus Clubs: Active member in Pioneer Drone Club, Society of Automotive Engineers - Aero, Society of Physics Students, and Amateur Radio Club at UW-Platteville.
- Plastic Recycling Research: Worked with Dr. Jodi Prosise at UW-Platteville on sustainable plastic recycling in developing countries. Developed components for a plastic extruder and shredder.
- Skilled in 3D Printing: Experienced in assembling, calibrating, and troubleshooting 3D printers.