PATRICK NOWAKOWSKI

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OBJECTIVE

Internship or full-time related to computer system design and engineering, interested in product design and new architecture.

EDUCATION

University of Wisconsin - Madison	**University of Wisconsin - Madison**
B.S. Computer Engineering	May 2024	M.S. Electrical Engineering	May 2026
Double Major: Computer Sciences	Advisor: Daniel Ludois
GPA: 3.7 / 4.0 Dean's List: 3 Semesters	

Highlight Coursework: Digital System Design & Synthesis, Computer Architecture, Power Electronics

EXPERIENCE

WEMPEC | University of Wisconsin - Madison
Undergraduate Researcher | September 2022 – Present
- Developed embedded systems firmware for control of advanced motor drives
- Worked on circuit board design, fabrication/assembly, and testing
- Designed Xilinx IP blocks for FPGA and wrote corresponding C driver code

Plexus Corp. | Neenah, WI
Digital Engineering Intern | June 2023 – August 2023
- Developed hardware testing and debugging skills on supercomputer project, focused on RGMII for Gigabit Ethernet
- Worked on 3U CubeSat project as designer for On-board Computer PCB and interim Project Manager

Constellation Energy | De Pere, WI
IT Architecture Intern | June 2022 – August 2022
- Assisted in building real-time clean energy matching platform using Azure and Microsoft SSMS

Electrical & Computer Engineering Department | University of Wisconsin - Madison
Undergraduate Student Teaching Assistant | September 2021 – Present
- Assisted teaching introductory computer engineering, signals, Verilog HDL, and circuit analysis courses
- Facilitated discussions, and answered individual and group student questions on in-class learning exercises

Associated Bank | Green Bay, WI
IT Service Delivery Intern | May 2021 – August 2021
- Received hands-on experience in on-premise vs cloud infrastructure models
- Cataloged server maintenance scripts for version control, developed standards and documentation for corporate GitHub

ACADEMIC DESIGN PROJECTS

Advanced Motor Drive Control – Digital-to-Analog Converter Expansion PCB (Independent Study Project)
- Learned Altium PCB design software and created updated I/O interface for motor drive DAC expansion board
- Ordered components for PCB assembly and design verification testing

RISC-V Processor Design (Computer Architecture Course Project)
- Designed 5-Stage Pipelined Processor with Cache System for RISC-V Instruction Set Architecture

SKILLS

Design: SolidWorks CSWP, Ultimaker Cura, Altium, Vivado/Xilinx SDK, LTSpice, 3D Printing (FDM, SLA)
Technical: Microcontrollers (TI, Arduino, STM32, with FreeRTOS), RISC-V, Git, Java, C/C++, C#, Python, Verilog, Matlab

ACTIVITIES

Head PAC Sound Technician: Console operator, led sound team in high school, assisted in set design and construction
Rubik's Speedcubing: Attended and competed in World Cube Association competitions throughout the Midwest