

Josh Stockin

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Education

- **University of Illinois Urbana-Champaign** Technical GPA 3.97 / 4.00 *August 2022 – December 2025*
B.S. in Systems Engineering, Minor in Computer Science Champaign, IL
Member of the *Institute of Industrial and Systems Engineers (IISE)*

Work Experience

- **Milwaukee Electric Tool Corporation** *June 2024 – August 2024*
Firmware Engineering Intern, System Integration Support Brookfield, WI
 - Worked for 10 weeks on an engineering support team extending resources for troubleshooting, bug fixes, and feature requests to product development and testing teams company-wide
 - Contributed changes and fixes to 8 products across 3 business units
 - Provided firmware support on tool hardware design changes saving at least **\$3,000,000/yr** across 12 products
 - Implemented firmware that saves a GPIO pin on M18 platform design, reducing hardware cost and complexity
 - Migrated System Integration team's VCRM generator tool away from a deprecated Jama API
- **Milwaukee Electric Tool Corporation** *June 2023 – August 2023*
Firmware Engineering Intern, Advanced Charger Platform Development Brookfield, WI
 - Worked with a team of electrical and computer engineers for 10 weeks to develop a new charging system for the company's M18 Li-ion battery platform
 - Helped set precedent for writing and testing UL 60730-compliant (Class B) protection-critical firmware
 - Reduced subsystem code size by 50% while increasing speed and extending functionality
 - Employed methods of test-driven development by automating unit tests with GoogleTest
 - Product expected to launch in 2025 with more than 100,000 units sold per year
- **Reed-Custer High School** *August 2021 – August 2022*
Associate, Information Technology (IT) Braidwood, IL
 - Performed district-wide systems administration duties with Windows Server, Microsoft Azure, MSSQL, and related management technologies
 - Earned certification in servicing HP commercial end user desktops, workstations, and laptops

Independent Technical Projects

- **ESPy (Remote-Controlled Snow Plow)** *November 2018 – Present*
Experience: Firmware Engineering, Robotics, Embedded Systems, Power Electronics, Motor Control
 - Engineered a remote-controlled snow plow to push snow and salt pavement
 - Designed and assembled electrical system/robotics with 12V batteries, electric wheelchair motors, linear actuators, motor controllers, radio receiver, and a microcontroller
 - Programmed an ESP32 dual-core microcontroller with C language, ESP-IDF, and FreeRTOS
 - Ongoing project to design a single PCBA with on-board battery charging, motor control, and peripherals
- **Zydeco (World Generation/Simulation)** *August 2023 – Present*
Experience: Computer Graphics and GPGPU Programming, Multithreading, SOLID Design
 - Hobby experiment in C++, graphics programming, procedural generation, and world simulation
 - Efficiently used C++ to abstract OpenGL API with SOLID design principles

Honors & Awards

- 2023-2024 UIUC Grainger College of Engineering Dean's List for Academic Excellence
- 2022 National Merit Scholarship Finalist
EIU Academic Challenge for Engineering and Science – 3rd Place in State for Computer Science
- 2021 Illinois State Scholar