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)*
  Project Team Leader in *SE 261, ECE 110, SE 101*
- **Reed-Custer High School** GPA 4.12 / 4.00 *August 2018 – May 2022*
  Secondary Education Braidwood, IL

Work Experience

- **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
  - Ported documentation to Sphinx platform to consolidate resources and expedite development
  - 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
  - Fulfilled device distribution and management, cable runs, and computer lab and camera installations

Personal Technical Projects

- **ESPy (Remote-Controlled Snow Plow)** *November 2018 – Present*
  Experience: C Language, Microcontroller Programming, Robotics, Embedded Systems, Electrical Design
  - 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
- **Zydeco (World Generation/Simulation)** *August 2023 – Present*
  Experience: C++, OpenGL Graphics 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
  - Created structures for multithreading to separate input event handling, simulation/game logic, and rendering
- **resty-gitweb (OpenResty-based HTTP Server and Website for Git)** *December 2020 – March 2021*
  Experience: LuaJIT, C Language, Git, HTTP
  - Developed a website backend using nginx and OpenResty to deliver HTTP web pages for Git
  - Utilized LuaJIT and its C FFI to optimize performance with libgit2

Honors & Awards

2023 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