Daniel J. Schnieder

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Education

The Ohio State University — Columbus, OH
B.S. Electrical and Computer Engineering, Computer Engineering Program of Study — *Aug. 2022 – May 2026*

Elder High School — Cincinnati, OH
High School Diploma (Honors) — *Aug. 2018 – May 2022*

Projects

Wireless Telemetry System for Solar Car | *Arduino, LoRa, Python, SQL, GitHub* — Sept. 2024 – Present

- Designing and implementing a wireless telemetry system to transmit CAN data from the solar car's battery management system and motor controller using RP2040-LoRa and MCP2515.
- Programming a Raspberry Pi Pico and ESP32 in Arduino IDE to transmit and receive data across 3+ kilometers.
- Creating a web-based dashboard, using React.js, SQL and pySerial, to display real-time data, including battery performance metrics and motor statistics, enhancing analysis and diagnostics.
- Optimizing data transfer speed and stability to ensure low latency and high reliability in a racing environment.

Personal Portfolio Website (danielschnieder.xyz) | *HTML, CSS, JavaScript, GitHub* — Dec. 2024 – Present

- Developing a fully organized and responsive personal portfolio website to effectively highlight academic achievements, technical projects, and professional experience as a computer engineering student.
- Implementing interactive and dynamic elements using JavaScript to create an engaging user experience with smooth navigation and intuitive design.
- Utilizing GitHub for version control and deployment, ensuring continuous improvements and accessibility.

Extracurricular Activities

Buckeye Solar Racing (Telemetry Lead) — Aug. 2023 – Present
The Ohio State University — *Columbus, OH*

- Leads a team of five students to design an efficient telemetry system for the solar car that reads, parses, and transmits data from the solar car's battery management system and motor controller using CAN bus protocol.
- Participates in leadership meetings, presents progress to team weekly, meets strict deadlines, and works on the solar car at the Center for Automotive Research for 10-15 hours per week.
- Recruits and mentors new members, organizes workshops and info-sessions on telemetry, assigns tasks to develop their technical skills, and prepares them for future leadership roles within the team.

Work Experience

ECE Laboratory Monitor — Jan. 2025 - Present
The Ohio State University — *Columbus, OH*

- Guides 50 students per session through hands-on experiments on topics such as resistor networks, first- and second-order response, and operational amplifier circuits, fostering a practical understanding of core electrical engineering principles.
- Demonstrates proper use of laboratory equipment, including oscilloscopes, function generators, digital multimeters, and soldering irons, while ensuring students follow safe and effective soldering practices.
- Assists students in troubleshooting circuits, addressing questions, and providing feedback, while encouraging the development of problem-solving skills and independence.
- Oversees the lab space by maintaining 40 workstations, enforcing safety protocols, and grading 20 lab result sheets weekly, ensuring a safe and productive learning environment.

Technical Skills

Software: SOLIDWORKS, TinkerCAD, KiCAD, TopSpice, LabVIEW, Visual Studio Code, Eclipse, Code Composer Studio, Thonny, DrJava, GitHub, Oracle Virtual Machine, Godot Engine, GameMaker Studio

Hardware: Arduino, Raspberry Pi, ESP32, MCP2515, LoRa998; Computer Assembly & Troubleshooting; BMS & Motor Controllers; CAN Bus Protocol; Serial Communications; Circuit Design and Prototyping; Soldering and Crimping

Languages: Java, C/C++/Embedded C, Assembly, Python/MicroPython, SQL, JavaScript; German Language (A2)

Coursework: Computer Architecture & Design, Advanced Digital Design, Microcontroller-Based Systems, Discrete Signals & Systems, Analog Systems & Circuits, Discrete Structures, Advanced C Programming