Daniel J. Schnieder

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Education

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

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

Experience

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

- Lead a team of 50+ students in the design, integration, and testing of all electrical systems for the team's solar car, including battery, driver controls, high-voltage, solar array, and telemetry.
- Oversee project timelines, delegate tasks, and present progress to leadership and executive members, ensuring readiness for competition in the Formula Sun Grand Prix (FSGP) and American Solar Challenge (ASC).
- Recruit, mentor, and train new members on embedded systems, circuit design, and high-voltage safety during weekly meetings at the Center of Automotive Research.

Undergraduate Research Assistant — May 2025 - Present
The Ohio State University — *Columbus, OH*

- Conduct reliability testing of SiC MOSFETs for Ford Motor Company, including pretesting, high-temperature stress, and recovery analysis to assess long-term performance.
- Operate Keysight B1506A analyzers and TDDB setups, using Easy Test Navigator/Expert software for automated testing and data reporting.
- Build and maintain test hardware by soldering MOSFET adapters and repairing TDDB systems for repeated use.

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

- Guided 50 students per session through hands-on experiments in resistor networks, system response, and op-amp circuits, reinforcing core electrical engineering concepts.
- Demonstrated and oversaw safe use of oscilloscopes, function generators, multimeters, and soldering equipment, assisting students in troubleshooting circuits.
- Maintained 40 lab workstations and grade 20 lab reports weekly, ensuring a productive and safe learning environment.

Projects

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

- Designed a wireless telemetry system to transmit CAN data from the solar car's battery management system and motor controller using RP2040-LoRa and MCP2515.
- Programmed Raspberry Pi Pico and ESP32 for multi-kilometer data transmission, and built a React.js/SQL dashboard for real-time performance metrics.

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

- Built a responsive portfolio website highlighting projects and experience, using JavaScript for interactivity and GitHub for version control and deployment.

Technical Skills

Software: SOLIDWORKS, TinkerCAD, KiCAD, EasyEDA, TopSpice, LabVIEW, Easy Test Navigator, EasyEXPERT, Arduino IDE, Visual Studio Code, Eclipse, Code Composer Studio, GitHub, Oracle Virtual Machine, UltiMaker Cura.

Hardware: Arduino, Raspberry Pi, LoRa, ESP32, RP2040; Power Device Analyzer/Curve Tracer; TDDB Setups; BMS & Motor Controllers; CAN Bus Protocol; Circuit Design and Prototyping; Soldering and Crimping; 3D Printing.

Languages: Java, C/C++/embedded C, Python, Assembly, JavaScript, SQL, Flask, MATLAB, VHDL, R, HTML/CSS.

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