Thomas Schmidt

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Objective

Seeking a full-time job in Embedded systems, Full-stack Development or Software Engineering where I can apply hands-on experience with Back-end, Web development, Modbus/DNP, and SCADA simulation tools.

Core Competencies:

Full-Stack Development   —   Python   —   FPGA Design   —   SCADA   —   Modbus/DNP

Education

University of Idaho, Moscow, ID
Bachelor of Science in Computer Engineering   Graduated December 2025

Portfolio

View selected projects, code samples, and technical documentation at:
`TWi5td.github.io/thomas-schmidt-portfolio`

Technical Skills

- **Programming Languages:** Python, C, C++, Rust, GDScript, HTML, CSS, Bash, R, NetLogo, Latex

- **Hardware Description Languages:** VHDL, Verilog, AVR (ATmega328), MIPS32 (PIC32)

- **Software & Tools:** Git, VS Code, Vivado 2016.4, Cadence, Microsoft Excel/PowerPoint

- **Systems:** Linux, WSL, Windows

- **Engineering Concepts:** Embedded systems, electrical circuits, FPGAs, power systems, relays

Experience

Capstone Project – Project Lead   Spring 2025 – Fall 2025

- Leading a team in designing and implementing a low-cost Modbus/DNP simulation device using Raspberry Pi units.

- Creating configuration tools and data generation interfaces to emulate substation IEDs polled by an SEL RTAC.

- Managing configuration distribution, real-time communication over Ethernet/RS-232, and SD card storage.

Assembler - Schweitzer Engineering Laboratories , Moscow, ID   August 2025 – Present

- Prepared printed circuit boards for solder mask as an operator. Cleaned, troubleshooted, and calibrated machinery for the operation of the solder mask line. Inspected panels for defects and non-conformity's.

- Prepared Fiberglass panels bonded with copper for DES line as an operator. Cleaned and troubleshooted pre-clean chem line, laminator, imaging, developer, etcher, and stripper for DES line. Inspected line width for the proper etching of each board.

Painter – Flats @ Terre View LLC, Pullman, WA   May 2022 – Present (Summers)

- Painted interior walls and ceilings of apartments with precision and attention to detail.

Sides Cook – Panda Express, Moscow, ID   August 2022 – May 2025

- Prepared side dishes to order and for food lines, managing high-volume orders efficiently.

Assistant Manager – Little Caesars, Coeur d'Alene, ID   August 2019 – March 2020

- Led a team in customer service, inventory, and daily operations.

Contractor – Hoffman LLC, Coeur d'Alene, ID   Sept 2018 – June 2019, Summer 2021

- Installed roofs and gutters with focus on safety and structural quality.

Projects

Music Genre Classification - Machine Learning for Python Undergraduate Project

- Developed machine learning models to classify songs into genres using audio feature extraction and supervised learning techniques.

- Implementing rule enforcement, game state handling, and AI move generation.

AI-Powered Chess Application – Rust / Programming Languages Project

- Developed an AI chess engine in Rust for academic evaluation of programming language paradigms.

- A complete machine learning system for classifying music genres from audio files, featuring both traditional ML baselines and deep learning with CNN. Includes a web-based interface for easy interaction.

Mealy FSM GCD Implementation (Vivado 2016.4)

- Designed a GCD algorithm using a Mealy FSM and implemented it on a Zybo FPGA.

- Interfaced via physical switches and buttons for demonstration and testing.

Multi-threaded Producer-Consumer System in Rust

- Built a file-based producer-consumer system using Rust threads and channels for synchronization.

- Emphasized safety and concurrency using Rust's type system and ownership model.

Certifications & Achievements

- Certified IPC Specialist - IPC-A-600 Acceptability of Printed Boards

- Adobe Certified Professional (Photoshop, Illustrator)

- Eagle Scout – Led construction of an announcer box for Finucane Park, Hayden, ID

Leadership & Involvement

- Capstone Project Lead – Coordinating embedded software and mechanical design teams.

- Musician – 18 years piano, trumpet in marching band, jazz band selectee.

Additional Information

- Available for full-time roles. Passionate about computer hardware, software debugging, and learning more each day.

- Comfortable lifting 40+ lbs and working 8-hour physical shifts.

- Experience with detailed inventory tracking and task documentation.

- Proven ability to train peers and lead small project teams.