

# 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](https://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 nonconformity's.
- Prepared Fiberglass panels bonded with copper for DES line as an operator. Cleaned and troubleshooted pre-clean chemical 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.

**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.