AARON GROSSMAN

COMPUTER ENGINEER · FPGA VERIFICATION · EMBEDDED SYSTEMS

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ACTIVE U.S. SECRET SECURITY CLEARANCE

EDUCATION

Virginia Tech · B.S. Computer Engineering — Expected 2026

In-major GPA: 3.42/4.00 · Dean's List · Admitted to the Accelerated M.S. in Computer Engineering

Focus: digital systems, FPGA/ASIC design, hardware verification, embedded systems

ENGINEERING EXPERIENCE

Owl Cyber Defense · FPGA Engineering Intern — Summers 2024–2026

- Contributed to FPGA verification for a data-diode product used in classified-network and critical-infrastructure environments using SystemVerilog, UVM, Vivado, formal methods, and Cadence Xcelium.
- Designed and verified a management interface integrating Xilinx Ethernet MAC IP on Spartan-7 hardware across multiple clock domains, AXI4 flows, and proprietary IP.
- Verified GPIO and management behavior, surfaced design issues before hardware integration, and demonstrated an Ethernet-controlled RAM/LED flow in a company-wide presentation.

Moog Space & Defense · Embedded Systems Co-op — Jan–Jun 2025

- Developed MSP430 firmware and an XMDIO-over-SPI control path to configure a Marvell four-port 10 GbE PHY for a next-generation media converter.
- Supported prototype bring-up and failure analysis with 100 GS/s oscilloscopes, EXFO network testers, optical power meters, thermal imaging, and Wireshark; structured the firmware for reuse as the design matured.

SELECTED PROJECTS

Wardrowbe MCP · Security-first agent interface — Python · 2026

- Built 22 typed MCP tools with read-only defaults, explicit write opt-in, bounded and sanitized responses, rotating token-file support, Docker packaging, and 28 passing protocol and transport tests.

Joplin session renewal · Open-source reliability fix — Go · 2026

- Reworked headless authentication so expired Joplin Server sessions renew cleanly in long-running sync infrastructure; added 221 lines of targeted tests in a 334-line patch.

BAJA SAE steering position sensor — Embedded · 2022–2024

- Built a Hall-effect steering sensor with analog conditioning, a custom KiCad PCB, TI microcontroller firmware, and CAN output; team placed 3rd among 100+ teams nationally.

LEADERSHIP

Virginia Tech College of Engineering Dean's Team · Ambassador — 2023–2026

- One of 40 student ambassadors; led engineering information sessions, open houses, and Q&A; for audiences from 5 to 3,000; selected for a featured online information session.

Juxtaposition A Cappella · President — 2022–Present

- Led the group to its first ICCA quarterfinal appearance and helped sell 430+ tickets generating $6,000+ in direct event revenue.

TECHNICAL SKILLS

RTL / Verification: SystemVerilog, Verilog, UVM, formal verification, Cadence Xcelium, Vivado, Quartus, Virtuoso

Embedded / Software: C/C++, Python, Go, MSP430, SPI, XMDIO, CAN, UDP/TCP, Git, Bash, RHEL Linux, TCL

Hardware / Lab: KiCad, Wireshark, LTspice, MATLAB, oscilloscopes, network test, optical power, soldering