Jeda Williams

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EDUCATION

Vanderbilt University **Nashville, TN**

B.S. Electrical and Computer Engineering | Minor: Engineering Management *Expected May 2027*

Extracurricular Activities: NSBE, SWE, Vanderbilt Volunteers for Science, 'Dore for a Day Representative, SCALE, IEEE

Relevant Coursework: Circuits, Electronics, Analog Circuits & Systems, Microcontrollers, FPGA Design, Digital Systems

PROFESSIONAL EXPERIENCE

Flock Safety **Atlanta, GA**

Electrical Engineering Intern *May 2026 - September 2026*

- Designed and built a flight-test data acquisition system for a 3-axis gimbal UAV flight-test bench capturing 50+ performance metrics for 4 engineering teams; owned architecture, instrumentation, supplier coordination, procurement, integration, and validation.
- Enabled ground-based testing of in-flight dynamics, reducing flight-range trials and the hardware repairs and schedule delays that came with them; wrote test procedures and documented results.
- Developed a Python telemetry application that time-synchronized PX4/MAVLink, CAN/UAVCAN, and serial sensor data, replacing separate QGroundControl, PlotJuggler, and analysis workflows and cutting post-test analysis time by 2 hours per debugging session.
- Built the bench's data collection system, supporting up to 10 sensors (previously none) through custom slip rings for continuous rotation on the gimbal; integrated telemetry, motor/ESC data, 3-axis position, and 6-axis force/torque measurements.
- Designed a 4-layer custom PCB interface board in Altium to connect UAV avionics to test instrumentation and other flight modules, including level shifting, circuit protection, and power distribution.

iD Tech **Atlanta, GA**

BattleBots Instructor *June 2025 - July 2025*

- Directed daily BattleBots workshops guiding students through the full engineering design process—from brainstorming and prototyping to testing—while applying STEM concepts including gear ratios, torque, and structural stability.

LEADERSHIP EXPERIENCE

Theta Tau Engineering Fraternity, Iota Delta Chapter **Nashville, TN**

Lead Professional Development Chair *January 2024 - May 2025*

- Organized 3+ workshops per semester on resumes, LinkedIn, and interview preparation.
- Partnered with other organizations on 4 joint networking events, drawing 100+ attendees and recruiters from 7 companies.

PROJECTS

FPGA VGA 2048 Game **Nashville, TN**

Lead Team Member *January 2026 - May 2026*

- Designed and implemented a 2048 game in VHDL on a DE2-115 FPGA, with game-state storage, tile movement and merge logic, and real-time VGA output.
- Built combinational and sequential logic to update the 4×4 game-state register array in response to directional user inputs; built the VGA display controller, generating sync timing and rendering the tile grid and numbers on screen.

Tiny Tapeout IC Design **Nashville, TN**

Team Member *January 2025 - December 2025*

- Created and validated a ring-oscillator-based IC test structure with CAD; performed 15+ corner, parasitic, and Monte Carlo simulations in LTspice to characterize frequency drift and timing behavior under variation.

TECHNICAL SKILLS

PCB, IC & Hardware: Schematic Capture, SPICE/LTspice, Altium Designer, Multilayer PCB Layout and Routing, Component Selection, Datasheet Interpretation, Signal Integrity, Soldering and PCB Rework, BOMs, Test documentation/planning, EMI

Embedded & UAV: STM32, C/C++, Python, Arduino, Raspberry Pi, Pixhawk/PX4, CAN/UAVCAN, I2C, SPI, Microcontrollers, MAVLink, UART/Serial, Data Acquisition and Instrumentation

Digital Design: Verilog, VHDL, FPGA Design, VLSI/IC Design, Quartus Prime, Cadence Virtuoso

Test & Development Tools: Signal Generators, Oscilloscopes, Logic Analyzers, Digital Multimeters, Bench Power Supplies, Circuit Debugging, Wire Harnessing and Crimping, Linux, Git/GitHub, Jira, Confluence, Slack, QGroundControl, Microsoft Office