

Adam Drihany

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Electrical Engineering student focused on embedded hardware, platform validation, and autonomous systems

EDUCATION

University of Michigan, Ann Arbor, MI

August 2025 – May 2029

B.S.E., Electrical Engineering GPA: 3.49/4.00

- Honors: College of Engineering Honors Program; Dean's Honor List Fall 2025
- Current Coursework: EECS 215 (LTspice, MATLAB, circuit analysis & instrumentation), EECS 270 (Verilog, FPGA, digital logic), EECS 200 (sensors, controls, system integration), Physics 240/241 (E&M)

Shanghai Jiao Tong University Global College, Shanghai, China

May 2026 – August 2026

International Program in Engineering, Academic Exchange

- Relevant Coursework: EECS 280 (C++, OOP, data structures, algorithms, pointers & dynamic memory), Calculus III

EXPERIENCE

Radiation Health Engineering Laboratory, University of Michigan

Ann Arbor, MI

Lead Undergraduate Researcher

September 2025 – Present

- Conceived Atlas Falcon, a \$1,200 modular hybrid VTOL UAV for autonomous radiation mapping
- Lead development of the flight-tested platform, integrating PX4-based flight control, onboard computing, modular sensor payloads, avionics, and power systems
- Architected a distributed environmental-awareness system using ToF/LiDAR sensor fusion, achieving 207° obstacle-detection coverage for \$60
- Engineered a propulsion-driven passive thermal-management system reducing onboard SBC temperatures by 12 K
- Delivered first-author oral presentation at the 2026 Health Physics Society Annual Meeting; awarded a travel grant

XPEN (startup)

Casablanca, Morocco

Co-Founder & Lead Electrical Systems Engineer

March 2022 – January 2025

- Developed an AI-powered educational device for automated note-taking and personalized academic assistance
- Led embedded Linux development using Python and Buildroot, integrating OpenAI APIs for contextual processing and user assistance
- Designed 8+ hardware prototypes with precision motion control and calibration algorithms for handwriting replication
- Secured a \$50K investment offer, delivered an investor-ready prototype, and initiated a hardware patent process

TECHNICAL PROJECTS

Hardware Platform Validation and Thermal Optimization

August 2021 – February 2025

- Validated multiple high-performance workstation platforms against thermal constraints, using real-time telemetry to guide hardware optimization and firmware tuning
- Iterated through 12+ cooling designs to address thermal and acoustic limitations, culminating in a triple-radiator system with 1,500 W thermal capacity that reduced peak temperatures by 13 K and noise by 10 dB

Idasen Desk Controller

July 2025 – August 2025

- Created an IoT system simplifying human-object interaction by making IKEA Idasen desks programmable through custom APIs
- Reverse-engineered BLE communication and built an embedded Linux controller with sub-2 ms response time, WebSocket status updates, and automated system startup

SKILLS

- **Programming:** C, C++, Python, Verilog, MATLAB, Assembly, Bash, JavaScript, HTML/CSS
- **Hardware:** Oscilloscope, Digital Multimeter, Soldering, Serial Protocols, Linux SBCs, Power Distribution
- **Design & Fabrication:** Fusion 360 (CAD/FEA), FDM 3D Printing, PrusaSlicer, Wiring Harness Fabrication
- **Tools & Platforms:** Git, Linux (Ubuntu/Debian), Buildroot, QGroundControl
- **Frameworks:** Flask, React Native, WebRTC, OpenCV, Socket.IO
- **Languages:** English, French (Native), Arabic (Native), Spanish (Beginner)