Noah Wiley

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EDUCATION

Massachusetts Institute of Technology (Class of 2026) Cambridge, MA
- Candidate for Bachelor of Science in Electrical Engineering and Computer Science
- *GPA:* 5.0/5.0 | *Relevant Coursework:* Digital Systems II, Operating Systems, Computer Networks, Software Construction, Design and Analysis of Algorithms, Probability, Statistics, Tiny ML, Signal Processing, Dynamics & Controls, Circuits

WORK EXPERIENCE

Electrical Engineering Intern - Safety-Critical Hardware & Software San Carlos, CA
Joby Aviation *June 2025 – August 2025*
- Spearheaded full-cycle development of a safety-critical inflight wireless sensing system under urgent timeline
- Cut 2 weeks from project timeline through precise design and 100% yield manual PCB assembly
- Engineered real-time sensing and telemetry firmware; cut power by 93% while tripling range on sub-½ in² PCB
- Optimized part selection and schematic for noise rejection, AEC compliance, flexibility, and coin cell operation
- Characterized signal and power behavior of custom hardware to support FAA DO-254 and DO-160 compliance

Researcher - Energy Efficient Hardware-Software Co-Development Cambridge, MA
MIT LEAN (Prof. Vivienne Sze and Prof. Sertac Karaman) *May 2024 – Present*
- Reduce perception energy for autonomy; design and test custom algorithms and FPGA hardware accelerators
- Delivered an ultra-efficient autonomous robotic car platform to test perception and motion planning algorithms
- Engineered a remote compute and vision stack enabling perception; seamlessly integrated SLAM and real-time DNNs
- Modularized codebase leveraging Docker; Achieved full native support for all dependencies while reducing power by 25%
- Verified, documented, and demonstrated system running energy efficient motion planning at MIT CICS

President Cambridge, MA
MIT Interfraternity Council *December 2024 – Present*
- Direct 25 fraternities (~¼ of MIT undergraduates), coordinating policy and governance with MIT and city officials
- Improve community relations and philanthropy through streamlined communication and initiatives

Co-Founder - Edtech and Ecommerce San Francisco, CA
UniAve and KoolYard *January 2024 – Present*
- Co-founded edtech and ecommerce startups; developing architecture and applying ML for engagement and content safety
- Advise and develop product strategy, student outreach, and user testing to make rapid modifications and upgrades

Instructor and Tutor - Machine Learning Cambridge, MA and Como, Italy
MIT Intro ML and Italian High School *January 2024 – May 2025*
- Designed and taught ML curriculum for MIT and international students, adapted complex concepts to varied backgrounds
- Provided mentorship and one-on-one tutoring that improved student outcomes and fostered long-term interest in ML

Researcher - RFID SAR Micro-Localization Cambridge, MA
MIT Signal Kinetics (Prof. Fadel Adib) *September 2023– May 2024*
- Increased scan speed by 40%; developed online decoding algorithm and embedded C for RFID Synthetic Aperture Radar
- Interleaved time-sensitive setup and active times of SPI devices to maximize duty cycle using Raspberry Pi and STM32

Researcher - Generative AI and Counterfactuals Cambridge, MA
MIT DeCoDE Lab (Prof. Faez Ahmed) *February 2023 – September 2023*
- Developed computer vision pipeline for ASME conference demo and paper to generate optimized bike CAD designs
- Reduced CFD runtime by 99.999% with 95% accuracy; trained, analyzed, and optimized 20+ architectures as surrogates
- Integrated key ergonomic parameters from literature to improve quality of generated designs

TECHNICAL PROJECTS

FPGA LED Display - 2025 MIT EECS Nortel/BNR Award *November 2024 – December 2024*
- Autocalibrating display using unconstrained layouts of single wire LED strands built on Xilinx Spartan 7
- Features custom log(n) camera only calibration with deadzone compensation, HDMI output, and real-time video mapping

Custom Wireless Lighting System *August 2023 – Present*
- Delivered distributed real-time lighting system in congested environments using ESP32, Raspberry Pi, and UDP networking
- Optimized for low-latency; designed custom fixtures and unified hardware into centralized robust system with QLC+

Electric UTV Conversion *June 2021 – March 2022*
- Led full-cycle conversion of ICE vehicle to electric power; delivered functional vehicle with 2x output (22→42 hp)
- Designed and validated electrical architecture for efficiency, safety, and reliability under sponsor requirements
- Secured funding, coordinated multi-person team, and delivered functional vehicle meeting all technical and timeline goals

SKILLS AND INTERESTS

- **SKILLS:** FPGA/Verilog, Altium, PCB Design, Oscilloscopes, Logic Analyzers, Python, C/C++, Typescript, PyTorch, TensorFlow, ROS, Docker, Linux, Rapid Prototyping, Arduino, Soldering, CAD, Battery Systems, Mandarin
- **INTERESTS:** Road Biking, Espresso, Ceramics, Tutoring, Photography, Drones, Delta Tau Delta