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, Masters of Engineering (2027)
- *GPA:* 5.0/5.0 | *Relevant Coursework:* Design and Analysis of Algorithms, Efficient Deep Learning (G), Dynamics and Controls, Sensorimotor Learning (G), Digital Systems, Machine Learning (Lab Assistant), Probability, Statistics, Linear Algebra

WORK EXPERIENCE

Co-Founder of KoolYard San Francisco, CA
Social event planning platform connecting event planners with vendors and caterers *January 2024 – Present*

- Develop and advise product strategy, business development, and technical architecture ensuring timely launch of MVP
- Identify applications for machine learning to increase user engagement and pinpoint inappropriate content
- Conduct student outreach and user testing to make rapid modifications and development

Ultra-Efficient Robotic Perception and Planning, MIT LEAN Cambridge, MA
Researcher under Professor Vivienne Sze and Professor Sertac Karaman *May 2024 – Present*

- Developed entire remote compute and vision stack, enabling intensive autonomy processes on ultra-low power robots
- Design and analyze selective perception and motion planning algorithms for dynamic maps, reducing computation
- Integrated SLAM and depth+uncertainty estimation with sub-second latency by strategically offloading data with TCP/IP
- Refactored code leveraging Docker; achieved full native support for ROS, PiCamera, and single command launch

RFID SAR Micro-Localization, MIT and Cartesian Systems Cambridge, MA
Researcher under Professor Fadel Adib *September 2023– May 2024*

- Developed linear decoding algorithm and embedded controls for RFID Synthetic Aperture Radar; increased scan speed by 40%
- Created C/C++ controls leveraging SPI to interface between STM32, RPi, and custom hardware and analyzed with oscilloscope

Generative AI and Counterfactuals, MIT MechE Cambridge, MA
Researcher under Professor Faez Ahmed *February 2023 – September 2023*

- Developed AI pipeline for ASME conference demo and paper with TensorFlow and YOLO CV to generate bike CAD designs
- Trained and analyzed 20+ models as CFD surrogates with Scikit-learn and Pandas, cutting runtime by 10^5 with 95% accuracy
- Identified and integrated key ergonomic parameters from literature and experience to improve quality of generated designs

AI Robotics SuperTech FT San Francisco, CA
Assistant and Student Intern *June 2023 – August 2023*

- Presented emerging brainwave monitoring hardware to directors of a Deloitte Fast 500 company
- Invited to return as a teaching assistant to teach about ROS, computer vision, and machine learning

Electric UTV Conversion San Francisco, CA
Head of Management and Engineering *June 2021 – March 2022*

- Converted utility vehicle from combustion to electric power (22hp to 42hp) satisfying all sponsor's requirements
- Interviewed potential sponsors, secured funding and workspace, advertised project, and assembled a dedicated team
- Trained members on CAD, welding, soldering, CAN bus, and command line programming and coordinated subteam projects

R&D for Local Business San Francisco, CA
Design and Prototyping Engineer *Spring 2018 – Winter 2018*

- Designed and manufactured components for bag locking mechanism used in high-theft areas with CAD and 3D printing

TECHNICAL PROJECTS

Custom Processor *Summer 2023 – Winter 2023*

- Designed processor from scratch and reduced clock time by 50% experimentally and with pipelining
- Created ALU, shortened critical paths, and optimized memory accesses with Minispec HDL (VHDL inspired) and RISC-V

Club Lighting *Summer 2023 – Present*

- Designed and manufactured custom lighting system using ESP32/8266, RaspberryPi, router, and addressable LEDs
- Enabled reliable wireless communication in high traffic settings via UDP with C/C++ libraries and open source software

Electric Vehicles and Lithium Batteries *Summer 2017 – Present*

- Design and construct electric vehicles and protected lithium battery packs with capacities from 1 Wh to multiple kWh
- Previous electric vehicles include: 2 Electric Skateboards, 2 Electric Bikes, 1 Motorized Cooler, 1 Reverse Engineered Scooter

3D Design, Arduino, and Manufacturing *Summer 2016 - Present*

- Use Fusion360, 3D printing, and other methods to model and manufacture single and multi-component assemblies
- Integrate and program Arduino boards into musical instruments, security systems, and IoT systems

SKILLS AND INTERESTS

- **SKILLS:** Python, C, C++, Typescript, Git, Linux, RISC-V, Verilog, PyTorch, TensorFlow, NumPy, Pandas, Scikit-learn, Arduino, SPI, I2C, Soldering, Oscilloscopes, CAD, DoE, Project Management, Battery Systems, Mandarin
- **INTERESTS:** Tutoring, Photography, Drones, Wake Surfing, Road Biking, Delta Tau Delta, Espresso