

Noah Wiley

EDUCATION

Boston, MA | njwiley@mit.edu | noahjwiley.com | San Francisco, CA

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: Design and Analysis of Algorithms, Digital Systems, Dynamics and Controls, Circuits, Efficient Deep Learning (G), Sensorimotor Learning (G), Software Construction, Probability, Statistics, Linear Algebra

WORK EXPERIENCE

Ultra-Efficient Robotic Perception and Planning, MIT LEAN

Cambridge, MA

Researcher under Professor Vivienne Sze and Professor Sertac Karaman

May 2024 – Present

- Reduce computation for motion planning and perception by designing selective and probabilistic dynamic map algorithms
- Achieved full native support for all dependencies and eliminated connectivity issues; modularized codebase leveraging Docker
- Developed remote compute and vision stack with TCP/IP, enabling intensive autonomy processes on ultra-low power robots
- Verified and documented systems; seamlessly integrated energy efficient motion planning, SLAM, and depth estimation

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

Machine Learning Teaching

Cambridge, MA and Como, Italy

MIT Intro ML Learning Assistant and Italian High School Teacher

January 2024 – Present

- Tutor machine learning subjects for students from MIT, Harvard, and international schools individually and in groups
- Prepare, refine, and teach coursework individually and alongside professors, cultivating encouraging learning environments

RFID SAR Micro-Localization, MIT and Cartesian Systems

Cambridge, MA

Researcher under Professor Fadel Adib

September 2023 – May 2024

- Increased scan speed by 40%; developed linear decoding algorithm and embedded controls for RFID Synthetic Aperture Radar
- Coordinated real-time interactions between RPi, synthesizers, ADCs, and other SPI hardware with STM32 and C/C++

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
- Reduced CFD simulation runtime by 10^5 with 95% accuracy; trained, analyzed, and optimized 20+ architectures as surrogates
- Identified and integrated key ergonomic parameters from literature and experience to improve quality of generated designs

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
- Coordinated subteam projects and trained members on CAD, welding, soldering, CAN bus, and command line interfaces

R&D for Local Business

San Francisco, CA

Design and Prototyping Engineer

Spring 2018 – Winter 2018

- Designed and manufactured 3D printable components for bag locking mechanism still used today in high-theft areas

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:** Robotics, Deep Learning, Verilog, FPGA, cocotb, Python, C, C++, Typescript, Git, Linux CLI, PyTorch, TensorFlow, Rapid Prototyping, Arduino, SPI, I2C, Soldering, Oscilloscopes, Logic Analyzers, CAD, Battery Systems, Mandarin
- **INTERESTS:** Tutoring, Photography, Drones, Wake Surfing, Road Biking, Delta Tau Delta, Espresso