MATAN Z. YABLON

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EXPERIENCE

UROP, **Engineering Quantum Systems Group** (March 2025 – Present)

- Experimented with different filtering, thermalization and attenuation techniques to obtain an optimized setup that can be replicated in the various experiments around the lab. Modeled attenuation in coaxial cables and antenna modes in superconducting qubits via HFSS and NumPy to understand and control thermal noise sources. Developed multiplexed qubit readout capabilities in Python and QUA framework. Work supported by Ralph L. Evans (1948) Endowment Fund.

Student Intern, **Thomas Jefferson National Accelerator Laboratory** (June 2024 – August 2024)

- Assisted in electronics assembly and readout testing for GEM (gas electron multiplier) particle detectors. Conducted low-level electronics testing on APV25 chips and tested GEM detectors by measuring cosmic (background) signals. Assisted in the development of scintillator detectors' readout and cabling, and verifying the readout. Detectors were to be used in the Large Area Detection (LAD) experiment, to understand the internal structure of the nucleus and EMC effect. Newport News, VA.

UROP, **Research Laboratory Electronics** (December 2023 – May 2024)

- Undergraduate Research Opportunity (UROP) through MIT RLE. Advanced creation of ReadNet speech data set, using Praat software for the acoustic analysis of speech and the lab's LEXI phoneme system. Goal was to train a model on the labeled data set to recognize speech via these acoustic cues.

Participant, **MIT PRIMES** (2022 – 2023)

- High school research program. Conducted technical research in machine learning involving strategies to make reinforcement learning algorithms robust. Presented research at MIT in October 2022 and May 2023. Research conducted under Mayuri Sridhar

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA (Aug 2023 – May 2027)

- 4.9/5.0 Pursuing Bachelor of Science in Computer Science (6-3) and Physics (8). Relevant coursework includes 8.06 Quantum Mechanics III, 8.09 Classical Mechanics III, 6.122 Design and Analysis of Algorithms, 18.404 Theory of Computation, 6.1904 Low-Level Programming in C and Assembly

Harvard University Extension School (2021 – 2023)

- Four semesters of Ancient Greek, Beginning Ancient Greek I & II, Intermediate Ancient Greek I & II

HONORS & AWARDS

- Qualified for AIME (2022)
- USA Computing Olympiad (USACO) Silver Rank (2020)
- MIT EECS | Analog Devices Undergraduate Research and Innovation Scholar (2025)
- National Merit Scholarship Finalist (2023)
- National Latin Exam Gold Medal, Summa Cum Laude (2022)
- Massachusetts State Seal of Biliteracy in Latin (with Distinction) and Hebrew (2022)

ADDITIONAL

- *Skills*: Python, NumPy/SciPy, LaTeX, Java, C
- *Languages*: Hebrew, Arabic, Latin, Ancient Greek, Mandarin