

# Milan Lustig

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## EDUCATION

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### Harvard University

Cambridge, MA

*Bachelor of Science, Computer Science*

2025 — 2029

- Courses: Theoretical Linear Algebra & Real Analysis (Math 25), Compilers (CS 1530)
- Analyst, Harvard Undergraduate Capital Partners

### Cold Spring Harbor High School

September 2021 - June 2025

- Valedictorian

## EXPERIENCE

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### Research Assistant, Simons Fellow

May 2024 — Present

Stony Brook University COMPAS Lab

- Leading team of graduate researchers on advanced compilers/architecture & ML acceleration research project
- Full time Research Assistant and Simons Fellow (paid position, <4% acceptance rate).
- Continued collaboration with IBM researchers.

### Lab Member

February 2022 — Present

University of Michigan Future of Programming Lab

- Developed computer science education software used in 2+ university courses (100+ students).
- Contributed to ongoing PhD-level research in programming languages.

### Lab Member

August 2023 — September 2024

New York University Martiniani Lab

- Researched computational physics algorithms, studied graduate-level theoretical physics, and built high performance parallel Rust simulation software.
- Achieved >10x program speedup, enabling adoption in multiple research labs.

## PROJECTS

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### Lead Researcher, MLISA

May 2024 — Present

- Led the development of an MLIR/LLVM-based Torch ML compiler; modified PyTorch, MLIR, LLVM internals.
- Designed novel Instruction Set Architecture (ISA) for ML applications.

### Swo Wants Options (Compiler)

January 2022 — May 2024

- Built a novel compiled programming language in C# with a custom parser frontend and an LLVM backend
- Conducted graduate-level compilers, programming language, and parsing research.

### Founder & President, EraTICKate

April 2023 — August 2024

- Founded and led a \$50k+ grant-winning MIT InvenTeam.
- Developed modern targeted tick mitigation technologies and collaborated with government officials.

## PUBLICATIONS

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- [“A Configurable Compiled Language With Integrated Transpilation”](#), SSRN, Dec 2023.

## AWARDS

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- **Regeneron STS Top 300** (Top 300 of 2400+, compilers research), April 2025
- **ISEF 3rd Place Grand Award** (3rd of 1700 finalists, compilers research), May 2024
- **US Presidential Scholars** (Top 600 out of 3.9 million), May 2025

## SKILLS

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- **Programming Languages:** C++, Java, C#, TS/JS, C, Rust, Python, Reason, OCAML, Kotlin
- **Research Topics:** Compilers, Computer Architecture, PL Theory, Computational Simulation
- **Systems & Tools:** LLVM, MLIR, ARM, RISC-V, Menhir, PyTorch, Git, LaTeX, Linux