

Alek Westover

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Education

Massachusetts Institute of Technology, Cambridge, MA

2022-2025

Bachelor of Science in Mathematics and Computer Science (GPA: 5.0/5.0)

Publications (*In theoretical computer science, it is customary to sort the authors of each paper alphabetically.*)

- Virginia Vassilevska Williams, Alek Westover. Listing 6-Cycles in Sparse Graphs. (ITCS'25)
- Alek Westover, Edward Yu, Kai Zheng. The Diamond Test: A Novel Direct Sum Test. (ITCS'25)
- Nathan S. Sheffield, Alek Westover. When to Give Up on a Parallel Implementation. (ITCS'25)
- Martin Farach-Colton, William Kuszmaul, Nathan S. Sheffield, and Alek Westover. "A Nearly Quadratic Improvement for Memory Reallocation." (SPAA '24)
- William Kuszmaul and Alek Westover. "Scheduling Jobs with Work-Inefficient Parallel Solutions". (SPAA '24)
- William Kuszmaul and Alek Westover. "The Variable-Processor Cup Game". (ITCS '21)
- William Kuszmaul and Alek Westover. "Cache-Efficient Parallel-Partition Algorithms using Exclusive-Read-and-Write Memory." (SPAA '20).

Preprints

- Brian Liu, Nathan S. Sheffield, Alek Westover. Complexity of Multiple-Hamiltonicity in Graphs of Bounded Degree.
- Alek Westover. On the Relationship Between Several Variants of the Linear Hashing Conjecture.

Skills

Fine-tuning and evaluating LLMs; Data science, statistics and machine learning (Python, Julia); Full-stack web development (javascript, Flask / Node.js); C++; Systems engineering (Rust); English (native); Mandarin (fluent).

Experiences

Redwood Research Intern (Supervisor: Vivek Hebbar)

2025 summer

Conducted research on training as an affordance in low-stakes control.

Redwood Research Intern (Supervisor: Joshua Clymer)

2025 spring

Researched how the alignment relevant propensities of LLMs change when they are trained on generic data.

MIT Summer Program in Undergraduate Math Research (Mentor: Kai Zheng)

2024 summer

Received the "Hartley Rogers Jr. Prize" for developing a novel affinity property tester.

Software Engineer Intern at Neon Databases (Serverless PostgreSQL startup)

2023 summer

Systems engineering in Rust: added support for custom Postgres extensions.

MIT UROP (Mentors: Virginia Williams, William Kuszmaul)

2022-2024

Designed and analyzed algorithms and data structures.

Software Engineer Intern at Beacon Biosignals (Healthcare AI startup)

2019-2020

Worked in Julia to prepare large datasets for use in machine learning models (data wrangling).

MIT PRIMES (Mentor: William Kuszmaul)

2019-2020

Canada/USA Mathcamp

2019

Regeneron Science Talent Search

2020

National science fair for high school students, 7th place in USA, \$70,000 prize.

Massachusetts Science Engineering Fair: Second Place Award

2020

Private Tutor (self-employed)

2017-2025

Teach math (e.g., calculus) and programming (e.g., python) to high schoolers and adults.