

## Alek Westover

(617) 893-2894 • [alekw@mit.edu](mailto:alekw@mit.edu) • [awestover.github.io](https://awestover.github.io)

### Education

Massachusetts Institute of Technology, Cambridge, MA	2022-present
Studying math and computer science, Degree expected May 2026	
MIT PRIMES	2019-2020
Research program for high school students, Mentor: William Kuszmaul	
Canada/USA Mathcamp	2019

### Awards

Regeneron Science Talent Search	2020
National science fair for high school students, 7th place in USA, \$70,000	
Project: “Cache-Efficient Parallel-Partition Algorithms using Exclusive-Read-and-Write Memory”	
Massachusetts Science Engineering Fair: Second Place Award	2020
Yau Science Award for Computer Science: Bronze Medal	2019

### Work History

Theoretical Computer Science Research Internship at MIT CSAIL	2020, 2022-present
Private Tutor for math (e.g. calculus) / science / programming (e.g. python)	2017-present
Teaching Assistant, Harvard University	2019-2020
Math-E 23a/c (Linear Algebra, Real Analysis, Multivariable Calculus)	
Software Engineer Intern at Beacon Biosignals (healthcare AI startup)	2019-2020
Research Assistant at Massachusetts General Hospital Sleep Laboratory	2018
Research Assistant at MIT Institute of Medical Engineering Sciences (IMES)	2017

### Publications

William Kuszmaul and Alek Westover. The Variable-Processor Cup Game. In 12th Innovations in *Theoretical Computer Science Conference (ITCS)*, 2021. [10.4230/LIPIcs.ITCS.2021.16](https://arxiv.org/abs/2012.04230)

William Kuszmaul and Alek Westover. Brief Announcement: Cache-Efficient Parallel-Partition Algorithms using Exclusive-Read-and-Write Memory. In *32nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, 551-553, 2020.

Paper: [arXiv:2004.12532](https://arxiv.org/abs/2004.12532), Code: [github.com/awestover/Parallel-Partition](https://github.com/awestover/Parallel-Partition), Visualization: [parallelp.partition.surge.sh/](https://parallelp.partition.surge.sh/)

Alek Westover, David Shapiro, M. Brandon Westover, Matt T. Bianchi. Rule of 100: A Litmus Test for Informationless Diagnostic Tests. *Postgraduate Medical Journal*. 2018 Jun; 94(1112):364-366. PMID: PMC6771257.

### Skills

- Programming:
  - Data science + data wrangling (python: e.g. numpy / julia)
  - Full-stack web development (python / javascript)
  - I have made lots of video games / multi-user applications
  - High performance code (C++ / julia)
- Algorithms:
  - MIT Advanced Algorithms (Graduate level, 6.5210/18.415)
  - Self studied texts covering standard undergraduate curriculum, e.g. “Algorithms” by Jeff Erickson
- Math:
  - Linear Algebra + Abstract Algebra + Multivariable Calculus

- Real Analysis + Functional Analysis
- Complexity Theory
- Chinese: fluent