Alexander W. Lee
Curriculum Vitae

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https://alexanderwlee.com

Education

2024–   Brown Universtiy
             Ph.D. in Computer Science, GPA: 4.00/4.00
             Advisor: Uğur Çetintemel

2018–2022   Amherst College
             B.A. in Computer Science and Mathematics, *summa cum laude*, GPA: 3.95/4.00
             Thesis: DIFFUSR*: Distortion-Free Swap-Randomization for Statistically-Testing Data Mining Results*
             Advisor: Matteo Riondato

Publications and Preprints

All publications and preprints are available from https://alexanderwlee.com/publications

[1]   **Alexander W. Lee**, Justin Chan, Michael Fu, Nicolas Kim, Akshay Mehta, Deepti Raghavan, and Ugur Cetintemel. *Semantic Integrity Constraints: Declarative Guardrails for AI-Augmented Data Processing Systems*. 2025. arXiv: 2503.00600 [cs.DB]

[2]   Maryam Abuissa, **Alexander Lee**, and Matteo Riondato. "ROHAN: Row-order agnostic null models for statistically-sound knowledge discovery". In: *Data Mining and Knowledge Discovery* 37.4 (2023), pp. 1692–1718. DOI: 10.1007/s10618-023-00938-4

[3]   **Alexander Lee**, Stefan Walzer-Goldfeld, Shukry Zablah, and Matteo Riondato. "A Scalable Parallel Algorithm for Balanced Sampling (Student Abstract)". In: *Proceedings of the AAAI Conference on Artificial Intelligence*. Vol. 36. 11. 2022, pp. 12991–12992. DOI: 10.1609/aaai.v36i11.21632

Honors and Awards

2024   NSF Graduate Research Fellowship, National Science Foundation
        National research fellowship for outstanding STEM graduate students

2022   The Computer Science Prize, Amherst College
        Top student in computer science, based on honors thesis and overall achievement

2022   Phi Beta Kappa, Amherst College
        National honor society

Industry Experience

2022–2024	Software Engineer, Cloud + AI, Microsoft
	Developed product catalog services that power the company's commerce platforms
Summer '21	Software Engineer Intern, Cloud + AI, Microsoft
	Built diagnostic tooling to debug issues in the business's product catalog services
Summer '20	Software Engineer Intern, Fidelity
	Created call routing and productivity software for the company's contact centers
Summer '19	Software Engineer Intern, Health Sqyre
	Refined the payment microservice for the startup's medical supplies marketplace

Research Mentorship Experience

2024–	Justin Chan, Brown University
	Semantic Integrity Constraints
2024–	Michael Fu, Brown University
	Semantic Integrity Constraints
2024–	Nicolas Kim, Brown University
	Semantic Integrity Constraints
2024–	Akshay Mehta, Brown University
	Semantic Integrity Constraints

Teaching Experience

Teaching Assistant

2023–2024	AP CS Principles, Francis Marion School (Microsoft TEALS Program)
Fall '20	COSC 111: Introduction to Computer Science I, Amherst College
Fall '19	COSC 112: Introduction to Computer Science II, Amherst College

Peer Tutor

Spring '20	COSC 211: Data Structures, Amherst College
Spring '19	COSC 111: Introduction to Computer Science I, Amherst College

Leadership Experience

Spring '22	Tech Peer Mentor, Amherst College Center for International Student Engagement
	Mentored a cohort of six international students interested in pursuing careers in tech
Fall '20, Spring '21	President, Amherst College Association for Computing Machinery Student Chapter
	Led alumni panels, interview prep sessions, and software engineering crash courses

Coursework

Graduate

Computer Science	Topics in Database Management, Database Management Systems, Computational Linguistics, Probabilistic Methods in Computer Science

Undergraduate

Computer Science	Data Mining, Machine Learning, Artificial Intelligence, Evolutionary Computation, Distributed Algorithms, Parallel and Distributed Computing, Computer Security, Networks, Computer Architecture, Computer Systems, Algorithms, Data Structures, Introduction to Computer Science II, Introduction to Computer Science I
Mathematics	Probability, Real Analysis, Abstract Algebra, Linear Algebra, Discrete Mathematics, Multivariate Calculus, Intermediate Calculus, Introduction to Statistical Modeling

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