

Alexander W. Lee

Curriculum Vitae

alexander_w_lee@brown.edu
<https://alexanderwlee.com>

Education

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

Research Mentorship Experience

2024-2025	Justin Chan, Brown University <i>Semantic Integrity Constraints</i>
2024-2025	Michael Fu, Brown University <i>Semantic Integrity Constraints</i>
2024-2025	Nicolas Kim, Brown University <i>Semantic Integrity Constraints</i>
2024-2025	Akshay Mehta, Brown University <i>Semantic Integrity Constraints</i>

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 <i>Mentored a cohort of six international students interested in pursuing careers in tech</i>
Fall '20, Spring '21	President, Amherst College Association for Computing Machinery Student Chapter <i>Led alumni panels, interview prep sessions, and software engineering crash courses</i>

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

The latest revision of this CV is available from <https://alexanderwlee.com/assets/pdf/alexanderwlee-cv.pdf>

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