

ANDREW Y. KANG

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EDUCATION

• University of Michigan, Ann Arbor	August 2026 - May 2031 (incoming)
Doctor of Philosophy Electrical and Computer Engineering	Ann Arbor, MI
• Cornell University	August 2023 - May 2026
Bachelor of Arts Mathematics and Computer Science	Ithaca, NY
◦ GPA: 4.133	
◦ Relevant Coursework:	
→ Adv. Linear Algebra (Honors)	→ Category Theory (Grad.)
→ Abstract Algebra (Honors)	→ Kleene Algebra (Grad.)
→ Real Analysis I (Honors)	→ Applied Logic
→ Real Analysis II (Honors)	→ Discrete Mathematics
→ Numerical Analysis	→ Analysis of Algorithms
→ Probability Theory	→ Machine Learning
	→ Computer Organization
	→ Systems Programming
	→ Functional Programming
	→ Data Structures & OOP
	→ Compilers
	→ PL & Compilers (Seminar)
	→ Data Systems (Seminar)

PUBLICATIONS

- [1] Andrew Y. Kang, Yashnil Saha, and Sainyam Galhotra. (2025). **Towards General-Purpose Data Discovery: A Programming Languages Approach.** [in submission]
- [2] Andrew Y. Kang, and Sainyam Galhotra. (2024). **TQL: Towards Type-Driven Data Discovery.** 2024 IEEE International Conference on Big Data (BigData), pp. 7338-7343. IEEE. December 15-18, Washington DC, USA.

PRESENTATIONS

- **Cornell Entrepreneur of the Year: Undergraduate Research Talk** April 2025
◦ Represented undergraduate REU research for the college of computing and information science.
◦ Orally presented research findings to alumni 'Entrepreneur of the Year' award recipient, John Bicket '02.
- **2024 IEEE International Conference on Big Data: Conference Paper Presentation (Oral)** December 2024
◦ Orally presented the paper, *TQL: Towards Type-Driven Data Discovery.*
- **Cornell CIS REU: BURE Symposium (Poster)** August 2024
◦ Presented poster summarizing results of summer REU research.

EXPERIENCE

- **Project Lead & Undergraduate Researcher | Advisor: Prof. Sainyam Galhotra** February 2024 - present
Prism Lab | Cornell University Ithaca, NY
◦ Studied existing literature in programming languages theory and data systems design.
◦ Designed formal syntax and semantics for **TQL**, a novel domain-specific language for data discovery, by leveraging techniques from programming languages and data systems research.
◦ Synthesized **ImpRAT**, a foundational algebraic model for data discovery in TQL.
◦ Led the architecture implementation by building a prototype system in Python.
◦ Exploring and developing potential efficient algorithms for tractable data discovery.
◦ Drafted two manuscripts compiling research results.
- **Head Teaching Assistant** August 2024 - present
Courses: Functional Programming, Machine Learning, Formal Verification | Cornell University Ithaca, NY
◦ Office Hour Czar : supervised office hour activities & assignments of 45+ TAs.
◦ Head Grader : oversaw grading sessions for assignments & exams.
◦ Head Proctor : led proctoring team for course exams.
◦ Other Duties : led recitation sessions of 40+ students, hosted office hours, and graded assignments & exams.
- **Student Club Founder & President** October 2023 - present
Computational & Quantitative Social Science at Cornell | Cornell University Ithaca, NY
◦ Founded and led a student organization interested in building data science and data engineering tools for research in the social sciences.

AWARDS

- **2025-2026 CRA Outstanding Undergraduate Researcher Award (Honorable Mention)** *December 2025*
Computing Research Association (CRA)
 - Award recognizes undergraduates across North America who show outstanding potential in computing research.
 - Received honorable mention from Computing Research Association (CRA) in December 2025.
- **Summer Research Experience for Undergraduates (Grant)** *June 2024 - August 2024*
Cornell Computing and Information Science
 - Selected and received \$7000 grant to participate in Cornell's BURE summer REU.
 - Selected and received additional \$1000+ travel grant for conference presentation through Cornell's BURE extension.
- **Cornell CS Department Course Staff Award (Nominee)** *December 2024*
Cornell Computing and Information Science
 - Nominated by faculty for course staff award in recognition of excellence in teaching.

SKILLS

Formal Languages: Python, Java, C, C++, Rust, OCaml, Assembly, Rocq, SQL, L^AT_EX

Natural Languages: English (native), French (proficient), Mandarin (proficient)

Other Interests: Analytic Philosophy, European History, Soccer Refereeing