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.)	→ Computer Organization
→ Abstract Algebra (Honors)	→ Kleene Algebra (Grad.)	→ Systems Programming
→ Real Analysis I (Honors)	→ Applied Logic	→ Functional Programming
→ Real Analysis II (Honors)	→ Discrete Mathematics	→ Data Structures & OOP
→ Numerical Analysis	→ Analysis of Algorithms	→ Compilers
→ Probability Theory	→ Machine Learning	→ 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, LaTeX

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

Other Interests: Analytic Philosophy, European History, Soccer Refereeing