

# 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

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- **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

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**Formal Languages:** Python, Java, C, C++, Rust, OCaml, Assembly, Rocq, SQL,  $\text{\LaTeX}$

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

**Other Interests:** Analytic Philosophy, European History, Soccer Refereeing