

ANDREW Y. KANG

[✉ aykang@umich.edu](mailto:aykang@umich.edu) | [LinkedIn](https://linkedin.com/in/ak-andrewkang) | [GitHub](https://andrew-kang.github.io)

EDUCATION

• University of Michigan, Ann Arbor

Doctor of Philosophy | Electrical and Computer Engineering

August 2026 - May 2031 (incoming)

Ann Arbor, MI

- Advisor: Prof. Inigo Iincer

• Cornell University

Bachelor of Arts | Mathematics and Computer Science

August 2023 - May 2026

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, L^AT_EX

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

Other Interests: Analytic Philosophy, European History, Soccer Refereeing