

ANDREW Y. KANG

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EDUCATION

• Cornell University

August 2023 - May 2026

Bachelor of Arts | Double Major in Mathematics and Computer Science

Ithaca, NY

◦ **GPA:** 4.13/4.00

◦ Relevant Coursework:

→ Adv. Linear Algebra (Honors)	→ Category Theory (Grad.)	→ Computer Organization
→ Abstract Algebra (Honors)	→ Kleene Algebra (Grad.)	→ Systems Programming
→ Real Analysis (Honors)	→ Discrete Mathematics	→ Functional Programming
→ Numerical Analysis	→ Analysis of Algorithms	→ Data Structures & OOP
→ Probability Theory	→ Machine Learning	→ PL & Compilers (Seminar)
		→ Data Systems (Seminar)

◦ Upcoming Coursework:

→ Operating Systems | Operating Systems Practicum → Compilers | Compilers Practicum

PUBLICATIONS

- [1] **Andrew Y. Kang**, Yashnil Saha, and Sainyam Galhotra. (2026). **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 General-Purpose 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 | 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

- **CRA Outstanding Undergraduate Researcher Award (Nominee)**

October 2025

Computing Research Association (CRA)

- Nominated by Cornell's CRA committee to represent the Department of Mathematics.
- Award recognizes undergraduate students who show outstanding potential in computing research.
- Final results from CRA still pending.

- **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, SQL, \LaTeX

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

Other Interests: Analytic Philosophy, European History, Soccer Refereeing