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)
  - → Abstract Algebra (Honors)
  - → Real Analysis I (Honors)
  - → Real Analysis II (Honors)
  - → Numerical Analysis
  - → Probability Theory
  - → Category Theory (Grad.)
  - → Kleene Algebra (Grad.)
  - → Applied Logic
  - → Discrete Mathematics
  - → Analysis of Algorithms
  - → 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 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, 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.
  ◦ Nominated by Cornell's CRA committee to represent the Department of Mathematics in October 2025.
  ◦ 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, SQL, LaTeX

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

Other Interests: Analytic Philosophy, European History, Soccer Refereeing