ANDREW Y. KANG

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INTEREST

I am interested in exploring problems in programming languages, in data systems, and in their intersections.

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

PUBLICATIONS

[1] **Andrew Y. Kang**, Yashnil Saha, and Sainyam Galhotra. (2026). **Towards General-Purpose Data Discovery: A Programming Languages Approach**. *2026 Conference on Innovative Data Systems Research* (CIDR). [under review]

[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.
- **Head Teaching Assistant** *August 2024 - present*
  Courses: Functional Programming, Machine Learning | *Cornell University* Ithaca, NY
  - Nominated by faculty for CIS Course Staff Award in recognition of excellence in teaching.
  - Led recitation sessions of 30+ students, hosted office hours, and graded assignments/projects/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.

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