ANDREW HAH

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EDUCATION

University of Chicago Expected 2026

- B.S. Candidate in Mathematics, Computer Science
- Cumulative GPA: 3.8/4.0
- Clubs/Societies: AI @ UChicago (Board Member), Maroon Capital (Analyst)
- **Relevant Coursework:** Algorithms (Graduate), Database Systems, Systems Programming, Honors Discrete Math, Abstract Linear Algebra, Accelerated Analysis in Rn, Honors Calculus (IBL)

RESEARCH/WORK EXPERIENCE

UChicago Department of Computer Science | Research Assistant

Mar 2024 - Present

- Advised by Professor Junchen Jiang
- Developed an open-source Knowledge Delivery Network (KDN) that accelerates large language model (LLM) applications by up to 8x and reduces costs by 8x through efficient knowledge caching and delivery mechanisms.
- Fully integrated the frontend and backend of this project for use-case experimentation and presentation.
- Conducted extensive testing and evaluation of GRACE, a real-time video system, and utilized PyTorch to train and fine-tune the neural video codec's encoder and decoder models, enabling the system to achieve superior loss resilience under various packet loss conditions.

UChicago Department of Mathematics | *REU Participant*

June 2024 - August 2024

- Advised by Professor David Cash

[Paper]

- Authored comprehensive research paper on lattice-based cryptography, focusing on computational complexity and the hardness of cryptographic problems such as SIS, LWE, and their ring-based variants
- Covered key breakthroughs and open problems in the field such as unbounded fully homomorphic encryption schemes and unbounded attribute-based encryption.

Oedo Group | *Software Engineer Intern*

Jun 2023 - Aug 2023

- Conducted research to identify inefficiencies in a transportation system for tourists; gathered and analyzed travel data including boat timings, passenger volume, and seasonality to identify patterns affecting wait times.
- Helped design and implement a regression model tailored to minimize wait times, and utilized quantitative reasoning to develop efficient solutions in a fast-paced environment.

Cornell University Department of Global Development | Researcher

Jul 2022 - Mar 2023

- Advised by Professor Parfait Eloundou-Enyegue

[Paper]

- Applied statistical analysis and data interpretation skills to uncover new quantitative evidence for the non-linear relationship between time spent studying and depression, and the interaction effect of students' years in school over the relationship between gender and depression level.
- Research paper accepted to and presented at the 2023 Sociology of Education Open Session hosted by the American Sociological Association (ASA).

PROJECTS

Satellite Imagery to Predict House Prices

[Project]

- Engineered a combined, hybrid neural network model integrating both tabular data and image data, leveraging the powerful feature extraction capabilities of a pre-trained Inception model for nuanced insights.
- Obtained and cleaned dataset through web-scraping of online real estate marketplace Zillow.

SKILLS & INTERESTS

Technical Skills: Python, C, Rust, PostgreSQL, HTML, CSS, JavaScript, PyTorch, pandas, NumPy

Interests: Squash, Tennis, Poker, Abstract Art, Fashion, Philosophy