

# Michael Ngo

(860) 983-6201 — [mn542@cornell.edu](mailto:mn542@cornell.edu) — <https://michael-n.com/>

## Education

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### **Bachelor of Science in Computer Science**

2022 – Expected 2026

Cornell University

Ithaca, NY

GPA: X.X/4.3

## Research Interests

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Trustworthy machine learning, privacy, fairness, and more broadly, learning theory, computational complexity, and cryptography.

## Research Experience

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### **Publicly Verifiable Certificates of Statistical Validity**

Jan 2025 – Present

Advisor: Michael P. Kim

- Constructed a proof system for reproducing many statistical algorithms where, in some cases, the verifier needs exponentially fewer samples than required for training.
- Contributes to the feasibility of verifying delegated machine learning or verifying the results of machine learning experiments.

### **Zero-Knowledge Databases for Private Learning**

May 2024 – Dec 2024

Advisors: Michael P. Kim and Noah Stephens-Davidowitz

- Extended zero-knowledge database schemes from key-value queries to support differentially private queries.
- Contributes to the possibility of enabling learning from a published database without sacrificing data privacy.

## Teaching Experience

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### **Peer Mentor/Teaching Assistant**

Fall 2025, Spring 2026

Cornell Engineering Leadership Certification

- Served as a peer mentor, providing advice, feedback, and having one-on-one conversations with students. Helped run class activities.

### **Teaching Assistant**

CS 4820: Introduction to Analysis of Algorithms

Spring 2024, Fall 2024, Spring 2025

CS 2800: Discrete Mathematics

Spring 2023, Fall 2023

- Hosted weekly recitations and exam review sessions, and led discussion sections.
- Created practice problems for exams; recorded and posted walkthroughs of practice problems.
- Held office hours, answered questions online, and graded proof-based assignments.
- Won faculty-nominated CS Course Staff Award

## Educational Video Creator

2019 – Present

YouTube, <https://www.youtube.com/@mikono04>

- Created videos on mathematics and cryptography with 13,000+ total views.

## Presentations

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### Publicly Verifiable Certificates of Statistical Validity

Graduate Seminar: Frontiers of Learning and Complexity Sept 2025

Bowers Undergraduate Research Symposium Aug 2025

### Zero-Knowledge Databases for Private Learning

Bowers Undergraduate Research Symposium Aug 2024

## Awards & Honors

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**Dean Archer Undergraduate Research Fund** (\$6,700)

June 2025 - August 2025

## Volunteer and Outreach

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### Panelist

Association of Computer Science Undergraduates: Research Night Sept 2025

Office of Inclusive Excellence: Sophomore Research Opportunities Sept 2025

### Undergraduate Theoretical CS Club

Organizer Jan 2025 – Present

- Coordinated 10 weekly talks by professors and graduates about CS theory geared for undergraduates; helped to reach out to speakers, book rooms, request funding for weekly food, and reached out to student orgs and classes for advertising.
- Reached out to community and formed 8-person E-board; advise team discussions.

### Mastermind Circles

Organizer Oct 2024 – May 2025

- Researched, marketed, and facilitated weekly meetings for Cornell students to support each other's personal goals.
- 17 students participated, and every student reported significant progress on their goals.

### Cornell Data Science Project Team

New Member Education Chair May 2024 – May 2025

- Coordinated 5-person team to create and invite speakers for weekly technical and teamwork workshops.
- Collaborated with another student club and ran a 2-day new member hackathon with career panels and technical workshops.

General Member Oct 2022 - May 2025

- Pitched and co-lead three projects, coordinated and guided discussion on small student teams. Projects span a range across computer vision, ML training libraries, music recommendation, and encrypted neural networks.

## Splash at Cornell

Student Instructor

Apr 2024, Apr 2025

- Taught single-day classes to middle and high school students on linear algebra and machine learning.

**Cornell University Big Red Math Competition**

Events Coordinator

Oct 2023, Oct 2024