

Computer Science

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October 31, 2025 / Bulletin #7

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IMPORTANT DATES & REMINDERS

Monday, November 3, 2025 Pre-registration for Winter quarter begins

Monday, November 10, 2025 Registration for Winter quarter begins

Wednesday, November 26, 2025 University offices close at 5:00 pm for
Thanksgiving break

Friday, December 5, 2025 Master's completion form due for TGS Fall master's
candidates

Monday, December 8, 2025 Fall Exams begin

Monday, December 15, 2025 Grades due 3:00 PM

Friday, December 19, 2025 Fall 2025 Degrees Conferred

Wednesday, December 24, 2025 Winter Recess Starts - University Closed
Through January 1st, 2026

We want to hear from you!

Please send any upcoming news and events to

**news@cs.northwestern.edu to be included in future bulletins &/featured
on our socials/website.**

Events for the bulletin must be emailed by Thursdays 12PM to be in that Friday's bulletin.

Missed a seminar? No worries!
View past seminars via the Northwestern CS Website
(northwestern login required).

[View Past Seminars »](#)

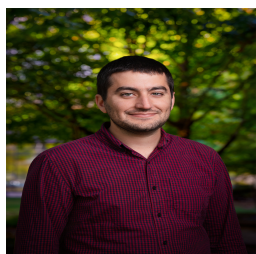
UPCOMING SEMINARS

November

3rd - Aloni Cohen
10th - Aravindan Vijayaraghavan
17th - Shaddin Dughmi
19th - Robert Rand

January

5th - Ari Holtzman
12th - Rana Hanocka



Blameless Users in a Clean Room: Defining Copyright Protection for Generative Models

Aloni Cohen, University of Chicago

Abstract

"Are there any conditions under which a generative model's outputs are guaranteed not to infringe the copyrights of its training data? This is the question of "provable copyright protection" first posed by Vyas, Kakade, and Barak [ICML 2023]. They define near access-freeness (NAF) and propose it as sufficient for protection.

This talk will revisit the question and establish new foundations for provable copyright protection---foundations that are firmer both technically and legally.

We show that NAF models can enable verbatim copying, a blatant failure of copy protection. We give definitions providing meaningful guarantees, allowing a user to control their risk of copying by behaving in a way that is unlikely to copy in a counterfactual "clean-room setting." Finally, we formalize a common intuition about differential privacy and copyright by proving that DP implies clean-room copy protection when the dataset is "golden," a copyright deduplication requirement."

Biography

Aloni Cohen is an Assistant Professor of Computer Science and Data Science at the University of Chicago. His research explores the interplay between theoretical cryptography, privacy, law, and policy. Aloni earned his PhD in the Cryptography and Information Security group at MIT, advised by Shafi Goldwasser, and was a postdoc at Boston University, joint at the Hariri Institute for Computing and the School of Law.

🕒 **Monday, November 3, 2025**
12:00 PM - 1:00 PM CT

📍 **Mudd Hall, 3514,**
2233 Tech Drive, Evanston, IL 60208

[More Information »](#)



Toward a Modern Theory of Algorithms in the Machine Learning Era

Aravindan Vijayaraghavan, Northwestern University

Abstract

The remarkable empirical successes of machine learning have revealed the power of computational techniques in several domains and scientific disciplines. Yet there is a striking disconnect in the algorithmic foundations of machine learning: many basic computational problems, ranging from classification and clustering to deep learning, reduce to non-convex optimization tasks that are computationally intractable in the worst case. Yet, in practice, heuristics often succeed in producing high-quality solutions, fueling the remarkable progress of modern AI. At the same time, the absence of rigorous guarantees raises the following question: when, and under what conditions, can we reliably use predictions of machine learning models?

In the first part of the talk, I will describe theoretical frameworks like smoothed analysis that go beyond worst-case analysis to better reason about algorithms on typical instances,

and help obtain rigorous polynomial time guarantees for challenging algorithmic problems in ML and high-dimensional data analysis. In the second part of the talk, I will present recent principled approaches that treat machine learning models as powerful black boxes that are potentially unreliable or biased, and show how to design algorithms that can rigorously quantify and account for their uncertainty.

Biography

Aravindan Vijayaraghavan is an Associate Professor at Northwestern University in the department of Computer Science, and (by courtesy) Industrial Engineering and Management Sciences. He is also the co-director of the NSF Institute for Data, Econometrics, Algorithms and Learning (IDEAL). His research interests are broadly in algorithms and foundations of data science and machine learning.

🕒 **Monday, November 10, 2025**
12:00 PM - 1:00 PM CT

📍 **Mudd Hall, 3514,**
2233 Tech Drive, Evanston, IL 60208

[More Information »](#)

CS Department Events

SAVE THE DATE: BAGEL THURSDAY

CS Community! Join us for our monthly free bagels and coffee while mingling with fellow faculty and students.

🕒 **Thursday, November 20, 2025**
09:00 AM - 11:00 AM CT

📍 **Mudd Hall, 3514,**
2233 Tech Drive, Evanston, IL 60208

Other Events

N'TANGLED W/ HEAD OF QUANTUM COMPUTING FROM PASQAL

We are excited to welcome **Dr. Heejeong Jeong**, Head of Quantum Computing in the US, from Pasqal.

About Pasqal:

Pasqal builds programmable quantum simulators and quantum computers made of 2D and 3D atomic arrays. They develop the lasers, the vacuum technology, the electronic controls, and the software stack to make the individual atoms accessible to quantum programmers worldwide. With four decades leading and mapping the revolution, they're here to help you power up the next phase of your development.

N'Tangled is **INQUIRE**'s networking initiative connecting **Quantum Information Science and Engineering (QISE) students and postdocs** for collaboration and professional growth.

Join us for an afternoon of networking, collaboration, and discovery!

Event Details:

Date: Monday, November 10

Time: 3:00 – 4:30pm

Location: Tech J Wing Atrium (**J205**)

RSVP: **N'Tangled w/ Pasqal – Nov. 10**

This **free** event is designed for **QISE students and postdocs** looking to connect, collaborate, and grow professionally.

Agenda Highlights:

1. **N'Troduction** – N'Tangled Leadership
 - a. **Kate Smith + Ryan Young**, N'Tangled leadership
2. **Company Presentation** – Pasqal
 - a. **Heejeong Jeong**, Head of Quantum Computing US
3. **Q&A w/ Pasqal** – Hosted by Kate Smith
4. **Reception**

Don't miss out on this exciting chance to engage with the QISE community!

Refreshments will be provided.

🕒 **Monday, November 10, 2025**
3:00 PM - 4:30 PM CT

📍 Technological Institute, J205,
2145 Sheridan Road, Evanston, IL 60208

[More Information»](#)

CS News



Connie Chau, Ziyi Guo, and Gefei Tan Earn 2025 Global Google PhD Fellowships

The 2025 Global Google PhD Fellowships recognize 255 outstanding graduate students across 35 countries who are conducting innovative research in computer science and related fields.

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PhD Student Spotlight: Matthew Casey

Casey studies computational social choice, with a focus on multiwinner voting and participatory budgeting.

[Read More](#)



Northwestern Department of Computer Science
Mudd Hall, 2233 Tech Drive, Third Floor
Evanston, Illinois 60208

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