Northwestern | McCORMICK SCHOOL OF ENGINEERING

Computer Science

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IMPORTANT DATES & REMINDERS

Monday, May 11, 2026 Pre-Registration for Fall begins
Friday, May 15, 2026 Master's completion form due for TGS Spring master's candidates
Monday, May 18, 2026 Registration for Fall begins
Monday, May 25, 2026 No classes - Memorial Day - University offices closed

Monday, June 8, 2026 Spring examinations begin
Friday, June 12, 2026 Spring examinations end
Friday, June 19, 2026 Juneteenth - University Closed
Monday, June 22, 2026 Spring Degree Conferral
Monday, June 22, 2026 Summer classes begin

We want to hear from you!
Please send any upcoming news and events to cs-news@northwestern.edu to be included in future bulletins, on our socials and/or website.

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

View Past Seminars »

UPCOMING SEMINARS

May
13 - Zhiru Zhang
14 - Prabhakar Raghavan
20 - Julio Ottino

Hypothesizing Autonomous Accelerator Design

Zhiru Zhang, Cornell University

Abstract: We are living through a fundamental shift in computing, where performance and efficiency gains increasingly come from specialized accelerators tailored to "hot" domains like AI. Yet as accelerator-centric computing proliferates, it continues to build atop a longstanding disconnect between the way we design these systems and the way we program them. This divide slows hardware innovation, complicates the software stack, and makes accelerators far harder to evolve than the rapidly changing applications they are meant to serve. While increasingly capable AI agents can help alleviate some of these challenges, many key pieces are still missing to truly close this loop. In this talk, I will share lessons learned from our recent work on (1) workload mapping for emerging accelerator architectures, (2) abstractions that help unify accelerator design and programming, and (3) agentic approaches to compiler construction. I will discuss how these directions may collectively move us closer to a future of more autonomous accelerator design.

Biography: Zhiru Zhang is a Professor in the School of ECE at Cornell University. His current research investigates new algorithms, design methodologies, and automation tools for heterogeneous computing. Dr. Zhang is an IEEE Fellow and has been honored with the Intel Outstanding Researcher Award, AWS AI Amazon Research Award, Facebook Research Award, Google Faculty Research Award, DAC Under-40 Innovators Award, DARPA Young Faculty Award, IEEE CEDA Ernest S. Kuh Early Career Award, and NSF CAREER Award. He has also received 10+ best paper awards from premier conferences and journals in computer systems and EDA. Prior to joining Cornell, he co-founded AutoESL, a high-level synthesis start-up later acquired by Xilinx (now part of AMD).

AutoESL's HLS tool evolved into Vivado HLS (now Vitis HLS), which is widely used for designing FPGA-based hardware accelerators.

Wednesday, May 13, 2026
12:00 PM - 1:00 PM CT

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

More Information »

Can AI assist in Mathematics and Computer Science research?

Prabhakar Raghavan, Google

Abstract: We share our experience using LLMs to obtain new results in mathematics and computer science. We begin with an illustrative example from load-balancing in planet-scale cloud systems, outlining the abilities and limitations of LLMs. Next, we describe our experience with AlphaEvolve, an evolutionary language model from Google DeepMind, to establish new results in the approximability of the Traveling Salesman Problem (TSP), and MAX-CUT problem. We also derive new bounds for several Ramsey numbers. Our methodology entails evolving fleets of Python programs that generate proof chunks to yield these results, and to accelerate proof verification by up to 10,000x. We suggest that our results on inapproximability and Ramsey theory could not have been discovered by hand, and conclude with reflections on the state and promise of AI in mathematics and CS research.

Biography: Prabhakar Raghavan is the Chief Technologist at Google, where he has held several senior roles since joining in 2012, including Senior Vice President with oversight of Search, Maps, Advertising, Gemini and Payments, and before that, responsibility for Gmail, Google Drive, Calendar and Google Docs. Previously, he led Yahoo! Labs and served as CTO at Verity, Inc following over a decade at IBM Research. He co-authored the textbooks Randomized Algorithms and Introduction to Information Retrieval. Raghavan received a PhD from Berkeley and a Dottore ad honorem from the University of Bologna, and is a member of the National Academy of Engineering.

Thursday, May 14, 2026
4:00 PM - 5:00 PM CT

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

More Information »

CS Department Events

CSPAC, CSSI, AND GWIC RECRUITMENT

PhD students, we are looking for future student leaders to join our student organizations! This is a great opportunity to develop leadership, organization, and communication skills that are essential for any post-PhD career. More information and the (lightweight) nomination form can be found **here.**

Nomination Form »

VAIDEHI SRINIVAS CS PHD FINAL DEFENSE: RELIABLY EXTRACTING VALUE FROM UNRELIABLE BLACK-BOX MODELS

The big data revolution along with the success of black-box machine learning models have given us access to a large volumes of information. These models are then used to inform all manner of algorithmic and decision-making tasks. However, black-box machine learning models can be unreliable in ways that are hard to predict, and we are far from having a full characterization of the failure modes of these methods. If the black-box model could be arbitrarily wrong, conventional worst-case analysis may suggest that the best an algorithm can do is to ignore it, as it could be as hurtful as it might be helpful. This is pessimistic, as model predictions are often useful and valuable, even if it is hard to predict failure. In many high-stakes applications it is unreasonable, if not irresponsible, to fully disregard model predictions.

Friday, May 15, 2026
3:00 PM - 5:00 PM CT

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

Full Details »

Other Events

BUILDING A ROBUST PATENT PORTFOLIO

A strong patent portfolio is a strategic asset, not just filing. This seminar explores how to align IP portfolio decisions with broader commercial objectives. Keith will cover proactive approaches to managing coverage, scope, and risk, including when in-licensing third-party IP can enhance long-term value creation.

Wednesday, May 13 2026
12:00 PM - 1:00 PM CDT

Virtual

Register »

IDEAL: CHALLENGES IN ELECTRICITY MARKET AND POWER SYSTEM DESIGN

We're excited to invite you to an upcoming IDEAL workshop on Challenges in Electricity Market and Power System Design, taking place on Friday, May 15th at UIC.

Please see below for more details and registration information. We hope you can join us!

Description:
As the energy landscape rapidly transforms, accommodating massive load growth from data centers while integrating variable renewables into resilient power grids demands an interdisciplinary approach bridging algorithms, economics, environmental science, and physical infrastructure. This workshop tackles these modern complexities by inviting diverse experts to explore the critical intersection of advanced network optimization, data center flexibility, environmental sustainability, and market design.

Logistics
Date: Friday, May 15th, 2026
Time: 1:00PM- 5:00PM
Location: UIC's Computer Design Research and Learning Center (CDRLC)

(Room: 2406) 850 W Taylor St, Chicago, IL 60607

Parking: For those driving to the event, attendees can park in any lot with visitor access. The closest option to the CDRLC building is Lot 5 (1135 S Morgan St).

Parking passes will be provided at the workshop for free parking in designated UIC parking buildings. Please remember to ask for a pass before leaving the workshop.

Registration:
https://forms.gle/PypLxDy4RiA8SGn19

Friday, May 15, 2026
1:00 PM - 5:00 PM CT

UIC's Computer Design Research and Learning Center (CDRLC)
(Room: 2406) 850 W Taylor St, Chicago, IL 60607

Register »

BUILDING A ROBUST PATENT PORTFOLIO

IP due diligence is a critical step in fundraising, partnering, and acquisition discussions, and this session demystifies what the process actually involves. Keith will cover key elements like patentability and freedom-to-operate analyses, what investors and partners look for when assessing IP risk, and how to prepare a strong IP data room while anticipating common diligence questions. **Lunch will be provided. Following the seminar, a limited number of office-hour appointments may be available; those interested can express interest HERE.**

Wednesday, May 20 2026
12:00 PM - 1:00 PM CDT

Northwestern Querrey InQbation Lab

Register »

Awards

Congratulations to Prof. Nikos Hardavellas on the National Quantum Algorithm Center Grand Challenges award

The initiative aims to accelerate practical quantum use cases and strengthen collaboration within the Illinois quantum ecosystem.

Award Details

Congratulations to Profs. Connor Bain and Aravindan Vijayaraghavan on being honored with University Teaching Awards

The annual recognition is given to professors who demonstrate excellence and innovation in undergraduate

teaching.

Award Details

CS News

PhD Alum Yifan Wu Earns Honorable Mention in ACM SIGecom Doctoral Dissertation Award

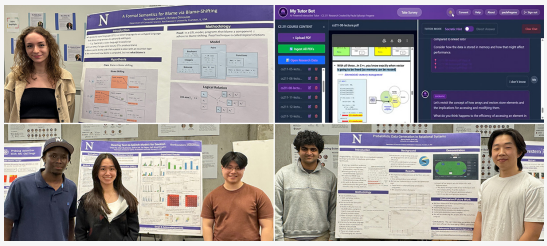
The awards recognize outstanding dissertations in the field of economics and computation.

Read Full Article

CS+LS Team Wins a Best Paper Award at CHI'26

CS+LS Team Wins a Best Paper Award at CHI'26
A Computer Science and Learning Sciences team led by PhD student Caryn Tran aimed to understand how educational programming tools shape K–12 students' motivation to learn computer science.

Read Full Article



Exploring the Academic Research Process

Northwestern Computer Science Research Track program students presented their projects in early April.

Read Full Article

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