Northwestern | McCORMICK SCHOOL OF ENGINEERING

Computer Science

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IMPORTANT DATES & REMINDERS

Friday, October 24, 2025 *Application for degree due to TGS to receive a degree in Fall*

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

October
15th - Jason Hartline

November
3rd - Aloni Cohen
10th - Aravindan Vijayaraghavan
12th - Rana Hanocka
17th - Shaddin Dughmi
19th - Robert Rand

Scoring Rules for a Theory of AI
Jason Hartline, Northwestern University

Abstract

Scoring rules are foundational in decision theory and, therefore, are foundational for a developing theory of artificial intelligence. Just as simple models from decision theory provide context for understanding the decisions of complex humans, so too can they for complex AI systems. Bayesian decision theory considers an agent receiving a signal that is correlated with the state, choosing an action, and obtaining a payoff that depends on both the state and action. With Bayesian updating and the revelation principle, the signal becomes a posterior belief and the decision problem becomes a scoring rule. Given a scoring rule, baseline performance is the optimal score under the prior; benchmark performance is the optimal score under the posterior; and the optimal scoring rule — framed as a mechanism design problem — maximizes the difference between them. The talk reviews this theory and applies it to evaluate the value of information, the losses from predictive models, and the accuracy of human and AI decision makers.

Biography

"Prof. Hartline's research introduces design and analysis methodologies from computer science to understand and improve outcomes of economic, legal, and AI systems. Optimal behavior and outcomes in complex environments are complex and, therefore, should not be expected; instead, the theory of approximation can show that simple and natural behaviors are approximately optimal in complex environments. This approach is applied to auction theory and mechanism design in his graduate textbook Mechanism Design and Approximation which is under preparation.

Prof. Hartline received his Ph.D. in 2003 from the University of Washington under the supervision of Anna Karlin. He was a postdoctoral fellow at Carnegie Mellon University under the supervision of Avrim Blum; and subsequently a researcher at Microsoft Research in Silicon Valley. He joined Northwestern University in 2008 where he is a professor of computer science. He was on sabbatical at Harvard University in the Economics Department during the 2014 calendar year and visiting Microsoft Research, New England for the Spring of 2015. He was on sabbatical at Stanford University for the 2023-2024 academic year.

Prof. Hartline is the director of Northwestern's Online Markets Lab, he was a founding codirector of the Institute for Data, Econometrics, Algorithms, and Learning from 2019-2022, and is a cofounder of virtual conference organizing platform Virtual Chair."

🕐 **Wednesday, October 15, 2025**
12:00 PM - 1:00 PM CT

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

More Details»

CS Department Events

CS PUBLIC LECTURE

The Computer Science department invites you to a free public lecture on October 29, 2025. The lecture will begin at 4:00PM in Cohen Commons.

Further details regarding topic and how to register will be shared in the upcoming weeks.

🕐 **Wednesday, October 29, 2025**
4:00 PM - 5:00 PM CT

📍 **Cohen Commons, Technological Institute,**
2145 Sheridan Road, Evanston, IL 60208

More Information »

Other Events

SUREMIN SEMINAR: OCTOBER 22 WITH PARAMITA DAS, STARDUST POWER

Please join us for "What AI infrastructure can learn from the Metals, Mining, and Minerals sector" on Wednesday, October 22nd at 4PM. Paramita Das (CSO, Stardust Power) will be presenting on careers in the critical minerals

industry, and lessons on supply and scale-up from that industry applicable to the AI industry.   This seminar is part of SuReMin's monthly seminar series on topics in critical minerals.

🕐 **Wednesday, October 22, 2025**
   4:00 PM - 5:00 PM CT

📍 **Ford Motor Company Engineering Design Center, 1.350, 2133 Sheridan Road, Evanston, IL 60208**

More Information »

RSVP »

THE UNIVERSITY OF IOWA PROSPECTIVE GRADUATE STUDENT VISIT DAY

The Computer Science (CS) department welcomes prospective students interested in our graduate programs to our annual Prospective Student Visit Day on Friday, Nov. 7. We are looking for strong students with diverse backgrounds to join our MCS and PhD programs. A wide variety of research areas is represented by our world-class faculty including algorithms, computational epidemiology, distributed computing, human-computer interaction, machine learning, massive data algorithms and technology, mobile computing, networks, programming languages, text mining, security, and virtual reality.

Any student who wants to visit can RSVP by filling out this form by November 3. Assistance with travel expenses is available, with requests made via the form.

🕐 **Friday, November 7, 2025**
   4:00 PM - 5:00 PM CT

📍 **Cohen Commons, Technological Institute,
   2145 Sheridan Road, Evanston, IL 60208**

More Information »

CS News

PhD Application Feedback Program Aims to Increase Diversity in CS Graduate Programs

Professor Fabian Bustamante launched the feedback program in 2020 to provide guidance to prospective PhD students applying to any computer science program in the country.

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Wilensky Named 2025 Yidan Prize Winner

This year's prize, honoring Professor Uri Wilensky, spotlights changemakers advancing complex systems literacy and multilingual education.

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