Hongxuan Chen

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https://hxchen9.github.io/

EDUCATION

University of Illinois at Urbana-Champaign
Ph.D. in Computer Science (Expected Spring 2026)
- Research Area: Computer Science Education
- Advisor: Dr. Geoffrey Herman & Dr. Jeff Erickson
- Passed Qualifying Exam: Spring 2023
- Passed Preliminary Exam: Spring 2025

University of Illinois at Urbana-Champaign
B.S. in Computer Science, *Highest Honors* (May 2021)
- GPA: 4.0

RESEARCH INTERESTS

My research focuses on computer science education, particularly:
- How students learn algorithm design and discrete mathematics
- Collaborative learning in CS classrooms
- Curriculum evaluation and education policies

PUBLICATIONS (PEER-REVIEWED)

- Liu, J., Poulsen, S., Goodwin, E., **Chen, H.**, Williams, G., Gertner, Y. & Franklin, D. (2025). *Teaching Algorithm Design: A Literature Review.* **ACM Transactions on Computing Education.** Earlier version presented as a poster at **ACM SIGCSE TS 2024**, Portland, OR, USA.

- *(Poster)* **Chen, H.**, Braught, K., Herman, G.L., & Erickson, J., (2025). *Novice Difficulties in Graph Layering for Algorithm Design.* **ACM SIGCSE TS 2025**, Pittsburgh, PA, USA.

- Poulsen, S., **Chen, H.**, Gertner, Y., Cosman, B., West, M., Herman, G.L. (2025). *Measuring the Impact of Distractors on Student Learning Gains while Using Proof Blocks.* **ACM SIGCSE TS 2025**, Pittsburgh, PA, USA.

- **Chen, H.**, Li, A., Challen, G., & Cunningham, K., (2024). *Implementation of Split Deadlines in a Large CS1 Course.* **ACM SIGCSE TS 2024**, Portland, OR, USA.

- Poulsen. S., Gertner, Y., **Chen, H.**, Cosman, B., West, M., & Herman, G.L. (2024). *Disentangling the Learning Gains from Reading a Book Chapter and Completing Proof Blocks Problems.* **ACM SIGCSE TS 2024**, Portland, OR, USA.

- **Chen, H.**, Fong, M.M., Herman, G.L., & Silva, M. (2023). *Student Autonomy in Collaborative Learning: Effects of Meeting Time and Team Consistency.* **IEEE FIE 2023**, College Station, TX, USA.

- **Chen, H.**, West, M., Hilgenfeldt, S., & Silva, M. (2023). *Measuring the Impact of a Computational Linear Algebra Course on Students' Exam Performance in a Subsequent Numerical Methods Course.* **ACM SIGCSE TS 2023**, Toronto, Canada.

- Fong, M.M., Butler, L., **Chen, H.**, & Herman, G.L. (2022). *Validating an Observation Protocol for Structured Roles in Cooperative Learning.* **IEEE FIE 2022**, Uppsala, Sweden.

- Fong, M.M., **Chen, H.**, Butler, L., & Herman, G.L. (2022). *Developing an Observation Protocol for Cooperative Learning.* **ASEE 2022**, Minneapolis, MN, USA.

- Mahmood, M.S., **Chen, H.**, Fong, M.M., & Herman, G.L. (2022). *Work in Progress: Exploring Students' Misconceptions of Cache Memories.* **ASEE 2022**, Minneapolis, MN, USA.

INVITED TALKS
- *Implementation of Split Deadlines in a Large CS1 Course,* presented remotely with Geoffrey Challen at the Computing Education Seminar, **UC Davis**, Oct. 2024

TEACHING EXPERIENCE
Co-Instructor
CS173: Discrete Structures – University of Illinois Urbana-Champaign, Summer 2025
- Co-taught with another PhD student without faculty supervision
- Designed and delivered lectures and discussion sessions; provided student support through office hours; managed course staff and logistics for a class of ~50 students

Co-Instructor
CS233: Computer Architecture – University of Illinois Urbana-Champaign, Spring 2024
- Co-taught with another PhD student under faculty supervision
- Delivered lectures and led collaborative learning sessions; managed course logistics for ~280 students and 35 staff members

Graduate Teaching Assistant
CS233: Computer Architecture – University of Illinois Urbana-Champaign, Fall 2021
CS173: Discrete Structures – University of Illinois Urbana-Champaign, Summer 2022
- Led discussion sections, held office hours, and organized review sessions
- Developed supplementary course materials and provided student support

Undergraduate Course Assistant
CS125, CS233, CS374 – University of Illinois Urbana-Champaign, Spring 2018 - Spring 2021
- Conducted quality assurance for course materials
- Assisted students through office hours, discussion sessions, and review sessions
- Graded assignments and provided detailed feedback

SERVICE & OUTREACH
Reviewer
- ACM SIGCSE TS 2023, 2025
- IEEE FIE 2025

Student Volunteer
- ACM SIGCSE TS 2024, 2025

Teaching Assistant (Girls Who Code, Remote, Summer 2020)
- Assisted instructors during online lectures, grading, and office hours
- Organized advisory panels to encourage female high school students to pursue CS

HONORS AND AWARDS
- **Yee Memorial Fund Fellowship** ($5,000), Grainger College of Engineering, UIUC, 2025-2026
- **Teacher Ranked as Excellent by Students**, UIUC, Summer 2022, Spring 2024
- **Outstanding Course Assistant**, CS Department, UIUC (5 recipients selected), Spring 2021
- **Bronze Tablet Honoree**, UIUC (Top 3% of graduating class), Spring 2021
- **Illinois Engineering Achievement Scholarship** ($1,000), Spring 2021

INDUSTRY EXPERIENCE
Data Scientist Intern (Double Dragon Big Data, Guiyang, China, Summer 2019)
- Developed web scrapers to extract data from Baidu Baike
- Designed algorithms for data cleaning and network analysis of word relationships

TECHNICAL SKILLS
- Programming: Java, Python, C, JavaScript, TypeScript
- App Development: React Native (TypeScript, JavaScript)
- Web Development: HTML/CSS/JavaScript, React
- Database Management: SQL, MongoDB, Neo4j
- Data Analysis: Python, R

LANGUAGES
- Mandarin Chinese: Native
- English: Fluent (TOEFL iBT: 117/120, July 2020)