

CURRICULUM VITAE AUGUST 2026

PERSONAL INFORMATION	Erik Harpstead Carnegie Mellon University harpstead@cmu.edu	
ACADEMIC APPOINTMENTS	Associate Research Professor <i>Carnegie Mellon University, Pittsburgh, PA</i>	2026-present
	Senior Systems Scientist <i>Carnegie Mellon University, Pittsburgh, PA</i>	2023-2026
	Systems Scientist <i>Carnegie Mellon University, Pittsburgh, PA</i>	2017-2023
EDUCATION	Ph.D., Human-Computer Interaction <i>Carnegie Mellon University, Pittsburgh, PA</i> Dissertation, "Projective Replay Analysis: A Reflective Approach for Aligning Educational Games to their Goals."	August 2017
	MS, Human-Computer Interaction <i>Carnegie Mellon University, Pittsburgh, PA</i> Master of Science degree from Human-Computer Interaction Institute	May 2013
	BS, Psychology <i>Illinois Institute of Technology, Chicago, IL</i> Bachelor of Science degree in Psychology with minor in Computer Science.	May 2011
PUBLICATIONS	Journal Papers - Noor Hammad, Erik Harpstead, and Jessica Hammer. 2024. Towards a Design Framework for Data-Driven Game Streaming: A Multi-Stakeholder Approach. <i>Proceedings of the ACM on Human-Computer Interaction</i>, Volume 8, Issue CHI PLAY. Article No: 342. - Judith Odili Uchidiuno, Jaemarie Solyst, Jonaya Kemper, Erik Harpstead, Ross Higashi, and Jessica Hammer. 2023."What's Your Name Again?": How Race and Gender Dynamics Impact Codesign Processes and Output. <i>ACM Transactions on Computer-Human Interaction</i>. - Rotem D Guttman, Jessica Hammer, Erik Harpstead, and Carol J Smith. 2021. Play for Real(ism) - Using Games to Predict Human-AI interactions in the Real World. <i>Proceedings of the ACM on Human-Computer Interaction</i>, Volume 5, Issue CHI PLAY. Article No: 228. - Xinying Hou, Huy Anh Nguyen, J. Elizabeth Richey, Erik Harpstead, Jessica Hammer, and Bruce M. McLaren. 2021. Assessing the Effects of Open Models of Learning and Enjoyment in a Digital Learning Game. <i>International Journal of Artificial Intelligence in Education</i>. 1-31. - Christopher J MacLellan, Erik Harpstead, Robert P Marinier, and Kenneth R Koedinger. 2018. A Framework for Natural Cognitive System Training Interactions. <i>Advances in Cognitive Systems</i> 6: 1-16. - Christopher J. MacLellan, Erik Harpstead, Vincent Aleven, and Kenneth R. Koedinger. 2016. TRES-TLE: A Model of Concept Formation in Structured Domains. <i>Advances in Cognitive Systems</i> 4: 131-150. Peer-Reviewed Book Chapters Erik Harpstead, Christopher J. MacLellan, Vincent Aleven, and Brad A Myers. 2015. Replay Analysis in Open-Ended Educational Games. In <i>Serious Games Analytics</i>, Christian Sebastian Loh, Yanyan Sheng and Dirk Ifenthaler (eds.). Springer International Publishing, Cham, 381-399. Peer-Reviewed Full Conference Papers - Qiao Zhang, Ziyu Li, Erik Harpstead, and Christopher J. Maclellan. 2026. Dice Adventure Human-AI Teaming Competition: Using Collaborative Game to Study Hybrid Teaming Dynamics. In <i>Proceedings of the 2026 International Conference on Game Jams Hackathons and Game Creation Events (ICGJ '26)</i>. 32-36. Best Paper Award	

2. Qianou Ma, Megan Chai, Yike Tan, Jihun Choi, Jini Kim, **Erik Harpstead**, Geoff Kauffman, and Tongshuang Wu. 2026. “GenAI Defaults to Bias!” Gamify AI Literacy Through Reflections on Prompts. In *Proceedings of Artificial Intelligence in Education (AIED 2026)*. 99-106.
3. Noor Hammad, David Chuan-En Lin, Amy Smith, Max Kreminski, **Erik Harpstead**, and Jessica Hammer. 2026. Tracing Creativity: A Design Space For Creative Activity Traces in HCI. In *Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (CHI '26)*. Article 1644, 1-24.
4. Noor Hammad, C. Ailie Fraser, **Erik Harpstead**, Jessica Hammer, and Mira Dontcheva. 2025. “It’s more of a vibe I’m going for”: Designing Text-to-Music Generation Interfaces for Video Creators. In *Proceedings of the 2025 ACM Designing Interactive Systems Conference*. 2738-2754.
5. Daniel Weitekamp, Christopher J. MacLellan, **Erik Harpstead**, Napol Rachatasumrit, Kenneth R Koedinger. 2025. Decomposed Inductive Procedure Learning: Learning Academic Tasks with Human-Like Data Efficiency. In *Proceedings of the Annual Meeting of the Cognitive Science Society*. (to appear).
6. Qiao Zhang, Glen Smith, Ziyu Li, Yuxuan Dong, **Erik Harpstead**, and Christopher J. MacLellan. 2025. Dice Adventure: An Asymmetrical Collaborative Game for Exploring the Hybrid Teaming Effects. In *International Conference on the Foundations of Digital Games (FDG '25)*. **Best Paper Award**
7. Noor Hammad, Frank Elavsky, Sanika Moharana, Jessie Chen, Seyoung Lee, Patrick Carrington, Dominik Moritz, Jessica Hammer, **Erik Harpstead**. 2024. Exploring The Affordances of Game-Aware Streaming to Support Blind and Low Vision Viewers: A Design Probe Study. In *The 26th International ACM SIGACCESS Conference on Computers and Accessibility*.
8. David J Gagnon, Luke Swanson, and **Erik Harpstead**. 2024. Open Game Data: Defining a Pipeline and Standards for Educational Data Mining and Learning Analytics with Video Game Data. In *Proceedings of IEEE Conference on Games (IEEE CoG)*.
9. Jessica Hammer, Sabrina Culyba, Kathryn Hymes, and **Erik Harpstead**. 2023. Transmitting Game-based Knowledge at the Center for Transformational Play. In *Science Gateways 2023 Annual Conference*.
10. Noor Hammad, **Erik Harpstead**, and Jessica Hammer. 2023. The View from MARS: Empowering Game Stream Viewers with Metadata Augmented Real-time Streaming. In *Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology*, Article 62, 1-13.
11. Judith Odili Uchidiuno, Jaemarie Solyst, **Erik Harpstead**, and Ross Higashi. 2023. “I’m a little less inclined to do it”: How Afterschool Programs’ Culture Impact Co-Design Processes and Outcomes. In *Proceedings of the 2023 ACM Designing Interactive Systems Conference*, 1263-1276.
12. Daniel Weitekamp, Napol Rachatasumrit, Rachael Wei, **Erik Harpstead**, and Kenneth Koedinger. 2023. Simulating Learning from Language and Examples. In *Proceedings of Artificial Intelligence in Education*, 580-586.
13. Jaemarie Solyst, Judith Odili Uchidiuno, **Erik Harpstead**, Jonaya Kemper, Ross Higashi. 2023. Comparative Design-Based Research: How Afterschool Programs Impact Learners’ Engagement with a Video Game Codesign. In *Proceedings of International Society of the Learning Sciences 2023*.
14. Noor Hammad, Thomas Eiszler, Robert Gazda, John Cartmell, **Erik Harpstead**, and Jessica Hammer. 2023. V-Light: Leveraging Edge Computing For The Design of Mobile Augmented Reality Games. In *Proceedings of the 18th International Conference on the Foundations of Digital Games* **Best Paper Honorable Mention**.
15. Luke Swanson, David J Gagnon, Jennifer Scianna, John McCloskey, Nicholas Spevacek, Stefan Slater, and **Erik Harpstead**. 2022. Leveraging Cluster Analysis to Understand Educational Game Player Styles and Support Design. In *Proceedings of the Games+Learning+Society Conference*.
16. David J Gagnon, Ryan S Baker, Luke Swanson, Nicholas Spevacek, Juiliana Andres, **Erik Harpstead**, Jennifer Scianna, Stefan Slater, and Maria O C Z San Pedro. 2022. Exploring Players Experiences of humor and snark in a grade 3-6 history practice game. In *Proceedings of the Games+Learning+Society Conference*.
17. Daniel Weitekamp, **Erik Harpstead**, and Kenneth R Koedinger. 2021. Toward Stable Asymptotic Learning with Simulated Learners. In *Proceedings of Artificial Intelligence in Education*, 390-394.
18. Daniel Weitekamp, Zihuiwen Ye, Napol Rachatasumrit, **Erik Harpstead**, and Kenneth R Koedinger. 2020. Investigating Differential Error Types Between Human and Simulated Learners. In *Proceedings of Artificial Intelligence in Education*, 586-597.
19. Kenneth Holstein, **Erik Harpstead**, Rebecca Gulotta, and Jodi Forlizzi. 2020. Replay Enactments: Exploring Possible Futures through Historical DataReplay Enactments. In *Proceedings of the 2020 ACM Designing Interactive Systems Conference*, 1607-1618.
20. Daniel Weitekamp, **Erik Harpstead**, and Kenneth R Koedinger. 2020. An Interaction Design for Machine Teaching to Develop AI Tutors. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1-11.

21. Joseph Seering, Ray Mayol, **Erik Harpstead**, Tianying Chen, Amy Cook, and Jessica Hammer. 2019. Peer Feedback Processes in the Game Industry. In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 427-438.
22. **Erik Harpstead**, Juan Sebastian Rios, Joseph Seering, and Jessica Hammer. 2019. Toward a Twitch Research Toolkit: A Systematic Review of Approaches to Research on Game Streaming. In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 111-119.
23. Daniel Weitekamp III, **Erik Harpstead**, Christopher J Maclellan, Napol Rachatasumrit, and Kenneth R Koedinger. 2019. Toward Near Zero-Parameter Prediction Using a Computational Model of Student Learning. In *12th International Conference on Educational Data Mining*, 456-461.
24. Yeyu Wang, Huy Nguyen, **Erik Harpstead**, John Stamper, and Bruce M. McLaren. 2019. How Does Order of Gameplay Impact Learning and Enjoyment in a Digital Learning Game? In *Proceedings of Artificial Intelligence in Education - AIED 2019*. 518-531.
25. **Erik Harpstead**, J. Elizabeth Richey, Huy Nguyen, and Bruce M. McLaren. 2019. Exploring the Subtleties of Agency and Indirect Control in Digital Learning Games. In *Proceedings of the 9th International Conference on Learning Analytics & Knowledge - LAK19*, 121-129. **Nominated for Best Paper**
26. Huy Nguyen, **Erik Harpstead**, Yeyu Wang, and Bruce M. McLaren. 2018. Student Agency and Game-Based Learning: A Study Comparing Low and High Agency. In *Proceedings of Artificial Intelligence in Education - AIED 2018*, 338-351.
27. Kelly Rivers, **Erik Harpstead**, and Ken Koedinger. 2016. Learning Curve Analysis for Programming: Which Concepts do Students Struggle With? In *Proceedings of the 2016 ACM Conference on International Computing Education Research - ICER '16*, 143-151.
28. Catherine C Chase, **Erik Harpstead**, and Vincent Aleven. 2016. Inciting Out-Of-Game Transfer: Adapting Contrast-Based Instruction For Educational Games. In *Proceedings of the 12th Games + Learning + Society Conference - GLS 12.0*, 29-38.
29. Christopher J MacLellan, **Erik Harpstead**, Rony Patel, and Kenneth R Koedinger. 2016. The Apprentice Learner Architecture: Closing the loop between learning theory and educational data. In *Proceedings of the 9th International Conference on Educational Data Mining - EDM '16*, 151-158. **Exemplary Paper Designation**
30. **Erik Harpstead** and Vincent Aleven. 2015. Using Empirical Learning Curve Analysis to Inform Design in an Educational Game. In *Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in Play - CHI PLAY '15*, 197-207. **Best Paper Honorable Mention Award**
31. **Erik Harpstead**, Thomas Zimmermann, Nachiappan Nagapan, Jose J. Guajardo, Ryan Cooper, Tyson Solberg, and Dan Greenawalt. 2015. What Drives People: Creating Engagement Profiles of Players from Game Log Data. In *Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in Play - CHI PLAY '15*, 369-379.
32. Christopher J MacLellan, **Erik Harpstead**, Vincent Aleven, and Kenneth R Koedinger. 2015. TRES-TLE: Incremental Learning in Structured Domains using Partial Matching and Categorization. In *Proceedings of the 3rd Annual Conference on Advances in Cognitive Systems - ACS 2015*, 28-31.
33. **Erik Harpstead**, Christopher J. MacLellan, Vincent Aleven, and Brad A Myers. 2014. Using extracted features to inform alignment-driven design ideas in an educational game. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 3329-3338.
34. **Erik Harpstead**, Christopher J MacLellan, Kenneth R Koedinger, Vincent Aleven, Steven P Dow, and Brad A Myers. 2013. Investigating the Solution Space of an Open-Ended Educational Game Using Conceptual Feature Extraction. In *Proceedings of the 6th International Conference on Educational Data Mining - EDM 2013*, 51-58.
35. Vincent Aleven, Steven Dow, Michael Christel, Scott Stevens, Carolyn Rosé, Kenneth Koedinger, Brad Myers, Julia Brynn Flynn, Zane Hintzman, **Erik Harpstead**, Soyeon Hwang, Derek Lomas, Chris Reid, Mitra Fathollahpour, Amos Glenn, Jonathan Sewall, John Balash, Nora Bastida, Chandana Bhargava, Sean Brice, Matt Champer, Samantha Collier, Jingyi Feng, Danny Hausmann, Meng Hui Koh, Weiwei Huo, Qianru Ma, Bryan Maher, Weichuan Tian, and Xun Zhang. 2013. Supporting Social-Emotional Development in Collaborative Inquiry Games for K-3 Science Learning. In *Proceedings of the 9th Games + Learning + Society Conference - GLS 9.0*, 53-60.
36. **Erik Harpstead**, Brad A Myers, and Vincent Aleven. 2013. In search of learning: facilitating data analysis in educational games. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI '13*, 79. **Best Paper Honorable Mention Award**
37. Michael G Christel, Scott M Stevens, Bryan S Maher, Sean Brice, Matt Champer, Luke Jayapalan, Qiaosi Chen, Jing Jin, Daniel Hausmann, Nora Bastida, Xun Zhang, Vincent Aleven, Kenneth Koedinger, Catherine Chase, **Erik Harpstead**, and Derek Lomas. 2012. RumbleBlocks: Teaching science concepts to young children through a Unity game. In *17th International Conference on Computer Games - (CGAMES)*, 162-166.

Other Publications

1. Ziyu Li, Noor Hammad, Qiao Zhang, Chunyi Wang, and **Erik Harpstead**. 2026. Vertical Farm: A Unified Testbed to Address Challenges in Human-Agent Teaming Research. In *Proceedings of the 13th International Conference on Human-Agent Interaction (HAI '25)*. 421-423.
2. Brian M. Winn, Jessica Hammer, **Erik Harpstead**, Avonelle Wing, Amanda Cote, and Rabindra Ratan. 2025. Past, Present, Future of Meaningful Play: Building and Bridging Communities Through Games Research and Design. In *Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play (CHI PLAY Companion '25)*. 300-301.
3. Ziyu Li, and **Erik Harpstead**. 2025. Toward a Framework for Characterizing Teaming Difficulties in Cooperative Video Games, *Current and Future Varieties of Human-AI Collaboration as part of the 2025 AAAI Spring Symposium*.
4. Christopher J. MacLellan, Daniel Weitekamp, Ying Wu, and **Erik Harpstead**. 2025. A Framework for Evaluating Human-AI Teaming Potential, *Current and Future Varieties of Human-AI Collaboration as part of the 2025 AAAI Spring Symposium*.
5. Ying Choon Wu, Leon Lange, Jacob Yenney, Qiao Zhang, and **Erik Harpstead**. 2024. The Impact of Scaffolded versus Self-Paced Training on Human-Agent Teams. In *Proceedings of the 12th International Conference on Human-Agent Interaction*.
6. **Erik Harpstead**, David Gagnon, Magy Seif El-Nasr, and Luke Swanson. 2023. Using Open Game Data to Understand Game-Based Learning. In *Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 352.
7. Noor Hammad, **Erik Harpstead**, and Jessica Hammer. 2023. GameAware Streaming Interfaces. In *Companion Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 248-253.
8. Yuki Chen, Jonaya Kemper, **Erik Harpstead**, Ross Higashi, and Judith Uchiduno. 2023. Designing Black Children in Video Games. *Interactions* 30, 5: 54-56.
9. **Erik Harpstead**. 2023. Learning Within Gameplay Loops: Considering Adaptive Educational Technology from a Game Design Lens. In *Proceedings of the 25th International Conference on Human-Computer Interaction*.
10. **Erik Harpstead**, Kimberly Stowers, Lane Lawley, Qiao Zhang, and Christopher Maclellan. 2023. Speculative Game Design of Asymmetric Cooperative Games to Study Human-Machine Teaming. In *Proceedings of the 18th International Conference on the Foundations of Digital Games (FDG '23)*.
11. Yoon Jeon Kim, José A. Ruipérez Valiente, Dirk Ifenthaler, **Erik Harpstead**, and Elizabeth Rowe. 2022. Analytics for Game-Based Learning. *Journal of Learning Analytics* 9, 3: 8-10.
12. Qianou Ma, and **Erik Harpstead**. 2021. Support Designer-Teacher Collaboration in Educational Game Design Using Learning Science Principles, in *Extended Abstracts of the Annual Symposium on Computer-Human Interaction in Play*.
13. Michelle Hsieh, Noor Hammad, **Erik Harpstead**, and Jessica Hammer. 2021. Understanding Player Retention Strategies in Animal Crossing: New Horizons, in *Extended Abstracts of the Annual Symposium on Computer-Human Interaction in Play*.
14. Ross Higashi, **Erik Harpstead**, Jaemarie Solyst, Jonaya Kemper, Judith Odili Uchiduno, and Jessica Hammer. 2021. The Design of Co-Robotic Games for Computer Science Education, in *Extended Abstracts of the Annual Symposium on Computer-Human Interaction in Play*.
15. Judith Odili Uchiduno, Jaemarie Solyst, Jonaya Kemper, **Erik Harpstead**, Ross Higashi, and Jessica Hammer. 2021. Negotiating Systemic Racial and Gender Bias as a Minoritized Adult Design Researcher, in *Extended Abstracts of the Annual Symposium on Computer-Human Interaction in Play*.
16. Noor Hammad, **Erik Harpstead**, and Jessica Hammer. 2021. Towards Examining the Effects of Live Streaming an Educational Game, in *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems*.
17. **Erik Harpstead**, and Jessica Hammer. 2020. Toward Game Aware Streaming Interfaces, *CHI '20 Workshop on Be Part Of It: Spectator Experience in Gaming and eSports*.
18. Viktoria Pammer-Schindler, **Erik Harpstead**, Benjamin Xie, Betsy DiSalvo, Ahmed Kharrufa, Petr Slovak, Amy Ogan, Joseph Jay Williams, and Michael J Lee. 2020. Learning and education in HCI: A Reflection on the SIG at CHI 2019. *Interactions* 27, 5: 6-7.
19. David Gagnon, **Erik Harpstead**, Vishesh Kumar, Elizabeth Owen, Dennis Ramirez, and Stefan Slater. 2019. *Game Data Analysis to Understand Players, Design, and Learning, Symposium at the Connected Learning Summit - CLS '19*.
20. David Gagnon, **Erik Harpstead**, and Stefan Slater. 2019. Comparison of Off the Shelf Data Mining Methodologies in *Educational Game Analytics, EDM '19 Workshop on EDM & Games: Levelling Up Engaged Learning with Data-Rich Analytics*.

21. **Erik Harpstead**, Christopher J MacLellan, Daniel Weitekamp III, and Kenneth R Koedinger. 2019. The Use of Simulated Learners in Adaptive Education. *In 3rd International Conference on AI + Adaptive Education*.
22. Benjamin Xie, **Erik Harpstead**, Betsy DiSalvo, Petr Slovak, Ahmed Kharrufa, Michael J Lee, Viktoria Pammer-Schindler, Amy Ogan, and Joseph Jay Williams. 2019. Learning, Education, and HCI. *In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems - CHI EA '19*, 1-4.
23. **Erik Harpstead** and Christopher J MacLellan. 2019. Visualizing the Solution Space of Educational Games using TRESTLE, *Companion Proceedings 9th International Conference on Learning Analytics & Knowledge - LAK '19*.
24. **Erik Harpstead**, Christopher J. MacLellan, Robert P. Marinier III, and Kenneth R. Koedinger. 2018. Towards Natural Cognitive System Training Interactions: A Preliminary Framework, *Designing the User Experience of Artificial Intelligence as part of the 2018 AAAI Spring Symposium*.
25. **Erik Harpstead**. 2016. Projective Replay Analysis: Using Cognitive Systems to Drive Evaluation of Educational Games, *2nd Annual Students of Cognitive Systems Workshop at the Advances in Cognitive Systems Conference*.
26. **Erik Harpstead**, Christopher J. MacLellan, and Vincent Aleven. 2015. Discovering Knowledge Models in an Open-ended Educational Game using Concept Formation, *6th International Workshop on Intelligent Support in Exploratory and Open-Ended Learning Environments at the 17th International Conference on Artificial Intelligence in Education - AIED '15*.
27. Christopher J. MacLellan, **Erik Harpstead**, Eliane Stampfer Wiese, Mengfan Zou, Noboru Matsuda, Vincent Aleven, and Kenneth R. Koedinger. 2015. Authoring Tutors with Complex Solutions: A Comparative Analysis of Example Tracing and SimStudent, *Workshop on Simulated Learners at the 17th International Conference on Artificial Intelligence in Education - AIED '15*.
28. **Erik Harpstead**, Christopher J. MacLellan, Vincent Aleven, and Kenneth R. Koedinger. 2014. Using Data to Explore the Differences between Instructional Vision and Student Performance, *Workshop on Learning Innovation at Scale at the 32nd SIGCHI Conference on Human Factors in Computing Systems - CHI '14*.
29. **Erik Harpstead**. 2013. A Potential Future for Games: Appropriated Interfaces, *Game Jam at the 31st SIGCHI Conference on Human Factors in Computing Systems - CHI '13*.
30. Derek Lomas and **Erik Harpstead**. 2012. Design Space Sampling for the Optimization of Online Educational Games, *Workshop on Game User Research at the 30th SIGCHI Conference on Human Factors in Computing Systems - CHI '12*.

GRANTS

Research Grants

ARL STRONG Cycle 5, <i>Co-PI</i> [\$1,200,000 / 3 years]	2024-2025
NSF Research Coordinator Network, <i>Co-PI</i> [\$500,000 / 2 years]	2023-2025
ARL STRONG Cycle 3, <i>Co-PI</i> [\$1,499,994]	2021-2025
NSF AISL, <i>Senior Personnel</i> [\$2,616,054]	2019-2023

AWARDS

Paper Awards

Best Paper, International Conference on Game Jams, Hackathons, & Game Creation Events	2026
Best Paper, Foundations of Digital Games Conference	2025
Best Paper Honorable Mention, Foundations of Digital Games Conference	2023
Nomination for Best Paper (top 5), Learning Analytics and Knowledge Conference	2019
Exemplary Paper Designation (top 15%), Educational Data Mining Conference	2016
Best Paper Honorable Mention (top 5%), CHI PLAY Conference	2015
Best Paper Honorable Mention (top 5%), CHI Conference	2013

Fellowships and Academic Awards

Program for Interdisciplinary Education Research (PIER) Fellowship, Carnegie Mellon University	2011
Commendation of Merit in Collaboration & Co-Creation, Society for New Communications Research	2010
College of Science and Letters Undergraduate Research Award, Illinois Institute of Technology	2009

Other Awards

Best Use of Theme, PIGDA Pittsburgh Board Game Jam	2019
First Place among Carnegie Mellon University teams, Microsoft College Puzzle Challenge	2016
First Place among Carnegie Mellon University teams, Microsoft College Puzzle Challenge	2014

Invited Talks

Speculative Game Design for Studying Human-AI Teaming

- CMU METALS Learning with and about AI Seminar Series, Pittsburgh, PA January 2026

Seeing Experience from Many Angles: Educational Game Design as a Data-Informed Craft

- University of California, Santa Cruz, CA February 2019
- University of Saskatchewan, Saskatoon, SK November 2018
- Microsoft Research, Redmond, WA April 2017
- Virginia Polytechnic Institute and State University, Blacksburg, VA February 2017

Projective Replay Analysis in Educational Games

- Soar Technology, Inc., Ann Arbor, MI March 2017

Computational Theory and Educational Game Design

- Northwestern University, Evanston, IL March 2017

Other Presentations

Educator Game Researcher Download

- GDC Festival of Gaming, San Francisco, CA March 2026

Research Ethics

- HCII REU Seminar, Pittsburgh, PA July 2025
- HCII REU Seminar, Pittsburgh, PA July 2024

Game Elements and Game Design

- Guest Lecture in Designing Human Centered Systems, Pittsburgh, PA December 2022

An AI That Learns Like Students Do: Developing a Computational Theory of Human Learning in Tutoring Environments

- Simon Initiative LearnLab Summer School, Pittsburgh, PA August 2018

METALS Capstone

Spring-Summer 2026

HCII, Carnegie Mellon University

Co-taught a masters program capstone course where students work with external clients to develop a substantive design and development project in a Learning Engineering domain.

Learning Analytics and Educational Data Science

Fall 2025

HCII, Carnegie Mellon University

Taught an introductory data science course for graduate students focusing on learning engineering relevant uses of data science. Updated several practice assignments to make them more relevant to learners' needs.

Design of Educational Games

Spring 2018-2026

HCII, Carnegie Mellon University

Designed and developed studio-based game design class for mixed graduate-undergraduate audience. Mentored multiple award winning student final projects. Materials are publicly available at <http://edugames.design>

Computational Models of Learning

Summer 2019-2022

Simon Initiative LearnLab Summer School, Carnegie Mellon University

Co-developed and facilitated a week-long workshop to teach advanced graduate, faculty, and professional

attendees how to apply computational modeling methods used in the CMU LearnLab, specifically the Apprentice Learner Architecture. Supervised project teams in the application of computational methods to their specific use cases.

Interactive Data Science

Fall 2019

HCII, Carnegie Mellon University

Taught an introductory data science course to a graduate audience, in collaboration with John Stamper.

Educational Game Design Track

Winter 2013

IPTSE Winter School, Bangalore, India

Co-developed and facilitated a two-week-long workshop on educational game design with Amy Ogan and Erin Walker for advanced undergraduate students from around India.

Introduction to Computer Programming with Media

Summer 2013

HCII, Carnegie Mellon

Taught an online preparatory computing course for incoming students in the masters of human computer interaction program.

SUPERVISION

Doctoral and Postdoctoral Supervision

Advisor, Max Levine

2026-present

Co-Advisor, Noor Hammad (with Jessica Hammer)

2020-present

Doctoral Committee Member, Daniel Weitekamp

2022-2024

External Doctoral Committee Member, Kutub Ghandi, Northeastern University

2025-2026

External Doctoral Committee Member, Qiao Zhang, Georgia Institute of Technology

2025-present

Undergraduate & Graduate Research Supervision

Independent Study Mentor, Collin Wright

2026

REU Mentor, Gregory Weber

2024

REU Mentor, Joseph Fudali

2024

Independent Study Mentor, Safiyyah Scott

2023

Independent Study Mentor, Marsha Kerman

2023

Independent Study Mentor, Lanning Zhang

2023

Independent Study Mentor, Alexander Wang

2023-2024

Independent Study Mentor, Kathryn Minor

2023

Independent Study Mentor, Adrian Ma

2020, 2022

Independent Study Mentor, Elias El Kozah

2022

Independent Study Mentor, Yiming (Yvonne) Fang

2022

REU Mentor, Francesca Lamiero

2022

Senior Thesis Advisor, Qianou (Christina) Ma

2021-2022

Independent Study Mentor, Shuyuan Ding

2020

Independent Study Mentor, Yuran Ding

2020

Independent Study Mentor, Franklin Guttman

2020

15-400 Mentor, Kalpa Anjur

2020

15-400 Mentor, Cayden Codel

2020

Independent Study Mentor, Nadia Susanto

2020

Independent Study Mentor, Kyle Barron

2019-2020

REU Mentor, Zihuiwen (Daniella) Ye

2019-2020

Independent Study Mentor, Jingxuan (Nicole) Wang

2019

Independent Study Mentor, Simran Jobanputra

2019

Independent Study Mentor, Kaitlin McTigue

2019

REU Mentor, Juan Sebastian Rios

2018

Project Support, Xiaofei Zhou

2018

Project Support, Yeyu Wang

2018

Other Mentoring and Advising

Project Advisor, HMT Games Development Team 3

2023-2024

Project Advisor, HMT Games Development Team 2

2022-2023

Project Advisor, HMT Games Development Team 1

Summer 2022

Project Advisor, Twitch Toolkit MITS Project Team

2022

Project Advisor, Twitch Toolkit MITS Project Team

2021

Project Advisor, Game Aware BHCI Capstone Project Team

2018

SERVICE

Professional Service

Steering Committee Member, Meaningful Play	2026
Steering Committee Member, Open Game Data Community	2025-present
General Chair, ACM CHI PLAY	2025
Steering Committee Member, ACM CHI PLAY	2024-present
General Chair, Meaningful Play	2024
Associate Chair, ACM CHI Subcommittee on Games & Play	2024
Technical Program Co-Chair, ACM CHI PLAY	2023-2024
Founder and Host, Open Game Data Open Office Hours	2024-present
Guest Editor, Analytics for Game-Based Learning Special of Journal of Learning Analytics	2022
Associate Chair, ACM CHI PLAY	2018, 2020, 2022, 2026
Works-in-Progress Co-Chair, ACM CHI PLAY	2021-2022
Associate Chair, ACM CHI Subcommittee on Learning, Education, & Families	2019-2021
Program Committee Member, Educational Data Mining Conference	2019-2020
Student Game Design Competition Co-Chair, ACM CHI PLAY	2020
Panelist, NSF AISL Program	2020
Student Volunteering Co-Chair, ACM CHI PLAY	2016-2017
Associate Chair, ACM CHI Works-in-Progress	2015

Local Service

Full Board Member, Institutional Review Board	2022-present
Committee Member, HCII REU Admissions Committee	2022-2023
Committee Member, METALS Admissions	2021-2024
Committee Member, METALS Curriculum Committee	2020-2024
Facilitator, OH!Lab PhD Student Accountability Support Group	2020-2022

Judging, Juries, and Boards

Judge, Gee Awards	2021
Expert Panelist, LEAP Innovations Edtech Curation Panel	2018-2019

Reviewer (Alphabetical Order)

ACM CHI Conference, ACM CHI PLAY Conference, ACM Transactions on Computer-Human Interaction (TOCHI), ACM UIST Conference, Foundations of Digital Games Conference (FDG), Games+Learning+Society Conference (GLS), IEEE Transactions on Games, IEEE Transactions on Learning Technology, Journal Entertainment Computing, Journal Learning Analytics, Journal of Computers and Education, Journal of Human-Computer Studies, Journal of Information Visualization,