

Heeryung Choi, Ph.D., Postdoctoral Associate

Curriculum Vitae

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| CONTACT INFORMATION | University of Minnesota Department of Educational Psychology 250 Educational Science 56 East River Road Minneapolis, MN 55455 | heeryung@umn.edu www.linkedin.com/in/heeryung |
| EDUCATION | Ph.D. in Information with Data Science Certificate University of Michigan Dissertation: SRLA: Self-Regulated Learning Analytics Advisor: Prof. Christopher Brooks Committee: Profs. Philip H. Winne, Stephanie Teasley, and Andrew Krumm | 2016–2022 Ann Arbor, MI, USA |
| | M.S. in Cognitive Science Seoul National University Advisor: Prof. Joonhwan Lee | 2014–2016 Seoul, South Korea |
| | B.A. in English Education Seoul National University Summa Cum Laude | 2009–2014 Seoul, South Korea |
| PROFESSIONAL APPOINTMENTS | Postdoctoral Research Associate University of Minnesota, Department of Educational Psychology Conducted data mining on institution-wide student data from learning management system interactions (Unizin, Canvas) to identify longitudinal behavior patterns and their impacts. Developed a codebook through open coding of K-12 student-tutor video recordings, guided by self-regulated learning theory. Supervisors: Profs. Panayiota (Pani) Kendeou and Caitlin Mills | August 2024–Present Minneapolis, MN, USA |
| | Research Fellow University of Michigan, School of Information Investigated the impact of reflection on students mindful use of AI-generated hints and their performance using mixed methods. Supervisor: Prof. Christopher Brooks | May 2024–August 2024 Ann Arbor, MI, USA |
| | Digital Learning Postdoctoral Associate Massachusetts Institute of Technology, Center for Transportation and Logistics Developed a learning analytics dashboard to support self-regulated learning for over 10k learners in the MITx MicroMasters Program. Supervisors: Drs. Eva Ponce-Cueto and Inma Borrella | 2022–2024 Cambridge, MA, USA |
| GRANTS | Spencer Foundation Small Research Grant (Principal Investigator; Pending Decision) MIT Integrated Learning Initiative Learning Effectiveness Grant (USD 50,000) | April 2025 2022–2023 |
| HONORS AND AWARDS | Outstanding Graduate Student Instructor of the Year Samsung PhD Scholarship (5 years) Korean National Research Scholarship Graduated Summa Cum Laude Seoul National University Merit Scholarship | 2020–2021 2016–2020 2015 2014 2011–2013 |
| PUBLICATIONS | Peer-reviewed Journal Papers Choi, H., Phung, T., Wu, M., Singla, A., & Brooks, C. (under review). Reflection-Satisfaction Tradeoff: Investigating Impact of Reflection on Student Engagement with AI-Generated Programming Hints. <i>Computers and Education: Artificial Intelligence</i> . | |

Choi, H., Jovanovic, J., Poquet, S., Brooks, C., Joksimovic, S., & Williams, J. J. (2023). The Benefit of Reflection Prompts Encouraging Learning with Hints in Programming Education. *The Internet and Higher Education*.

Brooks, C., Quintana, R. M., **Choi, H.**, Quintana, C., NeCamp, T., & Gardner, J. (2021). Towards Culturally Relevant Personalization at Scale: Experiments with Data Science Learners. *International Journal of Artificial Intelligence in Education*, pp. 1-22.

Peer-reviewed Archival Conference Proceedings

Phung, T., **Choi, H.**, Wu, M., Singla, A., & Brooks, C. (2025). Plan More, Debug Less: Applying Metacognitive Theory to AI-Assisted Programming Education. In *Proceedings of the 26th International Conference on Artificial Intelligence in Education*. Springer Nature Switzerland.

Singh, A., Fariha, A., Brooks, C., Soares, G., Henley, A., Tiwari, A., M, Chethan., **Choi, H.**, & Gulwani, S. (2024). Investigating Student Mistakes in Introductory Data Science Programming. In *Proceedings of the 55th ACM Technical Symposium on Computer Science Education*.

Choi, H., Borrella, I., & Ponce-Cueto, E. (2023). Meta-LAD: Developing a Learning Analytics Dashboard with Theoretically Grounded and Context-Specific Approaches. In *Proceedings of the 9th IEEE Learning with MOOCs (LWMOOCs)*. **Nominated for Best Paper**.

Choi, H., Winne, P. H., Brooks, C., Li, W., & Shedden, K. (2023). Logs or Self-Reports? Misalignment Between Behavioral Trace Data and Surveys When Modeling Learner Achievement Goal Orientation. In *Proceedings of the 13th International Conference on Learning Analytics & Knowledge (LAK)*.

Choi, H., Mills, C., Brooks, C., Doherty, S., & Singh, A. (2022). Design Recommendations for Using Textual Aids in Data-Science Programming Courses. In *Proceedings of the 53rd ACM Technical Symposium on Computer Science Education*.

Choi, H., Dowell, N., Brooks, C., & Teasley, S. (2019). Social Comparison in MOOCs: Perceived SES, Opinion, and Message Formality. In *Proceedings of the 9th International Conference on Learning Analytics & Knowledge (LAK)* (pp. 160-169).

Yan, W., Dowell, N., Holman, C., Welsh, S. S., **Choi, H.**, & Brooks, C. (2019). Exploring Learner Engagement Patterns in Teach-Outs Using Topic, Sentiment and On-Topicity to Reflect on Pedagogy. In *Proceedings of the 9th International Conference on Learning Analytics & Knowledge (LAK)* (pp. 180-184).

Lin, Y., Dowell, N., Godfrey, A., **Choi, H.**, & Brooks, C. (2019). Modeling Gender Dynamics in Intra and Interpersonal Interactions During Online Collaborative Learning. In *Proceedings of the 9th International Conference on Learning Analytics & Knowledge (LAK)* (pp. 431-435).

Book Chapter

Choi, H., Winne, P. H., & Brooks, C. (2023). Reconfiguring Measures of Motivational Constructs Using State-Revealing Trace Data. In V. Kovanovic, R. Azevedo, D. C. Gibson, & D. Ifenthaler (Eds.), *Unobtrusive Observations of Learning in Digital Environments* (pp. 7389). Springer, Cham.

TEACHING
EXPERIENCE

Instructor/Course Lead

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| SC0x: Supply Chain Analytics (online credential, 3,000+ students) | 2022–2024 |
| SIADS 505: Data Manipulation (online degree, 20+ students) | 2021 |

Teaching Assistant

2018–2021

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| SIADS 521: Visual Exploration of Data (online degree, 240+ graduate students) |
| SIADS 505: Data Manipulation (online degree, 270+ graduate students) |
| SI 630: Natural Language Processing: Algorithms and People (residential, 70+ graduate students) |
| SI 671: Data Mining (residential, 50+ graduate students) |

PRESENTATIONS

Peer-reviewed Presentations

Choi, H., Steadman, C., Mills, C., & Kendeou, P. (under review). Clicks to Insights: Exploring Self-Regulated Learning Behaviors Longitudinally Using Institutional Data. In *2026 American Educational Research Association (AERA) Annual Meeting*.

Choi, H., Steadman, C., Mills, C., & Kendeou, P. (2025). Designing Theory-Guided Log Indicators of Self-Regulated Learning During Academic Challenges. In *National Consortium for Instruction and Cognition Annual Meeting 2025 (NCIC)*.

Peer-reviewed Workshops and Poster

Choi, H., Brooks, C., Hayward, C., Kitto, K., Gasevic, D., Pardo, A., Winne, P., & Heffernan, N. (2021). Engineering Learning Analytics Technology Environments (ELATE): Understanding Iteration Between Data and Theory, and Design and Deployment. In *The 11th international conference on learning analytics & knowledge (LAK)*.

Choi, H., Dowell, N., Brooks, C., & Teasley, S. (2019). Social Comparison in MOOCs: Perceived SES, Opinion, and Message Formality. In *The 9th International Conference on Learning Analytics & Knowledge (LAK)* (pp. 160-169).

Choi, H., Wang, Z., Brooks, C., Collins-Thompson, K., Reed, B. G., & Fitch, D. (2017). Social Work in The Classroom? A Tool to Evaluate Topical Relevance in Student Writing. In *The 10th International Conference on Educational Data Mining (EDM)* (p. 386).

Choi, H., Brooks, C., & Collins-Thompson, K. (2017). What Does Student Writing Tell Us about Their Thinking on Social Justice?. In *The 7th International Conference on Learning Analytics & Knowledge (LAK)* (pp. 594-595).

Invited Talks

Choi, H. (2025, Jan). Do You Know What You Want to Know From Data? Insights From Log and Survey Data to Capture Different Aspects of Goals, *Technical University of Munich, Munich Data Science Institute and School of Social Sciences and Technology*.

Choi, H. (2024, Dec). Interpreting Student Interaction with AI-Generated Hints and Reflection Prompts, *University of Minnesota, Department of Educational Psychology*.

Choi, H. (2023, Oct). Advancing Learning Analytics: Insights From Trace and Survey Data on Self-Regulated Learning, *Cornell University, Ann S. Bowers College of Computing and Information Science*.

Choi, H. (2023, Aug). Upskilling SCM Professionals Through Online Learning, *Massachusetts Institute of Technology, Center for Transportation and Logistics Monthly Research Briefing*.

Choi, H. (2023, Mar). Survey or Trace Data?: Steps to Understand Self-Regulated Learning Better, *Syracuse University, School of Education*.

Choi, H. (2023, Jan). Meta-LAD: A Dashboard Supporting Self-Regulated Learning, *Massachusetts Institute of Technology, Open Learning, MITx Digital Learning Lab*.

Choi, H. (2022, Oct). Interviewed for INFO 4100 Learning Analytics, *Cornell University, Department of Information Science*.

Choi, H. (2021, Oct). Using Data to Understand Self-Regulated Learning, *Massachusetts Institute of Technology, Center for Transportation and Logistics*.

Choi, H. (2021, May). Engineering Learning Analytics Technology Environments (ELATE), *University of Michigan, Center of Academic Innovation*.

SERVICE

Conference Organizing Committee

Poster & Demo Track Chair

International Conference on Educational Data Mining 2025 (EDM' 25)

2024 - 2025

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| | Poster & Demo Track Chair International Conference on Educational Data Mining 2024 (EDM' 24) | 2023 - 2024 |
| | Peer Review (Journals) | |
| | Metacognition and Learning | 2024 - Present |
| | British Journal of Educational Technology (BJET) | 2022 - Present |
| | International Journal of Artificial Intelligence in Education (IJAIED) | 2020 - Present |
| | Journal of Learning Analytics (JLA) | 2019 - Present |
| | Peer Review (Conference Program Committees) | |
| | ACM Learning @ Scale Conference (L@S) | 2025 - Present |
| | Technical Symposium on Computer Science Education (SIGCSE) | 2024 - Present |
| | International Educational Data Mining Conference (EDM) | 2024 - Present |
| | American Educational Research Association (AERA) Annual Meeting | 2023 - Present |
| | Learning with MOOCs (LwMOOCs) | 2023 - Present |
| | Artificial Intelligence in Education Conference (AIED) | 2020 - Present |
| | ACM Learning Analytics and Knowledge Conference (LAK) | 2016 - Present |
| | Peer Review (Grants) | |
| | Society for Learning Analytics Research Early Career Grant | 2023 - Present |
| | Leadership | |
| | Organized a graduate research competition in collaboration with Big Picture Learning, a non-profit organization | 2025–Present University of Minnesota |
| | Organized a job panel featuring international scholars on academic careers beyond the USA | Spring 2025 University of Minnesota |
| | Member, Working Group of Society for Learning Analytics Research (SoLAR) | 2019–Present |
| | Doctoral Executive Committee Member of School of Information | 2017–2018 University of Michigan |
| MEDIA COVERAGE | New dashboard supports online learners' self-regulated learning and performance | Oct 2023 MIT Open Learning |
| REFERENCES | <div> <p>Panayiota (Pani) Kendeou, Ph.D. Distinguished McKnight University Professor & Guy Bond Chair in Reading Department of Educational Psychology University of Minnesota Minneapolis, MN, USA kend0040@umn.edu</p> <p>Oleksandra Poquet, Ph.D. Professor in Learning Analytics School of Social Sciences and Technology Technical University of Munich Munich, Germany sasha.poquet@tum.de</p> <p>Philip H. Winne, Ph.D. Professor Emeritus Faculty of Education Simon Fraser University Burnaby, BC, Canada winne@sfu.ca</p> </div> <div> <p>Christopher Brooks, Ph.D. Associate Professor School of Information University of Michigan Ann Arbor, MI, USA brooksch@umich.edu</p> <p>Caitlin Mills, Ph.D. Associate Professor Department of Educational Psychology University of Minnesota Minneapolis, MN, USA cmills@umn.edu</p> </div> | |