Shan Zhang

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EDUCATION

University of Florida | Gainesville, FL 08/2023-05/2027
Doctor of Philosophy
- Program: Curriculum and Instruction, specializing in Educational Technology
- Minor: Research Evaluation and Methodology (REM)
- Advisors: Dr. Maya Israel and Dr. Anthony Botelho
- Committee: Drs. Maya Israel, Anthony Botelho, Daryn Dever, Leite Walter (REM)

Harvard University | Cambridge, MA 08/2020-05/2021
Master of Education
- Program: Human Development and Psychology
- Advisor: Dr. Meredith Rowe

University of Oregon | Eugene, OR 09/2016-06/2020
Bachelor of Science, Summa Cum Laude
- Program: Educational Foundations

RESEARCH INTERESTS

- AI Education (multimodal AI literacy assessment) and AI in Education (Integration AI in K-12 Math and CS)
- Multimodal Learning Analytics & Educational Data Mining (e.g., ML, NLP, LLM)
- Collaborative Learning and Affect in STEM+C Education
- Learner Models for K-12

HONORS & AWARDS & GRANTS

- 2026 Outstanding Graduate Research Award 2026
- UF Graduate Student Council Travel Grant Award ($400) 2026
- Innovation in Design Award | National AI Literacy Day @ UF 2026
- UF School of Teaching and Learning PhD Travel Grant ($300) 2026, Spring
- UF COE Scholarship-Art and Lucy Moore Fellowship Fund ($2000) 2025
- Nominated for the Best Poster Award | AIED2025 2025
- CSEDM workshop Travel Fund ($500) 2025
- UF Graduate Student Council Travel Grant Award ($500) 2025
- Professor Ramkumar Memorial scholarship ($125) 2025
- Educational Data Mining Society Travel Scholarship ($375) 2025
- UF SAGE New Student Organization Award 2024-2025
- AERA SIG Instructional Technology Student Best Paper Award ($200) 2025
- UF School of Teaching and Learning PhD Travel Grant ($315) 2025, Spring
- AERA SIG Instructional Technology Graduate Student Scholarship ($200) 2025
- Nominated for the Best Paper Award | ICCE2024 2024
- UF School of Teaching and Learning PhD Travel Grant ($220) 2024, Fall
- AI Institutes Virtual Organization Travel Grant ($1740) 2024-2025
- Harvard Graduate School of Education Grant ($15000) | Harvard University 2020-2021
- Kenneth S. Ghent Scholarship | University of Oregon 2019-2020
- General University Scholarship | University of Oregon 2019-2020
- Work Study Award | University of Oregon 2019-2020
- Rose Gross Scholarship | University of Oregon 2018-2019

CURRENT RESEARCH EXPERIENCE

Educational Testing Service 06/2026-08/2026
Research Intern, Mentors: Caitlin Tenison, Teresa Ober, Tenaha O'Reilly Hybird

Google AI Impact Study: An Integrated Efficacy Evaluation of AI in Education 10/2025-present
Graduate student researcher, PIs: Dr. Maya Israel and Dr. Anthony Botelho Gainesville, FL

CS Everyone Center| University of Florida 08/2023-present
Graduate Research Assistant, PI: Dr. Maya Israel Gainesville, FL

AI Institute for Innovative Intelligent Technologies for Education (INVITE) 08/2023-present
Graduate Research Assistant, PIs: Drs. H. C. Lane, C. Zhai, D. Zapata, K. Boyer, J. Payton Gainesville, FL

Fostering CS and AI through Youth-Led Conversational App Development Experience 02/2024-present
Graduate Research Assistant, PIs: Dr. Kristy Boyer and Dr. Maya Israel Gainesville, FL

Orchestrating Productive Collaboration in Mathematics with Multimodel Machine Learning 10/2023-05/2026
Graduate Research Assistant, PIs: Drs. Anthony Bolteho, Ji-Eun Lee and Erik Weitnauer Gainesville, FL

PRIOR RESEARCH EXPERIENCE

Educational Testing Service 06/2025-08/2025
Research Intern, Mentors: Diego Zapata-Rivera, Caitlin Tenison, and Reginald Gooch. Remote

Using Flow-Based Music Programming to Engage Children in Computer Science | UF 02/2024-05/2024
Graduate Research Assistant Gainesville, FL

Fostering Collaborative Computer Science Learning with Intelligent Virtual Companions for Upper Elementary Students (FLECKS) | UF 08/2023-11/2024
Graduate Research Assistant Gainesville, FL

Digital Learning Lab | University of California, Irvine 06/2022-03/2023
Research Assistant, PIs: Dr. Ying Xu and Dr. Mark Warschauer Remote

"The Thermometer of Love"-Digital Chinese Parenting Education APP | Fudan University 06/2022-07/2023
Research Assistant, PI: Dr. Shouyan Wang Remote

The Spelke Lab | Harvard University 10/2020-07/2023
Research Assistant, PI: Dr. Elizabeth S. Spelke Cambridge, MA

The Early Learning Study at Harvard | Harvard Graduate School of Education (HGSE) 08/2021-06/2022
Full-time Research Assistant, PIs: Dr. Stephanie Jones and Dr. Nonie Lesaux Cambridge, MA

The Catalyzing Comprehension Through Discussion and Debate Project | HGSE 07/2021-08/2021
Research Assistant, PI: Dr. Catherine E. Snow Cambridge, MA

The Collaborative for Early Rural Education in China Lab | HGSE 10/2020-08/2021
Research Assistant, PIs: Dr. Catherine E. Snow and Dr. Si Chen Cambridge, MA

The Rowe Lab | HGSE 09/2020-08/2021
Research Assistant, PI: Dr. Meredith L. Rowe Cambridge, MA

Center for Brian and Mathematics Learning| Beijing Normal University 07/2020-09/2020
Remote Visiting Student, PI: Dr. Xinlin Zhou Beijing, China

Dr. Husman's Motivation and Emotion Lab | University of Oregon 01/2019-08/2020
Research Assistant, PI: Dr. Jennifer Husman Eugene, OR

JOURNAL PUBLICATIONS

[J15] Li, H., **Zhang, S.,** & Botelho, A. F. (2026). VETTING: A Dual-LLM Framework for In-Loop Safety Verification via Policy Isolation in Educational AI. *Computers and Education: Artificial Intelligence.* 100646.

[J14] Schroeder, N. L., **Zhang, S.,** Gladstone, J. R., & Bhat, S. (2026). Trustworthiness, Privacy, and Context Dependence of Large Language Models in Educational Contexts: Technical Challenges and Opportunities. *Journal of Educational Computing Research*, 07356331261467266.

[J13] Ober, T. M., **Zhang, S.,** Zapata-Rivera, D., Schroeder, N. L., & Botelho, A. F. (2026). Using LLMs to identify indicators of persistence from students' dialogues with a pedagogical agent. *Journal of Educational Data Mining, 18*(1), 208–243. https://doi.org/10.5281/zenodo.18852441

[J12] Li, Z., **Zhang, S.,** Huggins-Manley, A. C., Botelho, A. F., & Zhang, H. (2026). Evaluating the causal effects of digital use quality on students' ICT literacy. *Journal of Research on Technology in Education*, 1–25. https://doi.org/10.1080/15391523.2025.2603508

[J11] Sparks, J.R., Lehman, B., Gladstone, J.R., **Zhang, S.,** Schroeder, N., & Israel, M. (2025). Measuring persistence and academic resilience of K-12 students: Systematic review and operational definitions. *Frontiers in Education*. https://doi.org/10.3389/feduc.2025.1673500

[J10] Gladstone, J. R., Schroeder, N. L., Heidig, S., **Zhang, S.,** Palaguachi, C., & Pitera, M. (2025). Do Pedagogical Agents Enhance Student Motivation? Unraveling the Evidence Through Meta-Analysis. *Educational Psychology Review, 37*(3), 72.

[J9] Lee, S., Baral, S., Li, H., Cheng, L., **Zhang, S.,** Siegel Thorp, C., St. John, J., Thompson, T., Heffernan, N., & Botelho, A. F. (2025). Toward Feedback At Scale: Building Taxonomy of Teacher Feedback in Online Math Learning. *Journal of Educational Data Mining, 17*(2).

[J8] Schroeder, N. L., **Zhang, S.,** Jaldi, C. D., Gladstone, J. R., López, A. A., & Dorley, E. (2025). Virtual Characters Help K–12 Students Learn and Improve Motivation: *A Meta-Analysis. Review of Educational Research, 0*(0). https://doi.org/10.3102/00346543251389930

[J7] **Zhang, S.,** Ganapathy, P. P., Schroeder, N. L. (2025). Learning about AI: A Systematic Review of Reviews on AI Literacy. *Journal of Education Computing Research*, 07356331251342081.

[J6] Li, H., Xing, W., Zhu, W., **Zhang, S.,** & Liu, Z. (2025). Should educational AI models include gender attribute? Explaining the why based on environmental psychology course with gender imbalance. *Journal of Computing in Higher Education*.

[J5] **Zhang, S.,** Jaldi, C., Schroeder, N. L., & Gladstone, J. R. (2024). Pedagogical agents in K-12 education: A scoping review. *Journal of Research on Technology in Education*, 1–28. https://doi.org/10.1080/15391523.2024.2381229

[J4] **Zhang, S.,** Jaldi, C., Schroeder, N. L., López, A. A., Gladstone, J. R., & Heidig, S. (2024). Pedagogical agent design for K-12 education: A systematic review. *Computers & Education, 233*, 105165.

[J3] **Zhang, S.,** Palaguachi, C., Pitera, M., Jaldi, C. D., Schroeder, N. L., Botelho, A. F., & Gladstone, J. R. (2024). Semi-Automating the Scoping Review Process: Is it Worthwhile? A Methodological Evaluation. *Educational Psychology Review, 36*(4), 1-35. https://doi.org/10.1007/s10648-024-09972-0

[J2] Mannekote, A., Davies, A., Pinto, J. D., **Zhang, S.,** Olds, D., Schroeder, N. L., Lehman, B., Zapata-Rivera, D., & Zhai, C. (2024). Large language models for whole-learner support: Opportunities and Challenges. *Frontiers in Artificial Intelligence, 7,* 1460364.

[J1] Song, Y., Weisberg, L., **Zhang, S.,** Tian, X., Boyer, K. E., & Israel, M. (2024). A framework for inclusive AI learning design for diverse learners. *Computers and Education: Artificial Intelligence*. https://doi.org/10.1016/j.caeai.2024.100212

Under Review

- **Zhang, S.,** Li, H., Lee, S., Schroeder, N. L., Lee, J. E., & Botelho, A. F. (under review). Evaluating Large Language Models for Intervention Decisions Using Multimodal Collaborative Learning Analytics. *ETRD.*
- Lee, S., **Zhang, S.,** Zhang, J., Zambrano, A. F., Li, H., Baker, R. S., Adjei, S. A., & Botelho, A. F. (under review). Can we tell mistakes from misconceptions? Leveraging a human-AI pipeline to evaluate students' contextual slips. *JLA.*
- Van der Beek, P., Henderikx, M., Schroeder, N. L., **Zhang, S.,** & Jarodzka, H. (under review). Pedagogical Agents Enhance Learning in Higher Education, Especially When Interactive: A Meta-Analysis. *Educational Research Review.*
- Lee, S., Li, H., **Zhang, S.,** Lee, J. E., & Botelho, A. F. (under review). Designing Context-aware AI Agent to Support Teachers' Instructional Design Decisions within Learning Analytics Dashboards: A Case of Collaborative Problem-Solving in Middle School Math. *Learning: Research and Practice.*
- **Zhang, S.,** Wusylko, C., Koh, D., Antonenko, P. D., & Botelho, A. F. (under review after revision). What, Not just Where: A Multimodel Embedding Approach to Visual Attention. *Computers & Education*.
- Tian, X., **Zhang, S.,** Song, Y., Mannekote, A., Barrett, J., Wise, C. F., Dobar, E., Boyer, K. E., & Israel, M. (under Review). Too skeptical or not skeptical enough? Middle school student and teacher perceptions of LLM-based project assessment. *Education and Information Technologies.*
- Schroeder, N. L., Jaldi, C. D., & **Zhang, S., &** Yamoah, K. (2026, in press). AI Assisted Data Extraction for Systematic Reviews in Education. *Educational Technology Research and Development*.
- Schroeder, N. L., **Zhang, S.**, Gite, T., & Mallavarapu, A. (under review after revision). Exploring Large Language Models for Full Text Systematic Review Screening in Education. *Journal of Research on Technology in Education*.

PEER REVIEWED CONFERENCE PROCEEDINGS

Full-Paper Publications

[C15] **Zhang, S.,** Li, H., Lee, S., Liu, X., Lee, J.-E., Schroeder, N. L., & Botelho, A. F. (2026, November). LLM-based multimodal representations of student collaboration in mathematics. In *International Conference on Quantitative Ethnography*. Cham: Springer Nature Switzerland.

[C14] **Zhang, S.,** Tenison, C., Zapata-Rivera, D., Gooch, R., & Israel, M. (2026, October). An LLM-enhanced score reporting assistant for teachers: System design and usability evaluation. In *Artificial Intelligence in Measurement and Education Conference* (AIME–Con). Special Interest Group of the National Council on Measurement in Education.

[C13] **Zhang, S.,** Zambrano, A. F., Tian, X., Song, Y., Botelho, A. F., Boyer, K. E., Israel, M., & Jiang, S. (2026, June). Analyzing middle school students' dialogue and behaviors during collaborative AI chatbot development using

ordered network analysis. In *International Conference on Artificial Intelligence in Education* (pp. TBD). Cham: Springer Nature Switzerland.

[C12] Davis Jaldi, C., Saini, A., **Zhang, S.,** Ilkou, E., Schroeder, N., & Shimizu, C. (2026, June). Small, private language models as teammates for educational assessment design. In *International Conference on Artificial Intelligence in Education* (pp. TBD). Cham: Springer Nature Switzerland.

[C11] Lee, S., **Zhang, S.,** Li, H., Lee, J.-E., Ayers Closser, A., & Botelho, A. F. (2026, June). Flexibility before fluency: Exploring flexible strategies emerge through collaborative problem-solving. In *Proceedings of the International Conference on Computer-Supported Collaborative Learning* (CSCL). **[Best Student Paper Award]**

[C10] **Zhang, S.,** Jaldi, C., & Schroeder, N. L. (2026, March). Learning and Teaching with AI in STEM Education: An Umbrella Review. *The 16th IEEE Integrated STEM Education Conference* (ISEC).

[C9] **Zhang, S.†,** Xiao, R.†, Botelho, A. F., Liao, G., Chiu, T. K. F., Stamper, J., & Koedinger, K. (2026, April). How to assess AI literacy: Misalignment between self-reported and objective-based measures. In *Proceedings of the 16th International Learning Analytics and Knowledge Conference* (LAK). (†Co-first Author).

[C8] **Zhang, S.,** Pradhan, S., Lee, J. E., Gurung, A., & Botelho, A. F. (2026, April). Let Me Try Again: Examining Replay Behavior by Tracing Students' Latent Problem-Solving Pathways. In *Proceedings of the 16th International Learning Analytics and Knowledge Conference* (LAK).

[C7] Tension, C., Beigman Klebanov, B., Schroeder, N., **Zhang, S.,** Suhan, M., & Zhang, C. (2025, October). Towards assessing persistence in reading in young learners using pedagogical agents. In *Artificial Intelligence in Measurement and Education Conference* (AIME–Con). Special Interest Group of the National Council on Measurement in Education.

[C6] Earle-Randell, T. V., **Zhang, S.,** Schroeder, N., Boyer, K. E., & Dorley, E. (2025, July). How virtual agents can shape human-human collaboration: A systematic review. In *Proceedings of the 2025 International Conference on Artificial Intelligence in Education* (AIED 2025), Palermo, Italy.

[C5] Rahimi, S., Celik, D., Gao, R., Esmaeiligoujar, S., Babaee, M., Li, H., **Zhang, S.,** Lee, S., Closser, A., & Botelho, A. (2025, July). ProductiveMath: A generative-AI-powered app to support productive failure teaching. *Proceedings of the 2025 International Conference on Artificial Intelligence in Education (AIED 2025),* Palermo, Italy. **[Nominated for the Best Poster Award]**

[C4] Liu, Z., **Zhang, S.,** Israel, M., Smith, R., Xing, W., & Minces, Victor. (2025, Feb). Engaging K-12 Students with Flow-Based Music Programming: An Experience Report on Its Impact on Teaching and Learning. In *Proceedings of the 56th ACM Technical Symposium on Computer Science Education.*

[C3] Hutchins, N., **Zhang, S.,** Barrett, J., & Israel, M. (2025, March). Empowering Educators in AI: Insights from Co-Designing an AI Microcredential with and for K-12 Educators. In *Proceedings of the AAAI Conference on Artificial Intelligence.*

[C2] **Zhang, S.,** Hutchins, N., Barrett, J., Botelho, A., & Israel, M. (2025, Feb).). Introducing K-12 Teachers to Computer Science Education through an Online Micro-credential: An Experience Report. In *Proceedings of the 56th ACM Technical Symposium on Computer Science Education.*

[C1] **Zhang, S.,** Earle-Randell, T. V., Shen, Q, Botelho, A. F., Israel, M., Boyer, K. E., Lynch, C. F., & Wiebe, E. (2024, November). Predicting and Analyzing Students' Higher-Order Questions in Collaborative Problem-Solving. In *Proceedings of the 32nd International Conference for Computers in Education.* Philippines: Asia-Pacific Society for Computers. **[Nominated for the Best Overall Paper Award]**

Short & WIP Paper Publications

[C5] **Zhang, S.,** Zambrano, A. F., Zambrano, F., Li, H., Lee, S., Lee, J.-E., & Botelho, A. F. (2026, June). Modeling and analyzing collaborative dialogue states in mathematics problem-solving through ONA and hidden Markov models. In *Proceedings of the International Conference on Computer-Supported Collaborative Learning* (CSCL)

[C4] Schroeder, N. L., Gladstone, J.R., Bhat, S., & **Zhang, S.** (2026, March). WIP: Educational Benchmarks for Large Language Models in Computer Science Education. *The 16th IEEE Integrated STEM Education Conference* (ISEC).

[C3] Tian, X., **Zhang, S.,** Song, Y., McKlin, T., Boyer, K. E., & Israel, M. (2026, June). An attitude paradox? Examining ability beliefs and persistence intentions in a middle school conversational AI learning experience. In *International Conference on Artificial Intelligence in Education* (pp. TBD). Cham: Springer Nature Switzerland.

[C2] Lee, S., Li, H., **Zhang, S.,** Zhong, E., Lee, J. E., & Botelho, A. F. (2025, July). So what? Unpacking the complexities in collaborative problem solving with AI-augmented sense-making. In *International Conference on Artificial Intelligence in Education* (pp. 431-438). Cham: Springer Nature Switzerland.

[C1] Li, H., **Zhang, S.,** Lee, S, Zhong, Z., Weitnauer, E., & Botelho, A. F. (2024, July). Math in motion: Analyzing real-time student collaboration in computer-supported learning environments. *International Educational Data Mining Society*.

Poster Publications

[P8] **Zhang, S.,** Worden, E., Leite, W., Heffernan, N. T., & Botelho, A. F. (2026). Would a short explanation immediately help? Examining causal effects of students' help-seeking in math. In *Proceedings of the 19th International Conference on Educational Data Mining*.

[P7] **Zhang, S.,** Li, H., Lee, S., Lee, J.-E., Schroeder, N. L., & Botelho, A. F. (2026, June). Assessing student collaboration with multimodal data and large language models. In *Proceedings of the International Conference on Computer-Supported Collaborative Learning* (CSCL).

[P6] **Zhang, S.,** Earle-Randell, T. V., Ganapathy, P. P., Liu, Z., Shi, Y., Bhat, S., Israel, M., & Botelho, A.F. (2026, Feb). Examining Students' Code Comprehension with LLMs in Block- and Text-Based Programming. In *Proceedings of the 57th ACM Technical Symposium on Computer Science Education*.

[P5] **Zhang, S.,** Ganapathy, P. P., Earle-Randell, T. V., Shi, Y., Bhat, S., & Israel, M. (2026, Feb). Investigating High School Students' Code Comprehension and Strategy Use Across Block-Based and Text-Based Programming. In *Proceedings of the 57th ACM Technical Symposium on Computer Science Education*.

[P4] Liu, Z., **Zhang, S.,** Xing, W., Minces, Victor., & Israel, M. (2025, Feb). Integrating Music and Flow-Based Programming Builds Teachers' Confidence in Computer Science: An ITEST program. *The 2025 American Society for Engineering Education (ASEE) Annual Conference,* June 22-25, Montreal, Quebec, Canada.

[P3] **Zhang, S.,** Meshram, P., Ganapathy, P. P., Israel, M., & Bhat, S. (2025, Feb). An LLM-based framework for simulating, classifying, and correcting students' programming knowledge with the SOLO Taxonomy. In *Proceedings of the 56th ACM Technical Symposium on Computer Science Education*.

[P2] **Zhang, S.,** Li, H., Lee, S., Schroeder, N. L., & Botelho, A. F. (2025, July). VETTING AI for deeper learning: Encouraging student inquiry by constraining LLM responses in an AI education setting. *Proceedings of the 2025 International Conference on Artificial Intelligence in Education* (AIED 2025), Palermo, Italy.

[P1] **Zhang, S.,** Li, H., Li, H., Botelho, A., & Israel, M. (2024, July). Investigating the Dynamic Change of Pre- and In-service Teachers' Experiences, Attitudes, and Perceptions through CS Autobiography Using Topic Modeling. In

Proceedings of the 17th International Conference on Educational Data Mining (EDM' 24), July 14-17, Atlanta, Georgia, USA.

Abstract Publications

- **Zhang, S.,** Wusylko, C., Koh, D., Antonenko, P. D., & Botelho, A. F. (2026, May). See what matters: Clustering visual attention patterns using multimodal embeddings. *Journal of Vision*.

Doctoral Consortium

- **Zhang, S.,** & Botelho, A. F. (2025). Scaffolding AI Literacy Through Student-AI Collaboration in Chatbot Development. *Proceedings of the 2025 International Conference on Educational Data Mining (EDM 2025),* Palermo, Italy.

BOOK CHAPTER

- Chandler, L., Hutchins, N., **Zhang, S.,** Lin, Y., McKenna, J., Barrett, J., Israel, M. (2025). Co-Designing a UDL-based AI-Integrated Robotics Instructional Unit: Integrating Educator Insights to Teach AI Perception in Elementary Classrooms. In S. Papadakis (Eds.), AI Applications in Preschool and Primary Education: Teaching with Artificial Intelligence. Springer.
- Closser, A., Vest, N., **Zhang, S.,** Cobo, A., Lee, S., Esmaeiligoujar, S., Mateo, D., Rosenburg, A.,Dever, D., Botelho, A., Poekert, P., & Israel, M. (under review). Exploring the impact of AI in high school education through a Research-Practice-Industry Partnership (RPIP) model.

EDITED PROCEEDINGS

- Xiao, R., **Zhang, S. (corresponding editor),** Hou, X., Tseng, Y.-J., Ma, Q., Tadmalla, Y., Jiang, B., Stamper, J., & Koedinger, K. (2026). AI Literacy For All: 2nd International Workshop on AI Literacy Education For All. Proceedings of the 2nd International Workshop on AI Literacy Education for All Workshop, co-located with AIED 2026, Seoul, Korea.
- Shi, Y., **Zhang, S. (corresponding editor),** Brusilovsky, P., Price, T., Akram, B., Leinonen, J., Lan, A., Carvalho, P., Lan, A., Koedinger, K., & Barnes, T. (Eds.). (2026). 10th Educational Data Mining in Computer Science Education (CSEDM) Workshop. Proceedings of 18th International Conference on Educational Data Mining (EDM 2026), International Educational Data Mining Society.
- Akram, B., Shi, Y., Brusilovsky, P., Price, T., Koedinger, K., Carvalho, P., **Zhang, S. (corresponding editor),** Lan, A., & Leinonen, J. (Eds.). (2025). Proceedings of the 9th Educational Data Mining in Computer Science Education (CSEDM) Workshop, co-located with EDM 2025, Palermo, Italy, July 20, 2025 (Vol. 4019). CEUR-WS.org. https://ceur-ws.org/Vol-4019/

CONFERENCE PRESENTATIONS & WORKSHOPS

- **Zhang, S.,** Ober, T., Tenison, C., O'Reilly, T., Suhan, M., & Wolf, M. (2027, under review). Identifying the enactment of AI literacy through students' AI-chatbot-supported writing processes. Paper submitted for presentation at the 2027 National Council on Measurement in Education Annual Meeting.
- **Zhang, S.,** Xiao, R., Botelho, A.F., Stamper, J., Koedinger, K., & Israel, M. (2026, March). From perceptions to competence: A learner profile analysis of K–12 teachers' AI literacy. Presented at National AI Literacy Day Conference, University of Florida, Gainesville, FL.

- Li, H., Lee, S., Martín, N., Gao, X., **Zhang, S.,** & Botelho, A.F. (2026, March). CHECKPOINT: An AI-assisted platform for misconception-targeted K-12 assessment. Poster presented at National AI Literacy Day Conference, University of Florida, Gainesville, FL. [**Won Innovation in Design Award**]
- **Zhang, S.,** Xiao, R., Botelho, A. F., Israel, M., Stamper, J., & Koedinger, K. R. (2026). Establishing and aligning self-report and objective assessments of teachers' AI literacy. Presentation at the Association for Educational Communications and Technology (AECT) International Convention, Chicago, Illinois.
- **Zhang, S.,** Wusylko, C., Koh, D., Antonenko, P. D., & Botelho, A. F. (under review, 2026, May). See what matters: Clustering visual attention patterns using multimodal embeddings. Talk/Poster to be presented at Vision Sciences Society 2026 Annual Meeting, St. Pete Beach, FL, United States.
- **Zhang, S.,** Ganapathy, P. P., Earle-Randell, T. V., Bhat, S., & Israel, M. (2026, April). From Blocks to Text: Evaluating Students' Code Comprehension through SOLO Taxonomy with LLM Support. Poster presented at the Summit for AI Institutes Leadership (SAIL). NSF AI Institutes Virtual Organization. Reston, VA, United States.
- **Zhang, S.,** Ganapathy, P. P., Earle-Randell, T. V., Liu, Z., Shi, Y., Bhat, S., & Israel, M. (2026, April). Analyzing High School Students' Code Comprehension and Strategies Using SOLO Taxonomy and Large Language Models. Poster presented at the Annual Meeting of the American Educational Research Association (AERA), Los Angeles, CA, United States.
- Lee, S., **Zhang, S.,** Li, H., & Botelho, A. (2026, April). Designing for procedural flexibility with collaborative digital whiteboards: A case study of middle school algebra. Poster presented at the Annual Meeting of the American Educational Research Association (AERA), Los Angeles, CA, United States.
- Guo, M., Bennett, A. B., **Zhang, S.,** & Israel, M. (2026, April). Understanding the Development of CS Teacher Identity in a Year-Long Education Program. Roundtable presented at the Annual Meeting of the American Educational Research Association (AERA), Los Angeles, CA, United States.
- **Zhang, S.,** Tension, C., Zapata, D., & Gooch, R. (2026, April). An LLM-Augmented Score Reporting Assistant for K-12 Teachers. National Council on Measurement in Education (NCME) 2026 Annual Meeting.
- Ober, T., **Zhang, S.,** Zapata, D., Schroeder, N., & Rivero, M. (2025, Oct). Comparing Different LLM Types for Extracting Indicators of Persistence from Students' Dialogues with a Pedagogical Agent. Association for Educational Communications and Technology Conference.
- **Zhang, S.,** Jaldi, C. D., & Schroeder, N. L. (2025, Oct). Integrating AI in STEM Education: Insights from an Umbrella Review. Association for Educational Communications and Technology Conference.
- **Zhang, S.,** Li, H., Lee, S., Schroeder, N. L., & Botelho, A. F. (2025, Oct). Investigating Student Interactions with General and Filtered ChatGPT. Association for Educational Communications and Technology Conference.
- Li, H., **Zhang, S.,** Lee, S., Trexler, M., & Botelho, A. F. (2025, Oct). LOGEN AI: Implementing a transparent human-AI collaborative tool for enhanced instructional design. Association for Educational Communications and Technology Conference.
- Li, H., Lee, S., **Zhang, S.,** & Botelho, A. F. (2025, Oct). When AI agents battle: Can their debates transform learning and spark critical thinking? Association for Educational Communications and Technology Conference.
- Schroeder, N. L., Jaldi, C. D., & **Zhang, S.** (2025). Extracting data for systematic reviews with large language models: A study and software tool. Association for Educational Communications and Technology Conference.

- Lee, S. M., Li, H., **Zhang, S.**, Zhong, Z., Lee, J. E., Botelho, A. F. (July, 2025). So what now? AI-augmented sense-making in action: An interactive dashboard for collaborative mathematics learning. *Interactive Events (IE)*. Proceedings of the 26th International Conference on Artificial Intelligence in Education.
- Li, H., Fang, Y**., Zhang, S.,** Lee, S., Wang, Y., Trexler, M., & Botelho, A. F. (2025, March). ARCHED: A human-centered framework for transparent, responsible, and collaborative AI-assisted instructional design. AAAI 2025 Workshop: Innovation and Responsibility in AI-Supported Education (iRAISE).
- **Zhang, S.,** Earle-Randell, T. V., Shen, Q, Botelho, A. F., Israel, M., Boyer, K. E., Lynch, C. F., & Wiebe, E. (2024, October). Predicting and Analyzing Students' Higher-Order Questions in Collaborative Problem-Solving. Poster presented at UF AI days 2024.
- Tian, X., Song, Y., Earle-Randell, T., **Zhang, S.,** Israel, M., & Boyer, K. E. (2025, April). *"My Bot Can Talk about Science!": Fostering AI Learning in a Middle School Science Classroom.* Presented at 2025 American Educational Research Association (AERA). Denver, Colorado. **[Nominated for the SIG-IT Best Paper Award]**
- Gladstone, J. R., Schroeder, N. L., Heidig, S., **Zhang, S.,** Palaguachi, C., & Pitera, M. (2025, April). Investigating the Influence of Pedagogical Agents on Learners' Motivation: A Comprehensive Meta-Analysis. In J. R. Gladstone (Chair) *Leveraging AI and Virtual Characters in Education: Insights and Impacts for Student Motivation* [Symposium]. American Educational Research Association Annual Meeting, Denver, CO.
- Song, Y., Weisberg, L., **Zhang, S.,** Israel, M. (2025, April). Designing Inclusive AI Learning Experience: A UDL-Guided Framework. Presented at 2025 American Educational Research Association (AERA). Denver, Colorado.
- **Zhang, S.,** Jaldi, C., Schroeder, N. L., Lopez, A. A., Gladstone, J. R., Heidig, S. (2025, April). A Systematic Review Examining the Design of Pedagogical Agents for K-12 Students. Presented at 2025 American Educational Research Association (AERA). Denver, Colorado. **[Won SIG-IT Best Student Paper Award]**
- **Zhang, S.,** Ganapathy, P. P., Schroeder, N. L. (2025, April). Learning about AI: An Umbrella Review of AI Literacy. Presented at 2025 American Educational Research Association (AERA). Denver, Colorado.
- Schroeder, N. L., **Zhang, S.,** Jaldi, C., Gladstone, J. R., López, A. A., & Dorley, E. (2025, April). Pedagogical Agents Can Help Kids Learn: A Series of Three-Level Meta-Analyses. Presented at 2025 American Educational Research Association (AERA). Denver, Colorado.
- **Zhang, S.,** Li, Z., Huggins-Manley, C. (2024, July). Evaluating the Causal Effects of Digital Use Quality on Students' ICT Literacy. Paper presented at the Causal Inference Workshop of the 17th International Conference on Educational Data Mining (EDM' 24), July 14-17, Atlanta, Georgia, USA.
- Ganapathy, P. P., Ritzhaupt, A.D., **Zhang, S.,** Rehman, M.S., & Israel, M. (2024, October). Exploring the effects of high school computer programming interventions on student learning outcomes: A Meta-analysis. Paper to be presented at the Association for Educational Communications and Technology (AECT) International Convention, Kansas City, MO.
- Kong, L., Esmaeiligourjar, S., Adhami, N., **Zhang, S.,** Kuh, D. H., Antonenko, Pavlo. (2024, October). Metalingual: enhancing TOEFL speaking preparation through AI-powered learning. Paper to be presented at the Association for Educational Communications and Technology (AECT) International Convention, Kansas City, MO. *Designated as a Presidential Presentation.*
- Li, H., **Zhang, S.,** Lee, S., & Botelho, A. F. (2024, October). AI-enabled chatbots in educational practice: A systematic review from 2017 to 2023. Paper to be presented at the Association for Educational Communications and Technology (AECT) International Convention, Kansas City, MO.

- Jaldi, C., **Zhang, S.,** Schroeder, N., & Gladstone, J. R. (2024, October). A scoping review of pedagogical agents in K-12 education. Paper to be presented at the Association for Educational Communications and Technology International Convention, Kansas City, MO.
- **Zhang, S.,** Jaldi, C., Schroeder, N., & Gladstone, J. R. (2024, March). Reviewing the application of pedagogical agents in K-12 education. Paper presented at the College of Education Research Symposium, University of Florida, Gainesville, FL.
- **Zhang, S.,** Vigil, V., Ritchie, D., Levine, J., & Xu, Y. (2023, March). Interacting with a conversational agent promotes children's science learning. Flash Talk presented at the Society for Research in Child Development, Salt Lake City, Utah.
- Coffey, J., **Zhang, S.,** & Spelke, E. (2023, March). A validation of LENA speaker classification in Ghana. Poster presented at the Society for Research in Child Development, Salt Lake City, Utah.
- Xu, Y., Levine, J., Vigil, V., Ritchie, D., Thomas, T., Barrera, C., Meza, M., **Zhang, S.,** Bustamante, A., & Warschauer, M. (2023, April). Conversations with media characters promote children's science learning from television watching. Single paper presented at the American Educational Research Association. Chicago, Illinois.
- **Zhang, S.,** & Hogenkamp, S. (2022, April). Language outcomes of preschoolers in rural China. Single paper presented at the American Educational Research Association, San Diego, CA.
- **Zhang, S.,** Dahbi, M., & Kirby, A. (2021, April). Technology and music use in early childhood education. Poster presented at the 2021 Student Research Symposium, Harvard University, Cambridge, MA.
- **Zhang, S.,** Bond, E., Strobach, G., Brescia, K., & Steinberg, J. (2021, April). Identifying preschool teachers' strategies to promote literacy skills in distance learning. Poster presented at the 2021 Student Research Symposium, Harvard University, Cambridge, MA.
- **Zhang, S.,** & Hogenkamp, S. (2021, April). Examining intersectionality between left-behind and non left-behind children in rural China and language development. Panel presented at the 2021 Student Research Symposium, Harvard University, Cambridge, MA.
- Zhuang, J., & **Zhang, S.** (2021, April). Exploring the current instructional technology use in preschool classrooms in rural China. Panel presented at the 2021 Student Research Symposium, Harvard University, Cambridge, MA.
- **Zhang, S.**, Graham, M. C., Nguyen, H., Martindale, K., Bermudez, B., Lampkins, S., & Husman, J. (2021, July). Gender differences in belonging in college physics. Single paper presented at the Network Gender and STEM Bi-Annual Meeting, Sydney, Australia*.
- Graham, M. C., DeRosia, N., **Zhang, S.**, Martindale, K., Bermudez, B., Nguyen, H., Chan B., Lampkins, S., & Husman, J. (2021, April). Examining gender differences in the relations between course belongingness, motivation, and self-regulation. Single paper presented at the American Educational Research Association, Online.
- Bermudez, B., Graham, M. C., **Zhang, S**., Martindale, K., Nguyen, H., DeRosia, N., & Husman, J. (2020, September). Do I belong in My Physics Class? Do I Care? Gender differences in motivation and belongingness. Single paper presented at the International Motivation Conference – IMC, Dresden, Germany.
- Bermudez, B., Graham, M. C., **Zhang, S.**, Martindale, K., Nguyen, H., DeRosia, N., & Husman, J. (2020, August). A place to call our own: Belongingness in the gendered STEM experience. Poster presented at the American Psychological Association Annual Convention, Washington, D.C.

- Nguyen, H., Martindale, K., **Zhang, S.,** Lampkins, S., & Husman, J. (2019, May). Helping STEM students thrive: Investigating the relationship of course belongingness and approaches to learning. Poster presented at the 2019 Undergraduate Research Symposium, University of Oregon. Eugene, OR.

  **Proposal accepted. 2020 conference rescheduled to 2021 due to COVID*

SELECTED TEACHING EXPERIENCE

MAE 2364 Explorations in Teaching Mathematics and Science | Gainesville, FL 08/2025-12/2025
Co-instructor
- Co-taught with Dr. Kristen Apraiz; prepared instructional materials, delivered lessons, graded assignments, and supported students during field placements in elementary school classrooms.

Moss Street Children's Center | Eugene, OR 01/2017-06/2020
Teacher Aide & Volunteer
- Implemented classroom rules to help children aged 2 to kindergarten develop etiquette habits
- Prepared food and assisted in group activities to foster children's manual abilities and creative skills

McCornack Elementary School | Eugene, OR 10/2019-12/2019
Teaching Intern
- Planned reading curriculum on vocabulary learning for 27 elementary school students in 4th grade
- Monitored and guided morning assembly study
- Improved math study sessions by using a reward system

Tokyo International KinderCare | Tokyo, Japan 07/2019-08/2019
Full-time Teaching Intern
- Taught physics formal observation lessons, and assisted in other courses involving 30 students ages two-seven
- Led weekly outdoor activities, hosted classes and circle time
- Observed 3 teaching programs, wrote reflections on the importance of differentiation and cross-curricular education

Chinese Immersion School | Eugene, Oregon 04/2019-06/2019
Teaching Intern
- Acted as a Chinese language mentor and class assistant to 32 six-year-old kindergarten children for 40 hours
- Held small discussions to promote children's math and reading learning

Camas Ridge Community School | Eugene, Oregon 01/2019-03/2019
Teaching Intern
- Gave 1-on-1 assistance to first graders with math, literacy, and reading
- Prepared class materials for the host teacher before classes

Malabon Elementary School | Eugene, Oregon 01/2017-06/2017
Volunteer Teacher
- Tutored math and literacy assignments to students in grades 2-5
- Monitored outdoor extracurricular sports
- Held after-school Spanish Club and Art Club meetings to develop students' interests

MENTORSHIP EXPERIENCE

Master Student
Jingwen Liu, Computer Science, UF | Part-time Research Assistant 01/2025-Present
- Working with jingwen on data analysis and website design with LLMs

Undergraduate Student
Roshan Balla & Isha Soumya, Computer Science & Education, UIUC | Full-time Research Assistant 05/2026-Present
- Mentoring them with literature review, data cleaning, annotation, analysis and writing for a Google project

Shiyi Qiu, Computer Science, UF | Part-time Research Assistant 09/2024-08/2025
- Worked with Shiyi on data annotations

Shiyi Qiu, Raymond Steinbrecher, Connor Voigt, Obssa Said, Elan Bar-Nur | CIS/CEN 4914 08/2025-12/2025

- Mentored a Computer Science Senior Design team to advise the development of an AI-supported educational platform (Education Digest)

PROFESSIONAL SERVICE

International

- Co-chair, Advancing AI Literacy with Learning Analytics (LAK) 2026
- Co-chair, AI Literacy For All: 2nd International Workshop on AI Literacy Education For All (AIED) 2026
- Co-chair, 10th Educational Data Mining in Computer Science Education (CSEDM) Workshop (EDM) 2026
- Co-chair, 9th Educational Data Mining in Computer Science Education (CSEDM) Workshop (EDM) 2025

Institutional

- Guest Speaker, User Modeling course at WPI 2025
- Secretary, UF Student Alliance of Graduates in Education (SAGE) 2024-2025
- Facilitator, Computer Science Education Week at UF 2023
- Co-lead, Workshop at Harvard China Education Symposium, HGSE 2023
- Volunteer, Harvard China Education Symposium, HGSE 2020
- Math & Reading Tutor, UO Center on Teaching and Learning Clinic 2019-2020
- Facilitator, Sexual Violence Prevention and Education 2019-2019
- Mentor, PeaceJam Northwest Youth Conference 2019-2020
- Chinese Tutor, UO Chinese Flagship Program 2018-2020
- Math Peer Learning Assistant, UO Class Encore Program 2018-2018
- Marketing Intern, UO International Student Association 2018-2018
- Peer Mentor & Orientation Leader, UO International Peer Mentor Program 2017-2019
- Public Relations Committee Member, Hua Feng Magazine 2017-2018

Reviewers for Journal

- Reviewer of Computers & Education 2026
- Reviewer of Computers & Education: Artificial Intelligence (CE&AI) 2026
- Reviewer of the Interactive Learning Environment 2025
- Reviewer of the Journal of Educational Data Mining 2025
- Reviewer of the Journal of Computer Assisted Learning 2025
- Reviewer of the Journal of Learning Analytics 2025
- Reviewer of the Social Sciences & Humanities Open 2025
- Reviewer of the Journal of Computing in Higher Education 2024
- Co-Reviewer of the Journal of Science Education and Technology 2024
- Reviewer of the Journal of Research on Technology in Education 2024
- Co-reviewer of the Journal of Learning and Instruction 2024
- Co-reviewer of the Journal of Research on Technology in Education 2024
- Sub-reviewer of ACM Transactions on Computing Education (TOCE) 2024

Reviewers for Conference

- PC Member (reviewer) AI for Education Special Day in KDD 2026 (AIED-KDD) 2026
- PC Member (reviewer & sub-reviewer) of the International Conference on AI in Education (AIED) 2024-2026
- PC Member (reviewer & sub-reviewer) of the Educational Data Mining (EDM) 2024-2026
- PC Member (reviewer & sub-reviewer) of the International Learning Analytics and Knowledge Conference (LAK) 2025
- Reviewer of the international conference on Computer-Supported Collaborative learning (CSCL) 2025
- PC Member (reviewer) of the Technical Symposium on Computer Science Education (SIGCSE TS) 2024-2025
- PC Member (reviewer) of the 1st International Workshop on AI Literacy Education For All (AILIT4ALL) 2025
- Reviewer of the 2026 AERA Annual Meeting 2025
- Subreviewer of the 12th 2025 Learning@Scale Conference 2025
- Reviewer of the 2025 ACM RESPECT Conference 2025
- Reviewer of the International Society of the Learning Sciences (ISLS) 2025
- Reviewer of the 2025 international conference on Computer-Supported Collaborative learning (CSCL) 2024
- Reviewer of the 2025 AERA for Division C - Section 3b: Technology-Based Environments & SIG-Technology as an Agent of Change in Teaching and Learning 2024
- Reviewer of the 2024 Association for Educational Communications and Technology (AECT) International Convention 2024

- Reviewer of College of Education Student Research Symposium at HGSE 2021

LANGUAGES & SKILLS

- **Computer Skills:**
  - Data Analysis: R, Stata, SPSS, Qualtrics, FileMaker Pro, Microsoft Office Suite
  - Programming: HTML/CSS, JavaScript, Python, Navicat Premium, SQL, Scratch
  - Video Coding and Media Design: Datavyu, ELAN, BORIS, Adobe Photoshop, Adobe InDesign

- **Languages:** Chinese (native), English (Proficient)