

Xiaomeng Huang

xiaomeng.huang@nyu.edu | xiaomenghuang.com

RESEARCH OVERVIEW

- ❖ My research bridges the learning sciences, AI in education, multimodal learning analytics, and computational assessment to study how learners develop shared epistemic agency—the capacity to take shared responsibility for co-constructing and advancing knowledge with others—across human-human and AI-mediated collaboration.

EDUCATION

New York University (NYU) 2022-2027 (expected)
Ph.D. in Educational Communication and Technology (concentration: learning analytics)
Committee: Xavier Ochoa (chair), Camillia Matuk, Mutlu Cukurova

Harvard University 2020-2021
Ed.M. in Technology, Innovation and Education
Advisor: Bertrand Schneider

PUBLICATIONS

Peer-Reviewed Journal Articles (J)

- J5. **Huang, X.** & Ochoa, X. (2025). Charting the Development of Collaboration Skills Through Collaborative Learning Analytics Systems. *Journal of Learning Analytics*, 12(1), 338-366. ([pdf](#))
- J4. Ochoa, X., **Huang, X.** & Shao, Y. (2025). Exploring the Potential of Generative Artificial Intelligence to Democratize Learning Analytics Practice. *Journal of Learning Analytics*, 12(1), 65-90. ([pdf](#))
- J3. Ochoa, X., **Huang, X.**, & Charlton, A. (2024). Unpacking the Complexity: Why Current Feedback Systems Fail to Improve Learner Self-Regulation of Participation in Collaborative Activities. *Journal of Learning Analytics*, 11(2), 246-267. ([pdf](#))
- J2. Radu, I., **Huang, X.**, Kestin, G., & Schneider, B. (2023). How augmented reality influences student learning and inquiry styles: A study of 1-1 physics remote AR tutoring. *Computers & Education: X Reality*, 2, 100011. ([pdf](#))
- J1. Radu, I., Yuan, J., **Huang, X.**, & Schneider, B. (2023). Charting opportunities and guidelines for augmented reality in makerspaces through prototyping and co-design research. *Computers & Education: X Reality*, 2, 100008. ([pdf](#))

Peer-Reviewed Conference Proceedings (C)

- C8. **Huang, X.**, Ochoa, X., Hiterer, D. (2026, June). The TME framework: multimodal learner modeling for active listening skills in collaborative problem solving. In the *International Conference on Artificial Intelligence in Education* (pp. 416-430). Cham: Springer Nature Switzerland. (AIED'26) ([pdf](#))
- C7. **Huang, X.** & Ochoa, X. (2026, June). Bridging Explainable Modeling and Actionable Feedback: Multimodal AI-Augmented Pedagogical Interventions for Developing Active Listening Skills in

- Collaborative Problem Solving. In the *International Conference on Artificial Intelligence in Education* (pp. 254-260). Cham: Springer Nature Switzerland.(AIED'26) ([pdf](#))
- C6. Huang, X.** (2026, June). Measuring and Supporting Active Listening Skills in Collaborative Problem Solving through Multimodal AI. *Proceeding of the 6th Annual Meeting of the International Society of the Learning Sciences (ISLS)* (pp. 349-351) ([pdf](#))
- C5. Huang, X. ,** Ochoa, X., Gopalakrishnan, M., Zhang, S.. (2026, June). Idea Tracing Analysis (ITA): A Temporal-Structural Methodology for Modeling Collaborative Discourse and Contextualizing Multimodal Interactions. *Proceeding of the 19th International Conference on Computer-Supported Collaborative Learning* (pp. 740-742) (CSCL' 26) ([pdf](#))
- C4. Huang, X. ,** Ochoa, X., Zhang, S., Gopalakrishnan, M . (2026, April). Towards Automated Measurement of Active Listening Skills in Collaborative Problem Solving Using Multimodal Learning Analytics and Large Language Models. *Companion Proceedings of the 16th International Conference on Learning Analytics & Knowledge (LAK' 26)* ([pdf](#))
- C3. Beale, J.,** Castro, F, **Huang, X.**, Scheirer C., Gao, Y., Lyu, C., and Desportes, K. (2025, June). Critical Thinking Habits of Mind in Media Arts Learning. In the *International Conference of the Learning Sciences (ICLS' 25)*. International Society of the Learning Sciences. ([pdf](#))
- C2. Radu, I., Huang, X.,** Kestin, G., Shah, Z., & Schneider, B. (2022, June). How Augmented Reality Transforms Learning and Inquiry Patterns in 1-1 Remote Tutoring. In the *International Conference on Computer Supported Collaborative Learning (CSCL' 22)* (pp. 375-378). International Society of the Learning Sciences. ([pdf](#))
- C1. Huang, X.,** Shao, X., & Thompson, M. (2022, May). Learning Spatial Skills Collaboratively in Immersive Virtual Environments: A Systematic Review. In *2022 8th International Conference of the Immersive Learning Research Network (iLRN' 22)* (pp. 1-5). IEEE. ([pdf](#))

Manuscripts Under Review (U)

- U1. Huang, X. &** Ochoa, X. (Under 2nd Revision). Exploring the Potential of a Quantitative Micro-Ecological Approach to Evaluate Active Listening Skills in Collaborative Settings. (*Learning and Instruction*)
- U2. Ochoa, X, Huang, X.,** Popov, V. (Under Review). Scalable Rich Learner Models in Standardized Patient Simulations for Medical Education.

RESEARCH FUNDING

- ❖ OpenAI Researcher Access Program, OpenAI. [Role: PI, \$1,000 API credits] 2025
- ❖ Enhancing Active Listening in Collaborative Problem Solving: AI-Powered Pedagogical Feedback Interventions in Higher Education. Steinhardt Doctoral Research Grant, NYU. [Role: PI, \$1,200] 2025
- ❖ *AI-Assisted Empathy: Modulating the Internal Feedback Loop for Acquiring Active Listening Skills.* Steinhardt Doctoral Research Grant, NYU. [Role: PI, \$1,500] 2024

HONORS & AWARDS

- ❖ **Best Student Poster Award Nominee**, Division C, American Educational Research Association (AERA) 2026
- ❖ **Doctoral Consortium Fellow**, Artificial Intelligence in Education Conference (AIED) 2026

- ❖ **Doctoral Consortium Fellow**, International Society of Learning Sciences (ISLS) 2026
- ❖ **AERA Division C Mentoring Program Fellow** 2026
- ❖ **AERA SIG Learning Sciences/Advanced Technology for Learning Mentoring Program Fellow** 2026
- ❖ **NYU Steinhardt Faculty First-Look Scholar** 2026
- ❖ **NYU Steinhardt Doctoral Travel Grant** 2026
- ❖ **ACM SIGCHI Emerging Scholar**, Computer-Supported Cooperative Work (CSCW) 2023
- ❖ **Erik Duval Scholarship**, Society of Learning Analytics Research (SoLAR) 2023
- ❖ **NYU Steinhardt Fellow**, NYU 2022-2027

SELECTED RESEARCH APPOINTMENTS AND PROJECTS

ETS Research Institute | Ida Lawrence Summer Research Intern Summer 2026

Mentor: Jiangang Hao

Project: *Reliability and Consistency of LLM-Based Scoring Agents for Communication Skills Assessment*

- ❖ Developed an evaluation framework and analytic pipeline to examine the consistency and reliability of LLM-based scoring agents for communication skills assessment.
- ❖ Investigated multiple sources of variation to inform model selection, prompting strategies and assessment task design.

NYU | Doctoral Researcher 2025 - 2026

PI/Advisor: Yoav Bergner

Research collaboration: Google Research

Project: *LLM-based AI Agents Simulation for Collaboration Skills Measurement*

- ❖ Evaluated the steerability and communication competencies of LLM-based agents in collaborative task simulations.
- ❖ Developed a qualitative coding scheme and rating rubric for human-agent interaction to examine the potential of agent simulations as assessment tools.

NYU | Doctoral Researcher 2022 -

PI/Advisor: Xavier Ochoa

Selected Projects:

- ❖ Socially Intelligent Pedagogical AI Agents for Supporting Shared Epistemic Agency in Collaborative Learning.
- ❖ Multimodal AI for Measuring Active Listening Skills in Collaborative Problem Solving.
- ❖ Expert and Novice Interaction with Generative AI for Data Analytics.
- ❖ Automated Feedback for Equitable Participation in Collaborative Learning.

Massachusetts Institute of Technology (MIT) | Research Assistant 2021 - 2022

PI/Advisor: Meredith Tompson, Eric Klopfer

Project: *Developing Spatial Skills in Collaborative Virtual Reality*

- ❖ Conducted a scoping review of research on spatial skill development in collaborative virtual reality learning environments following PRISMA guidelines.

Harvard University | Research Assistant 2021 - 2022

PI/Advisors: Iulian Radu, Bertrand Schneider

Project: *Augmented Reality for Learning and Inquiry in Remote STEM Tutoring*

- ❖ Analyzed learners' communication, inquiry, and collaboration patterns in AR-supported STEM learning environments.
- ❖ Developed qualitative coding schemes for problem-solving and communication behaviors.

Harvard University | Research Assistant

2020 - 2021

PI/Advisors: Rhonda Bondie, Chris Dede

Project: *Feedback Training for Early-Career Teachers in Mixed-Reality Simulations*

- ❖ Analyzed equity-promoting teaching behaviors using interaction logs and survey data from 360-degree VR teaching simulations.

TEACHING EXPERIENCE

Instructor of Record (NYU)

Graduate Courses

- ❖ *Artificial Intelligence for Data Analysis in Education* (EDCT-GE 2252), in-person Fall 2026
Enrollment: NYU Master's and PhD students

Undergraduate Courses

- ❖ *Artificial Intelligence and Creativity* (scheduled), online Spring 2027

Guest Lectures

- ❖ *Augmenting Learning Through Multimodal Learning Analytics*. Guest lecture, Learning Analytics: Process and Theory, Learning Analytics M.S. Program, Columbia University March 2025
- ❖ *Augmenting 21st-Century Skills Development Through Multimodal Learning Analytics*. Guest lecture, Learning Analytics: Process and Theory, Learning Analytics M.S. Program, Columbia University March 2024

MENTORING EXPERIENCE

Master's Students

- ❖ Katherine Xu (2025), Ed.M., Learning Design, Innovation and Technology, Harvard Graduate School of Education

Undergraduate Students

- ❖ Jessica Chen (2026), Education Science major, NYU
- ❖ Jenny Qian (2026), Applied Psychology major, NYU
- ❖ Shiyu Zhang (2024-2025), Education Science major, NYU - research mentee & coauthor for CSCL and LAK publications (next position: Master's student at Carnegie Mellon University)
- ❖ Krish Bhatnagar (2025), Computer Science major, Birla Institute of Technology and Science, India

PANELS AND PRESENTATIONS

Panels

- ❖ **Huang, X.** & **Ochoa, X.** (2026, May) *Towards Automated Measurement of Active Listening Skills in Collaborative Problem Solving Using Multimodal Learning Analytics and Large Language Models*. Panelist, Stanford Education Data Science Conference, Stanford, CA.

Presentations

- ❖ **Huang, X.**, & Ochoa, X. Hiterer, D (2026, July). *The TME framework: multimodal learner modeling for active listening skills in collaborative problem solving*. International Conference on Artificial Intelligence in Education(AIED'26), Seoul, Korea.
- ❖ **Huang, X.** & Ochoa, X. (2026, July). *Bridging Explainable Modeling and Actionable Feedback: Multimodal AI-Augmented Pedagogical Interventions for Developing Active Listening Skills in Collaborative Problem Solving*. International Conference on Artificial Intelligence in Education(AIED'26), Seoul, Korea.
- ❖ **Huang, X.**, & Ochoa, X. (2026, July). *LLMs as Semantic Sensors for Collaboration Skills Assessment: A Framework for Extracting, Contextualizing, and Evaluating Behavioral Evidence*. CROSSMMLA workshop, International Conference on Artificial Intelligence in Education(AIED'26), Seoul, Korea.
- ❖ **Huang, X.** (2026, June) *Measuring and Supporting Active Listening Skills in Collaborative Problem Solving through Multimodal AI*. Annual Meeting of the International Society of the Learning Sciences (ISLS), Irvine, CA.
- ❖ **Huang, X.**, Ochoa, X., Gopalakrishnan, M., Zhang, S. (2026, June). *Idea Tracing Analysis (ITA): A Temporal-Structural Methodology for Modeling Collaborative Discourse and Contextualizing Multimodal Interactions*. Annual Meeting of the International Society of the Learning Sciences (ISLS), Irvine, CA.
- ❖ **Huang, X.**, & Ochoa, X. (2026, April) *Toward a Multimodal Micro-Ecological Methodology for Analyzing Active Listening in Collaborative Problem Solving (AERA' 26)*, Los Angeles, CA.
- ❖ **Huang, X.**, & Ochoa, X. (2025, March) *Developing Metrics to Assess College Students' Active Listening Skills in Collaborative Problem Solving*. In the *workshop of New Measures & Metrics at 15th International Learning Analytics & Knowledge Conference (LAK' 25)*, Dublin, Ireland.
- ❖ **Huang, X.** (2024, April) *Collaborative Learning Analytics*. Presentation for ECT Brown Bag Series hosted by the Educational Communication and Technology Program at New York University, New York, NY.
- ❖ **Huang, X.** (2023, October) *Unpacking the Relationship Between Collaboration Skills and Team Dynamics: A Theory-Based Review*. In the *workshop of Supporting Workers in Developing Effective Collaboration Skills for Complex Work at 2023 Conference on Computer Supported Cooperative Work and Social Computing (CSCW' 23)*, Minneapolis, MN.

ACADEMIC SERVICE

Workshop Organization

- ❖ Lang, C., Gray, G., Cobos R., Price D., Park J., Chen K., Gao J., and **Huang, X.** (2026, April) *The Third Workshop on New Measures & Metrics in Education (LAK'26)*, Bergen, Norway.

Conference Reviewer

- ❖ AAAI Conference on Artificial Intelligence (AAAI) 2026
- ❖ International Learning Analytics and Knowledge Conference (LAK) 2026
- ❖ International Conference on Computer Supported Collaborative Learning (CSCL) 2022, 2025, 2026
- ❖ International Conference on Learning Sciences (ICLS) 2025, 2026
- ❖ International Conference of the Immersive Learning Research Network (iLRN) 2022, 2024, 2025, 2026

Journal Reviewer

- ❖ Computers & Education
- ❖ Journal of Learning Analytics

- ❖ International Journal of Science and Mathematics Education
- ❖ Computers & Education: X Reality

Student Volunteer

- ❖ 2026 Festival of Learning (AIED, L@S, EDM)
- ❖ 2023 International Learning Analytics and Knowledge Conference (LAK)

University Service

- ❖ Student representative, Doctoral Affairs Committee at Steinhardt, NYU (2025-2027)
- ❖ Mentor, Student Alumni Mentoring Initiative (SAMI) program, Harvard (2022 -)

METHODS & TECHNICAL EXPERTISE

Research Methods: multimodal interaction analysis; video and discourse analysis; qualitative coding and codebook development; interviews and observation; mixed-methods research; systematic/scoping reviews, usability studies

Quantitative & Computational Methods: regression and generalized linear models; ANOVA; structural equation modeling; computational assessment; multimodal learning analytics; LLM-based analysis/evaluation

Tools: R, Python, MPlus, RapidMiner, Exploratory, Tableau, Gephi, Qualtrics