

Jiachen Lilian Gong

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I'm an **AI in education researcher** and **Data Scientist** at Arizona State University, where I study how AI can **strengthen human learning** without displacing it. I build AI learning systems that adapt to each learner and enhance human thinking. I believe learning should be **equitable, personalized, and responsive to learner diversity**.

EDUCATION

CARNEGIE MELLON UNIVERSITY	Pittsburgh, PA, USA
M.S., Education Technology and Applied Learning Sciences. GPA: 3.91	2019-2020
UNIVERSITY COLLEGE LONDON	London, UK
Data Science Summer School.	2018
PEKING UNIVERSITY	Beijing, China
B.A., Sociology. GPA: 3.72	2014-2018

EXPERIENCE

ARIZONA STATE UNIVERSITY	Tempe, AZ, USA
Research Professional	Oct. 2023 - Present

- Applied statistical modeling to large-scale institutional data; findings published at top-tier conferences.
- Built production-grade LLM systems to enhance student learning and promote student success.
- Led mixed-method research to validate synthetic datasets for student privacy; findings adopted into data governance framework serving 80 universities.

EXPLORELEARNING	Remote, USA
Data Science Engineer	Sept. 2020 - Sept. 2023

- Constructed ETL pipelines, forming the data foundation for all company's learning analytics products.
- Engineered ML models powering adaptive games with significant positive impact on math learning.

FELLOWSHIP

World Wide Studio	San Francisco, CA, USA (Remote)
Ed Tech Venture Fellow	Mar. 2026 - Jun. 2026

- Built ThinkHigher from 0 to 1: an LLM workplace simulation preserving human higher-order thinking.
- Led full-stack development and iterated through user testing with 20+ students and instructors.

TECHNICAL SKILLS

Statistical Methods: multilevel modeling, regression analysis, survival analysis, Bayesian knowledge tracing

AI/ML: LLM supervised fine-tuning, retrieval-augmented generation, prompt engineering, ensemble methods

Tools: Python (pandas, scikit-learn, PyTorch, TensorFlow), R, SQL, STATA, SPSS

Research Methods: statistical analysis, machine learning, experimental design, survey design, interview

PUBLICATIONS

1. **Gong, J.**, Bali, A., Ahmed, I., Banawan, M., Arner, T. & McNamara, D. Re-imagine Knowledge Tracing with Student Agency in a Generative AI Language Tutor. 27th International Conference on AI in Education (AIED '26). https://doi.org/10.1007/978-3-032-29760-0_35
2. **Gong, J.**, Goldshtein, M., Xu, X., Arner, T., Roscoe, R. D., & McNamara, D. 12 English and culture as factors in college math achievement. In Proceedings of the Twelfth ACM Conference on Learning@ Scale (L@S '25). ACM. <https://doi.org/10.1145/3698205.3733957>
3. Imundo, M. N., Goldshtein, M., Watanabe, M., **Gong, J.**, Crosby, D. N., Roscoe, R. D., Arner, T., & McNamara, D. S. (2025). Awareness to Action: Student Knowledge of and Responses to an Early Alert System. Applied Sciences, 15(11), 6316. <https://doi.org/10.3390/app15116316>
4. Imundo, M. N., Watanabe, M., Potter, A. H., **Gong, J.**, Arner, T., & McNamara, D. S. (2024). Expert thinking with generative chatbots. Journal of Applied Research in Memory and Cognition, 13(4), 465-484. <https://doi.org/10.5964/jamc.v13i4.199>

5. Christhlf, K., **Gong, J.**, & McNamara, D.S., (2024). Context-embedded knowledge tracing and latent concept detection in a reading game. In D. Spikol, O. Viberg, A. Martinez-Mones, & P. Guo (Eds.), L@S '24: Proceedings of the eleventh ACM conference on learning @ scale. Association for Computing Machinery. <https://doi.org/10.1145/3657604.3664674>

RESEARCH AND DEVELOPMENT PROJECTS

DEVELOPMENT AND EVALUATION OF LANGUAGE LEARNING LLMS

Directed the development and evaluation of an AI-powered language tutor bot, overseeing system architecture, customized LLM design, and iterative model optimization. Designed and executed a multi-phase quantitative evaluation framework to assess agents' adaptivity, accuracy, and instructional quality. Findings published and presented at AIED 26 and LERN 26.

SUPERVISED FINE-TUNING LLM FOR TEXT REDACTION

Led the end-to-end development of a robust Personally Identifiable Information (PII) removal pipeline: designed the annotation schema, constructed a ground-truth training dataset, fine-tuned an LLM achieving state-of-the-art F1, and deployed the system to redact 250,000+ student discussion board entries, releasing a privacy-safe dataset for the broader education research community.

A COMPREHENSIVE EVALUATION OF AN EARLY ALERT SYSTEM

Analyzed 13,000+ student institutional records to model the predictive relationship between early alert interventions and academic outcomes; applied multi-level mixed effect regression analysis to quantify that negative alerts are strong predictors of GPA decline and dropout risk, with findings directly driving university-level retention strategy decisions.

PRESENTATIONS

27th INTERNATIONAL CONFERENCE ON AI IN EDUCATION (AIED '26)

"Re-imagine Knowledge Tracing with Student Agency in a Generative AI Language Tutor."	Seoul, Korea
	2026.06.29

ASU DATA CONFERENCE

"Personally Identifiable Information (PII) Removal in Discussion Board Data"	Tempe, AZ, USA
	2025.11.03

ASU DATA CONFERENCE

"From Status to Success: Quantifying the relations of Academic Status Reports (ASRs), students' academic outcomes, and retention"	Tempe, AZ, USA
	2025.11.05

AECT INTERNATIONAL CONVENTION

"Generative AI in French Language Learning"	Las Vegas, NV, USA
	2025.10.24

ACM LEARNING AT SCALE CONFERENCE 2025

"Language Equation: 12 English and Culture as Factors in College Math Achievement"	Palermo, Italy
	2025.07.23

ASU RESEARCH TECHNOLOGY OFFICE IGNITE: AI

"Personally Identifiable Information (PII) Removal in Discussion Board Data: LLMs Fine-tuning and ETL Pipeline Building"	Tempe, AZ, USA
	2025.07.01

ICICLE LEARNING ENGINEERING CONFERENCE

"Leveraging Learning@Scale Data to Uncover Impacts of Discussion Board Use in Higher Ed"	Tempe, AZ, USA
	2024.07.23

ACM LEARNING AT SCALE CONFERENCE 2024

"Context-embedded Knowledge Tracing and Latent Concept Detection in a Reading Game"	Atlanta, GA, USA
	2024.07.18