

HAINACHUAN HUANG

AI in Education Researcher | Learning-System Designer

Prospective PhD Applicant for 2027–28 Entry

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RESEARCH INTERESTS

Human–AI Collaborative Learning; Assessment in the AI Era; Digital Well-Being

Current focus Designing and evaluating AI-supported learning environments that promote genuine understanding and independent learning

EDUCATION

Beijing Normal University

2022–2024

Master of Education (M.Ed.) in Science and Technology Education | Faculty of Education | Weighted average 87.89/100

Education discipline: A+ (national top tier)

Thesis *Design, Development, and Application of a Primary School Science AR Educational Chatbot Using Generative AI*

Guangzhou University

2017–2021

Bachelor of Science (B.Sc.) in Educational Technology (Teacher Education) | GPA 3.35

Thesis *Application of Online Homework Platforms in Junior High School Mathematics Education: A Case Study of AI Learning*

PUBLICATIONS

Cai, S., **Huang, H.**, Jiao, X., & Zhang, Y. (2026). **Generative AI + AR: A novel embodied conversational agent in an interactive learning environment.** *Interactive Learning Environments*, 34(6), 4141–4155. [DOI](#) SSCI-indexed journal article; published online in 2025.

Role and contributions *Primary student researcher and lead student contributor (second author). Formulated the research question and led the experimental design; designed and developed the Generative AI–AR embodied conversational agent; coordinated and conducted the four-week school-based study; completed data cleaning, ANCOVA, interview coding, and thematic analysis; drafted the original manuscript and led revisions with support from senior lab members.*

Jiao, X., **Huang, H.**, Liu, Z., Fan, Z., Huang, Q., & Cai, S. (2025). **Beyond the screen: Enhancing augmented reality collaborative inquiry with social scripts.** 2025 IEEE International Conference on Advanced Learning Technologies, 290–294. [DOI](#) ICALT 2025 Best Full Paper Award.

Huang, H., Zhao, D., Yin, P., Cao, S., & Peng, Y. (2026). **Design Everything for Smart Education (DESE): A diverse learning space initiative.** In *Empowering Educational Innovation Through Design: Volume Two*, 205–217. [DOI](#) First author.

Huang, H., Huang, A., Feng, J., Xu, X., Li, H., & Cai, S. (2024). **Study on the influence of different spatial ability students in AR geography teaching.** *Methodologies and Intelligent Systems for Technology Enhanced Learning*, 302–312. [DOI](#) First author.

Li, H., **Huang, H.**, Zhang, Y., & Cai, S. (2024). **The impact of mobile AR application on learning motivation in biological learning based on the ARCS model.** 2024 IEEE International Symposium on Educational Technology, 198–202. [DOI](#)

Huang, H., Yin, P., Zhang, Y., & Cai, S. (2023). **Effects of AR educational games on spatial ability of primary school students.** 2023 IEEE 15th International Congress on Advanced Applied Informatics Winter, 111–116. [DOI](#) First author.

AWARDS AND RECOGNITION

- **ICALT 2025 Best Full Paper Award**, IEEE International Conference on Advanced Learning Technologies.
- Silver Award, 6th Global Competition on Design for Future Education, Design Everything for Smart Education, 2023.
- Bronze Award, 2025 AI Visual Creative Competition VACAT, AI Visual Art Film category, team member.

RESEARCH AND DEVELOPMENT EXPERIENCE

Research Assistant | The Hong Kong University of Science and Technology (Guangzhou) Jan 2025–Jun 2025
Thrust of Computational Media and Arts, Information Hub | Supervisor: Tengjia Zuo, Assistant Professor

- Assisted with empirical research on serious games and game-based learning, including experiment implementation, data collection, and dataset cleaning and preparation.
- Conducted literature reviews and contributed to the drafting and iterative revision of several working manuscripts on educational games.

Graduate Researcher | VR/AR+Education Lab | Beijing Normal University 2022–2024
Supervisor: Prof. Su Cai

- Led full-cycle research across human–AI collaborative learning and AR-enhanced education, spanning research conceptualization, study design, iterative system development, K-12 school implementation, mixed-methods analysis, and manuscript preparation.
- Designed, implemented, and evaluated a flagship embodied conversational learning environment integrating generative AI and AR, combining instructional design, software development, and classroom-based empirical research.
- Designed or co-developed four additional AR learning tools for spatial cognition, geography, biology, and physics, forming a portfolio of five AI/AR educational systems and research prototypes.
- Led the Design Everything for Smart Education (DESE) initiative, coordinating team contributions across concept development, educational design, project delivery, and scholarly publication.

TEACHING AND FIELD EXPERIENCE

Science and Information Technology Teacher BNU Experimental Primary School 2023

- Designed and taught primary science and information technology lessons and implemented an AR and generative-AI classroom study.

Information Technology Teacher Luoxi Secondary School, Guangzhou 2020–2021

- Taught information technology across junior and senior secondary levels, including introductory Python programming.

Teaching Assistant Unity and AR Professional Development Course 2023

- Supported in-service teachers in developing interactive AR learning applications with Unity and Vuforia.

PROFESSIONAL EXPERIENCE

Director of AI Film Production Early-Stage Education Venture Sep 2025–Mar 2026

- Led end-to-end Generative AI workflow design, curriculum development, teaching, and learning operations for an AI comic-drama course portfolio serving approximately 2,000 online learners per month for at least four months, plus three in-person cohorts.
- Translated rapidly changing generative-AI production tools into structured, teachable workflows and supported large-scale course delivery.

Digital Media Editor Beijing Normal University MOOC Centre 2023

- Edited digital learning resources and video modules for online courses in adolescent development and technology-enhanced teaching.

INNOVATION AND PRODUCTION PROJECTS

- Awakening Hammer—Ritual of Qi: project selected for participation at Dutch Design Week 2025; interdisciplinary team contributor.
- AI-assisted Public Health Film on Leprosy Awareness: independent creator, Sep 2026; responsible for script development through final film production.

RESEARCH APPROACH, TECHNICAL SKILLS, AND LANGUAGES

Research approach Learning technology design and development; school-based intervention research; mixed-methods educational research

Analytical experience Quasi-experimental and baseline-adjusted analysis, including ANCOVA; interview coding and thematic analysis; qualitative–quantitative integration

Technical Unity; Vuforia; Huawei AR Engine; Generative AI and AR prototyping; Generative AI filmmaking workflows; Premiere Pro; Photoshop

Languages Chinese (native); English (CET-6: 511)

Qualifications Teacher qualifications in senior secondary information technology and primary science