

ZHEN XU

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EDUCATION

Teachers College, Columbia University

2024 - Present

PhD. in Cognitive Science

Teachers College, Columbia University

2022 - 2024

M.S. in Learning Analytics

Beijing Normal University

2019 - 2022

M.ED. in STEM Curriculum and Teaching Pedagogy

Beijing University of Chemical Technology

2015 - 2019

B.E. in Mechanical Engineering

PEER-REVIEWED PUBLICATIONS

† equal contribution

Zhen Xu, Vedant Khatri, Diana Dai, Xiner Liu, Siyan, Xuanming, Renzhe Yu. (2025) Enhancing LLM-Based Data Annotation with Error Decomposition[**In submission**]

Zhen Xu, XinGuan, Chenxi Shi, Qin hao Chen, Renzhe Yu. (2025) Evaluating 21st-century competencies in higher education curricula with large language models: performance benchmarking and an element-centric prompting strategies [**In submission**]

†Siyan Li, †**Zhen Xu**, Vethavikashini Chithrara Raghuram, Xuanming Zhang, Renzhe Yu, Zhou Yu. (2025) Bringing Pedagogy into Focus: Evaluating Virtual Teaching Assistants in Asynchronous Learning Environments (EMNLP’25 Findings)

Zhen Xu, Xinjin Li, Yingqi Huan, Veronica Minaya, Renzhe Yu (2025). From Course to Skill: Evaluating LLM Performance in Curricular Analytics. In Proceedings of the 26th International Conference on Artificial Intelligence in Education (AIED’25)

†**Zhen Xu**, †Joseph Olson, Nicole Pochinki, Jason Zheng, Renzhe Yu. (2024) Contexts Matter but How? Course-Level Correlates of Performance and Fairness Shift in Predictive Model Transfer. In Proceedings of the 14th Learning Analytics and Knowledge Conference (LAK’24). Association for Computing Machinery, New York, NY, USA, 713–724.

Zhen Xu, Ping Zhang, Lin Ding , Wenkai Zhang. (2023). Theory, research, and practice of peer tutoring in higher institutions worldwide [J]. Physics and Engineering: 9-12 (In Chinese)

Ping Zhang, Ding Lin, **Zhen Xu** . (2022). Analysis of Funding for Physics Education Research by the National Science Foundation of the United States Between 2011 and 2020 [J] Science Foundation of China, 516-522 (In Chinese)

Zhen Xu , Ping Zhang , Lin Ding. (2021) Example of research-based physics curriculum development with funding support[J]. Physics and Engineering: 72-75. (In Chinese)

Lin Ding , Ping Zhang , **Zhen Xu**. (2021) Experimental/quasi-experimental research in physics education research [J]. Physics and Engineering, 3-7. (In Chinese)

OTHER PUBLICATIONS

Renzhe Yu, **Zhen Xu**, Sky CH-Wang, Richard Arum (2024). Whose chatgpt? unveiling real-world educational inequalities introduced by large language models. arXiv preprint arXiv:2410.22282.

SELECTED POSTERS, PRESENTATIONS AND WORKSHOPS

Zhen Xu, Vimukthini Jayalath, Renzhe Yu, Abhinava Barthakur, Shane Dawson, Vitomir Kovanović. (2026) Curriculum Analytics for 21st-Century Competencies in Postsecondary Education. Workshop organizer at LAK26: The 16th International Learning Analytics & Knowledge Conference. Bergen, Norway

†Siyan Li, †**Zhen Xu**, Vethavikashini Raghuram, Xuanming Zhang, Renzhe Yu, Zhou Yu. (2025) Bringing Pedagogy into Focus: Evaluating Virtual Teaching Assistants in Asynchronous Learning. Paper presentation at the 26th International Conference on Artificial Intelligence in Education. Palermo, Italy.

†**Zhen Xu**, †Sky CH-Wang, Zhou Yu, Renzhe Yu.(2024) Intersectional inequalities in asynchronous academic communication: Before and after the introduction of GenAI. Paper presentation at the 54th annual meeting of the Society for Computation in Psychology (SCiP). **Best Student Paper Award**.

Alex J Bowers, **Zhen Xu**, Feiyi Sun. (2024) Applying Visual Data Pattern Analytics to Public NYC District Equity Indicators Data. A paper accepted for presentation at the annual meeting of the University Council for Educational Administration (UCEA): Los Angeles, CA.

Zhen Xu, Joseph Olson, Jason Zheng, Renzhe Yu. (2024)Evaluating Contextual Factors of Performance and Fairness Shift in Predictive Model Transfer.10th International Conference on Computational Social Science (IC2S2): Philadelphia, USA.

Renzhe Yu, **Zhen Xu**, Sky CH-Wang. (2024) Whose ChatGPT? Unveiling Unintended Educational Inequalities Introduced by Large Language Models. Paper presentation at the 10th International Conference on Computational Social Science (IC2S2): Philadelphia, USA.

Renzhe Yu, Sky CH-Wang, **Zhen Xu**, Zhuojian Wei. (2023)Intersectional Inequalities in Online Communication Among Post-secondary Learners. Paper presentation at the 9th International Conference on Computational Social Science (IC2S2): Copenhagen, Denmark.

INVITED TALKS AND PANELS

Guest Speaker and Panelist, Educational Technology Sub-Forum of the 16th China Education Symposium at Harvard University (2025)

Guest Speaker, AI Application in the Educational Sub-Forum of Columbia University Teachers College China-US Education Forum (2025)

TEACHING EXPERIENCE

Teachers College, Columbia University Spring 2024

- HUDK 4051: Learning Analytics: Process and Theory (TA)
- HUDK 4051: Learning Analytics: Process and Theory: Coding Lab Sessions for LLM (Lecturer)

Beijing No.4 High School Fall 2021

- Science and Physics (Lecturer)

Beijing Normal University Spring 2021

- Electromagnetism (TA)
- Nature of Science (TA)

COMMUNITY SERVICE

Co-Chair: Doctoral Student Forum(DSF), The Global Chinese Conference on Computers in Education (GCCCE 2026)

Sub Reviewer: The Internet and Higher Education(Journal), L@S 2025, AIES 2024, LAK 2024

E-Board member: Data Science and Education Association, Teachers College, Columbia University

HONORS AND SCHOLARSHIPS

Ben Wood Fellowship at Teachers College, Columbia University. (2024)

First-class scholarship for graduate study at Beijing Normal University.(2021)

Outstanding Graduates of Beijing at Beijing University of Chemical Technology. (Top 5 across the major cohort) (2019)

The National Scholarship at Beijing University of Chemical Technology. (Top 1 in the major cohort) (2017)