

Zihan Wu

Last updated on August 2, 2024

Ph.D. Candidate

University of Michigan, School of Information (UMSI)

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RESEARCH INTERESTS

My research is at the intersection of Human-Computer Interaction (**HCI**) and Computing Education Research (**CER**). I adopt learning theories from CER and human-centered design methods from HCI to **build engaging, scalable, and effective tools to help novices learn computing**.

EDUCATION

University of Michigan, Ann Arbor

Ann Arbor, MI, USA

Ph.D. in Information

Aug. 2020 – May 2025 (expected)

- Advised by Dr. Barbara Ericson
- Dissertation: Designing and Evaluating Fine-Grained Interactive Practice Tools for Novice Programming Learners

Tsinghua University

Beijing, China


B.E. in Computer Science and Technology


Sept. 2016 – Jul. 2020

B.S. in Psychology (Second Major)

Sept. 2017 – Jul. 2020


PEER REVIEWED PUBLICATIONS

 **ITiCSE 2024** *Best Paper Nominee* **Zihan Wu** and David H. Smith. “Evaluating Micro Parsons Problems as Exam Questions”. In: *Proceedings of the 2024 on Innovation and Technology in Computer Science Education V. 1*. ITiCSE 2024. ACM, 2024, pp. 674–680 [doi: 10.1145/3649217.3653583](https://doi.org/10.1145/3649217.3653583)

 **L@S 2024** *Best Paper Nominee* Xinying Hou, **Zihan Wu**, Xu Wang, and Barbara J. Ericson. “CodeTailor: LLM-Powered Personalized Parsons Puzzles for Engaging Support While Learning Programming”. In: *Proceedings of the Eleventh ACM Conference on Learning @ Scale*. L@S '24. ACM, 2024, pp. 51–62 [doi: 10.1145/3657604.3662032](https://doi.org/10.1145/3657604.3662032)

CHI 2024 **Zihan Wu** and Barbara J. Ericson. “SQL Puzzles: Evaluating Micro Parsons Problems With Different Feedbacks as Practice for Novices”. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. CHI '24. 2024 [doi: 10.1145/3613904.3641910](https://doi.org/10.1145/3613904.3641910)

CHI 2024 Xianzhe Fan, **Zihan Wu**, Chun Yu, Fenggui Rao, Weinan Shi, and Teng Tu. “ContextCam: Bridging Context Awareness with Creative Human-AI Image Co-Creation”. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. CHI '24. ACM, 2024 [doi: 10.1145/3613904.3642129](https://doi.org/10.1145/3613904.3642129)

- ITiCSE 2023** **Zihan Wu**, Barbara J. Ericson, and Christopher Brooks. “Using Micro Parsons Problems to Scaffold the Learning of Regular Expressions”. In: *Proceedings of the 2023 Conference on Innovation and Technology in Computer Science Education V. 1*. ITiCSE 2023. ACM, 2023, pp. 457–463 [doi: 10.1145/3587102.3588853](https://doi.org/10.1145/3587102.3588853)
- IEEE VR 2022** Xin Yi, Yiqin Lu, Ziyin Cai, **Zihan Wu**, Yuntao Wang, and Yuanchun Shi. “GazeDock: Gaze-Only Menu Selection in Virtual Reality using Auto-Triggering Peripheral Menu”. In: *2022 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*. 2022, pp. 832–842 [doi: 10.1109/VR51125.2022.00105](https://doi.org/10.1109/VR51125.2022.00105)
- CHI 2021** **Zihan Wu**, Chun Yu, Xuhai Xu, Tong Wei, Tianyuan Zou, Ruolin Wang, and Yuanchun Shi. “LightWrite: Teach Handwriting to The Visually Impaired with A Smartphone”. In: *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. CHI ’21. ACM, 2021 [doi: 10.1145/3411764.3445322](https://doi.org/10.1145/3411764.3445322)
-  **CHI 2019** April Yi Wang, **Zihan Wu**, Christopher Brooks, and Steve Oney. “Callisto: Capturing the “Why” by Connecting Conversations with Computational Narratives”. In: *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. CHI ’20. ACM, 2020, pp. 1–13 [doi: 10.1145/3313831.3376740](https://doi.org/10.1145/3313831.3376740)
Honorable Mention
(top 5%)

REVIEWED ABSTRACTS AND POSTERS

- ITiCSE Working Group** Carsten Schulte, Sue Sentance, Sören Sparmann, Rukiye Altin, Mor Friebroon-Yesharim, Martina Landman, Michael T. Rucker, Spruha Satavlekar, Angela Siegel, Matti Tedre, Laura Tubino, Henriikka Vartiainen, J. Ángel Velázquez-Iturbide, Jane Waite, and **Zihan Wu**. “Values and Beliefs Underpinning K-12 Computing Education”. In: *Proceedings of the 2024 on Innovation and Technology in Computer Science Education V. 2*. ITiCSE 2024. ACM, 2024, pp. 767–768
- SIGCSE Poster** Xingjian Gu, Barbara J. Ericson, and **Zihan Wu**. “Supporting Instructors Adoption of Peer Instruction”. In: *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 2*. SIGCSE 2024. ACM, 2024, pp. 1662–1663
- CompEd Working Group** Natalie Kiesler, John Impagliazzo, Katarzyna Biernacka, Amanpreet Kapoor, Zain Kazmi, Sujeeth Goud Ramagoni, Aamod Sane, Keith Tran, Shubbhi Taneja, and **Zihan Wu**. “Where’s the Data? Exploring Datasets in Computing Education”. In: *Proceedings of the ACM Conference on Global Computing Education Vol 2*. CompEd 2023. ACM, 2023, pp. 209–210
- ICER DC** **Zihan Wu**. “Investigating the Effectiveness of Variations of Micro Parsons Problems”. In: *Proceedings of the 2023 ACM Conference on International Computing Education Research - Volume 2*. ICER ’23. ACM, 2023, pp. 120–122
- Koli Poster** **Zihan Wu**, Barbara Ericson, and Christopher Brooks. “Regex Parsons: Using Horizontal Parsons Problems to Scaffold Learning Regex”. In: *Proceedings of the 21st Koli Calling International Conference on Computing Education Research*. Koli Calling ’21. ACM, 2021

SELECTED GRANTS AND AWARDS

[In Preparation] NSF Research on Innovative Technologies for Enhanced Learning (RITEL)

Co-writing grant with Dr. Barbara Ericson Nov. 2024

Rackham Travel Grant Jun. 2023, Jun 2024

University of Michigan

Rackham Student Research Grant Aug. 2023

University of Michigan

SERVICE

Peer review for CHI, SIGCSE TS, ITiCSE, and ICER

Student Organizer for Michigan Interactive and Social Computing (MISC) Jul. 2024 - present

Co-organizer for IUSE Open Education Workshop May 2024

Ph.D Student Representative for UMSI DEI Committee Aug. 2023 - Jun. 2024

TEACHING EXPERIENCE

SI 671 - Data Mining Ann Arbor, MI, USA

Graduate Student Instructor Fall 2022

Master Program in Information Science at UMSI

SIADS 505 - Data Manipulation Ann Arbor, MI, USA

Graduate Student Instructor Fall 2021

Master of Applied Data Science (MADS) Program at UMSI

SIADS 631 - Experiment Design and Analysis Ann Arbor, MI, USA

Graduate Student Instructor Fall 2021

Master of Applied Data Science (MADS) Program at UMSI

INDUSTRIAL EXPERIENCE

Google Beijing, China

Engineering Practicum Intern Jul. 2018 – Sept. 2018

RESEARCH AND TECHNICAL SKILLS

Programming Languages: Python, TypeScript, Javascript, Java, C/C++, C#, MATLAB

Technical Skills: Full-stack development (Node.js, React.js, Flask, Django), server deployment (AWS), machine learning (scikit-learn, Keras, Tensorflow), miscellaneous development (Android, Unity)

Research Methods: Mixed-methods research (qualitative + quantitative), design-based research