

# Zihan Wu

Last updated on January 30, 2025

Ph.D. Candidate

University of Michigan, School of Information (UMSI)

[ziwu@umich.edu](mailto:ziwu@umich.edu)

## 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

*Outstanding Graduates of the CST Department*

GPA: 3.65 (Ranking: 21/177, top 12%)

B.S. in Psychology (Second Major)


Sept. 2017 – Jul. 2020

GPA: 3.71


## PEER REVIEWED PUBLICATIONS / WORK IN PROGRESS

*Work in Progress*

**Zihan Wu**, Yicheng Tang, and Barbara J. Ericson. "Getting Help My Way: Co-Designing Smart Programming Help With Instructors and Novice Learners".  
- *In this work, I conducted participatory design studies with instructors and learners to understand what is the desired learner-AI system collaboration mechanism for learning programming.*

 **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-Trigging 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%)*

## ABSTRACTS AND POSTERS

- 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
- 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

## WORKING GROUP REPORTS

\* Working groups are large collaborative research projects aimed to produce high-value reports on a topic of interest in computing education.

- ITiCSE 2024** Carsten Schulte, Sue Sentance, Sören Sparmann, Rukiye Altin, Mor Friebronn-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**. “What We Talk About When We Talk About K-12 Computing Education”. In: *2024 Working Group Reports on Innovation and Technology in Computer Science Education*. ITiCSE 2024. Milan, Italy: ACM, 2025, pp. 226–257 [doi: 10.1145/3689187.3709612](https://doi.org/10.1145/3689187.3709612)

**CompEd 2023** 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? Finding and Reusing Datasets in Computing Education”. In: *Working Group Reports on 2023 ACM Conference on Global Computing Education*. CompEd 2023. Hyderabad, India: ACM, 2024, pp. 31–60 [doi: 10.1145/3598579.3689378](https://doi.org/10.1145/3598579.3689378)

## AWARDS

<b>Rackham Travel Grant</b> University of Michigan	Jun. 2023, Jun 2024
<b>Rackham Student Research Grant</b> University of Michigan	Aug. 2023
<b>Outstanding Graduates Award</b> Department of Computer Science and Technology, Tsinghua University	Jun. 2020
<b>Hengda Student Scholarship (top 5%)</b> Tsinghua University	Jun. 2017

## SERVICE AND GRANT WRITING EXPERIENCE

Peer review for CHI, SIGCSE TS, ITiCSE, and ICER	
Grant Writing for NSF Research on Innovative Technologies for Enhanced Learning (RITEL) <i>with Dr. Barbara Ericson</i>	Nov. 2024
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

<b>SI 339 - Web Design, Development, and Accessibility</b> <b>Graduate Student Instructor</b> Undergraduate Course at University of Michigan	Ann Arbor, MI, USA Winter 2025
<b>SI 671 - Data Mining</b> <b>Graduate Student Instructor</b> Master Program in Information Science at UMSI	Ann Arbor, MI, USA Fall 2022
<b>SIADS 505 - Data Manipulation</b> <b>Graduate Student Instructor</b> Master of Applied Data Science (MADS) Program at UMSI	Ann Arbor, MI, USA Fall 2021
<b>SIADS 631 - Experiment Design and Analysis</b> <b>Graduate Student Instructor</b> Master of Applied Data Science (MADS) Program at UMSI	Ann Arbor, MI, USA Fall 2021

## INDUSTRIAL EXPERIENCE

<b>Google</b> Engineering Practicum Intern	Beijing, China 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