Yichen (Andy) Yu

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Education

University of Rochester — *Rochester, USA*
Master of Science in Computer Science — *Aug 2023 – May 2025*
- Advisor: *Prof. Zhen Bai and Prof. Dillon Dzikowicz*

University of Wisconsin–Madison — *Madison, USA*
VISP Student in Computer Science — *Jan 2023 – Jun 2023*

Feng Chia University — *Taichung, Taiwan*
Bachelor of Science in Computer Science — *Sep 2020 – Jun 2023*
- Advisor: *Prof. Ming-Yen Lin*

Research Experience

North Carolina State University — *Raleigh, USA*
Research Staff (Mentor: *Prof. Qiao Jin*) — *Aug 2025 - Present*
- Conducting VR safety research, leveraging AI for safety classification, and developing highly immersive replacement solutions. (Advisor: *Dr. Qiao Jin*)
- Prototyped and fabricated custom 3D-printed mounts and accessories to integrate sensing hardware with VR headsets, enabling robust, repeatable experimental setups.

Carnegie Mellon University — *Pittsburgh, USA*
Research Assistant — *Nov 2024 – Aug 2025*

University of Rochester Medical Center - Dzikowicz Lab — *Rochester, USA*
Research Assistant — *Mar 2024 – Present*
- Digitized paper-based ECG charts into structured, machine-readable data formats for integration with clinical datasets and downstream physiological analysis.
- Analyzed wearable ECG signals recorded during physical activities (e.g., 6MWT and veloergometry) to assess cardiac responses in post-operative rehabilitation patients.
- Extracted heart rate dynamics, HRV features, and age-predicted max HR to evaluate exercise intensity, cardiac effort, and post-activity recovery trends.

ROC-HCI Group — *Rochester, USA*
Research Assistant — *Aug 2023 – Aug 2025*
- Used Unity to create AR educational games for K-12 kids on Android and Meta Quest 3.
- Used Unity to develop an MR system to alleviate separation anxiety disorder in kids.
- Designed an AR-based system for parents of kids with ASL to learn sign language with their kids.

Publications

Yichen Yu, Qiaoran Wang, Yibo Meng, Yan Guan. NieNie2: An Adaptive Multimodal Rhythmic Regulation System with LLM-Supported Stress Management Guidance (CHI'26) *Under Review.*

Qiao Jin, Conrad Borchers, Ashish Gurung, Sean Jackson, Sameeksha Agarwal, Jocelyn Wang, **Yichen Yu**, Pragati Maheshwary, Vincent Aleven. Sticky Help, Fleeting Effects: Session-by-Session Analytics of Teacher Interventions in K–12 Classrooms. (LAK'25)

Yichen Yu*, Huan-Song Xu*. RunPacer: A Smartwatch-Based Vibrotactile Feedback System for Symmetric Co-Running by Visually Impaired Individuals and Guides (ASSETS Poster'25). https://doi.org/10.1145/3663547.3759738

Yichen Yu*, Yifan Jiang*, Mandy Lui, Qiao Jin. GenLARP: Enabling Immersive Live Action Role-Play through LLM-Generated Worlds and Characters (ISMAR Poster'25). https://10.1109/ISMAR-Adjunct68609.2025.00178

Xiaofei Zhou*, Yunfan Gong*, **Yichen Yu**, Zhenyao Cai, Zhen Bai. Designing Embodied Metaphors and Analogies for AI Literacy: An Iterative Study with Experts, Teachers, and Children. (ACM TOCE). https://dl.acm.org/doi/10.1145/3773901

Qiaoran Wang*, **Yichen Yu***. Noetic Dream: A Personalized VR and Meditation System for Lucid Dream Training (UIST Poster'25). https://doi.org/10.1145/3746058.3758424

Yichen Yu*, Qiaoran Wang*. NieNie: Real-Time Stress Detection and Interactive Squeezing Rhythm through Unity Gameplay and Language Model Guidance (Ubicomp SC'25). https://doi.org/10.1145/3714394.3750586

Yichen Yu, Qiao Jin. Chameleon: Unobtrusive Substitution of Real-World Obstacles in VR with Risk-Level-Aware Adaptation. (CHI LBW'25). https://doi.org/10.1145/3706599.3719779

Xiaofei Zhou*, Yunfan Gong*, **Yichen Yu**, Yi Zhang, Jeremy Smith, Zhen Bai. Design AI for My Community: A Case Study in a Freedom-to-Read Summer Camp. (ISLS'25). https://doi.org/10.22318/icls2025.111198

Alexander Bae, **Yichen Yu**, Chi-Ju Lai, Wendy Brunner, Nicole Krupa, Mary Carey, Wai Cheong Tam, Dillon Dzikowicz. Structural Heart Abnormalities are Prevalent on the 12-lead ECG among Firefighters. (Journal of Occupational and Environmental Medicine). https://10.1097/JOM.0000000000003409

Alexander Bae, **Yichen Yu**, Chi-Ju Lai, Wendy Brunner, Nicole Krupa, Mary Carey, Wai Cheong Tam, Dillon Dzikowicz. 9-Year Longitudinal Assessment of the 12-lead Electrocardiogram of Volunteer Firefighters. (American Heart Association Scientific Sessions'24). https://doi.org/10.1161/circ.150.suppl$_1$.4137975

Academic Activities

Reviewer Experience: ACM C&C'25, ACM CHI' 25, ACM IUI' 26

Teaching Experience

CSC216 & CSC416 - AR/VR Design *Rochester, USA*
Teaching Assistant *Aug 2024 – Dec 2024*

Milele Chikasa Anana Elementary School *Madison, USA*
Teacher *Jan 2023 – Jun 2023*

- Taught K-12 elementary school students basic programming skills in the Scratch Club.

Work Experience

Porsche Engineering *Shanghai, China*
HMI System Engineer Intern *May 2024 – Aug 2024*

- Conducting VR safety research, leveraging AI for safety classification, and developing highly immersive replacement solutions. (Advisor: *Dr. Qiao Jin*)
- Prototyped and fabricated custom 3D-printed mounts and accessories to integrate sensing hardware with VR headsets, enabling robust, repeatable experimental setups.

Competition Projects

Running Training Assistance App for the Blind - RunPacer
This project has been acquired for about 33,000 USD (1,000,000 NTD).
1st Prize in 2023 Apple IOS Mobile Application Innovation Competition, invited to attend WWDC 2023.

- Helped blind users connect with running partners online, while used WatchKit, HealthKit, and ClockKit to track and display key health metrics during their runs.
- Collected hydration and health data, offering personalized real-time reminders that contributed to a 30% decrease in potential dehydration incidents. SwiftUICharts analyzed performance metrics post-run, enhancing user experience by tracking progress visually in Summary View.
- Analyzed the collected data using SwiftUICharts after each session and presented the results in charts through Summary View, helping users track performance and health metrics.

Research Mentoring

Jymon Ross	*Aug 2025-Now*
Gavin Johnson	*Aug 2025-Now*
Mandy Lui	*May 2025-Now*
Yifan Jiang	*May 2025-Now*
Kyle Jhong	*May 2024- January 2025*
Nicholas DeJesse	*May 2024- January 2025*