
Suibi Che-Chuan Weng

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Introduction

I am an interactive media engineer, researcher, and digital artist specializing in augmented, virtual, and mixed reality (AR/VR/MR), interactive installations, and generative AI. I have taught Unity development and Arduino fundamentals at three universities, bridging technical training with creative practice. My digital artworks have been exhibited internationally, including at the Digital Arts Festival Taipei and the 404 International Festival of Art and Technology. I hold a Ph.D. in Creative Technology and Design from the ATLAS Institute at the University of Colorado Boulder, under the supervision of Dr. Ellen Yi-Luen Do. I also hold an M.A. in Interactive Media Design from National Taipei University of Technology and a B.Sc. in Computer Science from Tatung University. My research investigates human perception in extended reality and explores how generative AI can support richer, more intuitive, and embodied interactive experiences.

Skills

- **Programming:** C#, Java, C/C++, Python(PyTorch), PHP , Javascript , Machine Learning, RAG.
- **Technologies:** MR Headset Application Development(Meta Quest, Vision Pro, HTC VIVE, Magic Leap), Unity Development, Shader Development, ComfyUI, Arduino, Max/MSP, Touch Designer, Motion Capture System(Qualisys , Vicon)
- **Design Tools:** Adobe Illustrator, PhotoShop, Figma, Blender

Education

- **University of Colorado, Boulder, ATLAS Institute** 2021 - 2026
Ph.D. in Creative Technology and Design (CTD)

Thesis: *Generating Your Reality: Advancing the Design of AI-Generated User Experiences in Mixed Reality*
Advisor: Dr. Ellen Yi-Luen Do
Committee: Dr. Tom Yeh, Dr. Ryo Suzuki , Dr. Daniel Leithinger, Dr. Amy Bainc.
- **National Taipei University of Technology (Taipei Tech)** 2012 - 2014
MA in Interactive Media Design (Interaction Design)
Thesis: *Box War: A Creation and Evaluation of the Augmented Reality Game-Based on Tangible Interaction*
Advisor: Dr. Lai-Chung Lee
- **Tatung University** 2008 - 2012
BSc in Computer Science
Graduate Project: *Music Spot: A location-based music player with a social application*
Advisor: Dr. Yun-Maw Cheng

Work Experience

- **ATLAS Institute, University of Colorado Boulder, Boulder, CO, USA** August 2021–Present
Research Assistant: Conducted research in mixed reality, human-computer interaction, and generative AI systems. Developed interactive MR/AR prototypes, designed and ran user studies, analyzed qualitative and quantitative data, and contributed to research papers, demos, and grant-related projects.
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- **SRI International, PARC, Palo Alto, CA , USA** May 2023 - August 2023
Internship: Participated in the DARPA Perceptually-enabled Task Guidance (PTG) Project, developing UI system in the AR with an AI-powered guidance system.
 - **Intertrend Ltd, Long Beach, CA , USA** June 2022 - July 2022
Internship: Developed an interactive installation for a TOYOTA campaign, featuring a Virtual Cricket experience.
 - **IFplus Ltd, Taipei, Taiwan** March 2019 - September 2020
Engineer: Installation development and interaction planning.
 - **Rumu Innovation Ltd, Taipei, Taiwan** July 2017 - September 2018
Technical Lead: Planning and developing interactive systems and determining technical solutions.
 - **Merlin's Mustache Lab Ltd, Taipei, Taiwan** April 2016 - July 2017
Creative Technologist: Installation development, interaction planning, and VR application development.

Teaching Experience

- **Teaching Assistant** 2023 Fall Semester
Courses: ATLAS 5650 Introduction to Programming – Basic Programming for design-background graduate students (two hours of recitation teaching per week)
- **Teaching Assistant** 2022 Fall Semester
Courses: ATLS 1300 Computational Foundation – Python Programming (Undergraduate level, two hours of recitation teaching per week)
- **CU Science Discovery Summer Camp** 2022 Summer Semester
Courses: 2-week Unity Game Development class
- **Technical Assistant** 2022 Spring Semester
Assisted graduate and undergraduate students with project development and technical troubleshooting
- **Tatung University, Taipei, Taiwan** 2019 – 2021
Courses: Digital Maker, AR/VR Workshop, 3D Graphics Engines, Creative Coding
- **National Taipei University of Technology (Taipei Tech)** 2019 – 2021
Courses: Semester Project Advisor, Arduino Workshop
- **Shih Chien University, Taipei, Taiwan** 2018 – 2021
Courses: Multi-Platform Integration Design, Physical Computing, 3D Graphics Engines

Publications

- **Suibí Che-Chuan Weng**, David Hunter, Pritalee Kadam, Amy Banić, Ellen Yi-Luen Do, Daniel Leithinger (2026). "Lead the Way: A Design Space for Robot-Mediated Pull-Force Haptics in Redirected Walking for Space Training," *Accepted for presentation at SpaceCHI 2026, NASA Ames Conference Center, Mountain View, California, September 24–25, 2026*.
- **Suibí Che-Chuan Weng**, Shih-Yu Ma, Sawyer Reinig, Pritalee Kadam, Ada Yi Zhao, Amy Banić, Ryo Suzuki, Ellen Yi-Luen Do (2026). "Editing Reality: Designing In-Situ Co-Creation with Generative AI in Mixed Reality," *Proceedings of the ACM Designing Interactive Systems Conference (DIS '26), Singapore, Singapore, June 13–17, 2026*. ACM, New York, NY, USA, 13 pages. DOI: [10.1145/3800645.3813087](https://doi.org/10.1145/3800645.3813087).
- Shih-Yu Ma, **Suibí Che-Chuan Weng**, Ming-Yuan Pai, Tom Yeh, Ellen Yi-Luen Do (2026). "Feel My Focus: Gaze-Triggered Digital Twin Creation for Remote Collaboration," *2026 IEEE International Conference on Artificial Intelligence and eXtended and Virtual Reality (AIxVR)*, pp. 295–299. DOI: [10.1109/AIxVR67263.2026.00052](https://doi.org/10.1109/AIxVR67263.2026.00052).
- **Suibí Che-Chuan Weng**, T. Hopkins, Shih-Yu Ma, A. Banić, Ellen Yi-Luen Do (2025). "Effects of Limited Field of View on Musical Collaboration Experience with Avatars in Extended Reality," *IEEE 6th International Symposium on the Internet of Sounds (IS2) 2025*. DOI: [10.1109/IS264627.2025.11284617](https://doi.org/10.1109/IS264627.2025.11284617).

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- T. Hopkins, Shih-Yu Ma, **Suibi Che-Chuan Weng**, M.-Y. Pai, Ellen Yi-Luen Do, L. Turchet (2025). "MR-DAW: Towards Collaborative Digital Audio Workstations in Mixed Reality," *IEEE 6th International Symposium on the Internet of Sounds (IS2) 2025*. DOI: [10.1109/IS264627.2025.11284566](https://doi.org/10.1109/IS264627.2025.11284566).
 - **Suibi Che-Chuan Weng**, Yan-Ming Chiou, Ellen Yi-Luen Do (2024). "Dream Mesh: A Speech-to-3D Model Generative Pipeline in Mixed Reality," *IEEE AIxVR 2024*. DOI: [10.1109/AIxVR59861.2024.00059](https://doi.org/10.1109/AIxVR59861.2024.00059).
 - Hopkins, T., Sun, R., **Weng, S. C.-C.**, Ma, S.-Y., Crum, J., Hirshfield, L., and Do, E. Y.-L. (2025). "BrAIn Jam: Neural Signal-Informed Adaptive System for Drumming Collaboration with an AI-Driven Virtual Musician." *Frontiers in Computer Science*. DOI: [10.3389/fcomp.2025.1570249](https://doi.org/10.3389/fcomp.2025.1570249).
 - **Suibi Che-Chuan Weng** (2024). "Studying How Prompt-Generated 3D Models Affect the Creation Process of Mixed Reality Applications," *IEEE ISMAR-Adjunct 2024*. DOI: [10.1109/ISMAR-Adjunct64951.2024.00196](https://doi.org/10.1109/ISMAR-Adjunct64951.2024.00196).
 - Ada Yi Zhao, **Suibi Che-Chuan Weng**, Ella Grace Finstuen, Haifeng Chen, Lu-An Tang, Kai Ishikawa, Ellen Yi-Luen Do (2024). "The WizARd and Apprentice: An Augmented Reality Expert Capture System," *IEEE ISMAR-Adjunct 2024*. DOI: [10.1109/ISMAR-Adjunct64951.2024.00113](https://doi.org/10.1109/ISMAR-Adjunct64951.2024.00113).
 - Torin Hopkins, **Suibi Che-Chuan Weng**, Rishi Vanukuru, Sasha Novack, Chad Tobin, Emma Wenzel, Amy Banic, Mark D Gross, Ellen Yi-Luen Do (2024). "XR Jam: Design Considerations for Music Networking with AI in XR," *IEEE AIxVR 2024*. DOI: [10.1109/AIxVR59861.2024.00021](https://doi.org/10.1109/AIxVR59861.2024.00021).
 - Chiou, Yan-Ming, Bob Price, **Suibi Che-Chuan Weng**, and Charles Ortiz (2024). "Intelligent Augmented Reality System for Multi-Tasking Guidance and Support with Seamless AI-HCI Integration (short paper)," *IUI Workshops 2024*.
 - **Suibi Che-Chuan Weng**, Torin Hopkins, Shih-Yu Ma, Chad Tobin, Amy Banic, Ellen Yi-Luen Do (2023). "Investigating the Effects of Limited Field of View on Jamming Experience in Extended Reality," *IEEE ISMAR-Adjunct 2023*. DOI: [10.1109/ISMAR-Adjunct60411.2023.00107](https://doi.org/10.1109/ISMAR-Adjunct60411.2023.00107).
 - Rishi Vanukuru, **Suibi Che-Chuan Weng**, Krithik Zanzan, Torin Hopkins, Amy Banic, Mark D Gross, Ellen Yi-Luen Do (2023). "DualStream: Spatially Sharing Selves and Surroundings using Mobile Devices and Augmented Reality," *IEEE ISMAR 2023*. DOI: [10.1109/ISMAR59233.2023.00028](https://doi.org/10.1109/ISMAR59233.2023.00028).
 - Torin Hopkins, Emily Doherty, Netta Ofer, **Suibi Che-Chuan Weng**, Peter Gyory, Chad Tobin, Leanne Hirschfield, Ellen Yi-Luen Do (2023). "Stringesthesia: Dynamically Shifting Musical Agency Between Audience and Performer Based on Trust in an Interactive and Improvised Performance," *Audio Mostly 2023*. DOI: [10.1145/3616195.3616209](https://doi.org/10.1145/3616195.3616209).
 - Torin Hopkins, **Suibi Che-Chuan Weng**, Ellen Yi-Luen Do (2023). "Rhythmic Conversations," *AIMC 2023*.
 - **Suibi Che-Chuan Weng**, Torin Hopkins, Rishi Vanukuru, Chad Tobin, Amy Banic, Daniel Leithinger, Ellen Yi-Luen Do (2023). "How Field of View Affects Awareness of an Avatar During a Musical Task in Augmented Reality," *IEEE VRW 2023*. DOI: [10.1109/VRW58643.2023.00159](https://doi.org/10.1109/VRW58643.2023.00159).
 - Torin Hopkins, **Suibi Che-Chuan Weng**, Rishi Vanukuru, Emma Wenzel, Amy Banic, Mark D Gross, Ellen Yi-Luen Do (2022). "Studying the Effects of Network Latency on Audio-Visual Perception During an AR Musical Task," *IEEE ISMAR 2022*. DOI: [10.1109/ISMAR55827.2022.00016](https://doi.org/10.1109/ISMAR55827.2022.00016).
 - Hopkins Torin, **Suibi Che-Chuan Weng**, Rishi Vanukuru, Emma Wenzel, Amy Banic, Mark D Gross, Ellen Yi-Luen Do (2022). "AR Drum Circle: Real-Time Collaborative Drumming in AR," *Frontiers in Virtual Reality 2022*. DOI: [10.3389/frvir.2022.847284](https://doi.org/10.3389/frvir.2022.847284).
 - Torin Hopkins, Rishi Vanukuru, **Suibi Che-Chuan Weng**, Amy Banic, Ellen Yi-Luen Do (2022). "Augmented Personification of Intelligent Music Tools for Creativity and Collaboration," *ACM CHI 2022 Workshop 47*.
 - T. Hopkins, **Suibi Che-Chuan Weng**, R. Vanukuru, E. Wenzel, A. Banic, E. Y.-L. Do (2022). "How Late is Too Late? Effects of Network Latency on Audio-Visual Perception During AR Remote Musical Collaboration," *IEEE VRW 2022*. DOI: [10.1109/VRW55335.2022.00194](https://doi.org/10.1109/VRW55335.2022.00194).

Awards

- Best creative Implementation: Visualizing Everything in 3D Real-Time Content Using Eye-tracking and Generative Models, TAICHI'25 (2025)
- Most Industry Ready Award Pervasive Personalized Intelligence: Editing Reality(2024)
- University of Colorado Engineering Excellence Fund: Prompt to Creativity (2023)
- Summit Emerging Media Award Leader (2018)
- Taipei Digital Art Festival Best Selection (2018)
- SEIKO Creative Innovation Competition Grand Prize (2017)

Art Works

- **2020**
"Delivery Art COVID-19 Project," C-Lab, Taipei (with Lin Wei-Chih)
- **2019**
"Year of Pig Installation," Long beach,CA,USA (with Lin Guan-Ting, Ginny Lee and Intertrend Inc.)
- **2018**
"The Train," interactive installation, Taipei Digital Art Festival (with Lin Guan-Ting)
- **2018**
"The Crossed Paths of a Poetry Worm," VR installation, Taipei Poetry Festival (with Yang Nai-Chen and Wang Po-Yan)
- **2017**
"Words and Words Reincarnation," 2017 Kaohsiung Hero Play Byte – Refuting Art II, Kaohsiung, Taiwan (with Merlin Mustache Lab)
- **2017**
"Odor Hack," 404 Electronic Art Festival – Hoax the System, C++ Gallery, Bogotá, Colombia (with Merlin Mustache Lab)
- **2017**
VR-Installation Chalkroom by Laurie Anderson and Hsin-Chien Huang, ZKM PanoramaLab, Germany

Theater and Live Performance Experience

- **2022**
"Stringesthesia," An interactive guitar performance where the audience influences live improvisation through color, light, and projection mapping, with real-time brain-scanned trust shaping their participation. Boulder, Colorado, US
- **2019**
"During the Air Raid," XR experience via Magic Leap with theater performance, Digital Art Center, Taipei, Taiwan
- **2019**
"Hade Apocalypse," AR motion image design, Wellspring Theater, Taipei, Taiwan
- **2018**
"The Undelivered Letter," VR project with Dark Eyes Performance Lab, National Human Rights Museum, Taipei, Taiwan