

## Cheng-En Tsai

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### RESEARCH INTERESTS

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Artificial Intelligence, Extended Reality, Computational Narratology, Computational Rhetoric, Digital Learning

### EDUCATION

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- **National Taiwan University** Taipei, Taiwan  
PhD Program, Networking and Multimedia Expected Graduation: 2027  
Advisor: Jane Yung-jen Hsu, Yi-Ping Hung
  - **Relevant Courses:** Artificial Intelligence, Natural Language Processing, Digital Image Processing, Computer Graphics, Virtual Human and Telepresence
- **National Taiwan University of Science and Technology** Taipei, Taiwan  
Master of Science, Digital Learning and Education 2020 — 2022  
Advisor: Gwo-Jen Hwang
  - **Thesis:** Effects of 3D Digital Game-Based Learning with Two-Tier Testing on University Students' Learning Achievement in Artificial Intelligence Course Unit  
Advisor: Gwo-Jen Hwang
  - **Relevant Courses:** Artificial Intelligence in Digital Learning, Design of Advanced Interactive Digital Teaching Software
- **National Dong Hwa University** Hualien, Taiwan  
Bachelor of Arts, History 2013 — 2017

### ACADEMIC EXPERIENCE

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- **National Taiwan University** Taipei, Taiwan  
*Teaching Assistant - Department of Computer Science and Information Engineering* Sep. 2023 — Jan. 2024
  - **Courses:** Artificial Intelligence, Game for Life: Reading and Re-designing Games for a Purpose
- **National Taipei University of Business** Taoyuan, Taiwan  
*Instructor - Department of Creative Technologies and Product Design* Feb. 2023 — Present
  - **Courses:** Interactive Digital Narrative, Extended Reality, Applied Unreal Engine, Game Design

*Graduation Project Supervisor - Department of Creative Technologies and Product Design* Feb. 2022 — Present

  - Mixed-Reality Rehabilitation, Virtual Reality-Based Education, Augmented-Reality Board Games
- **National Dong Hwa University** Hualien, Taiwan  
*Full-Time Research Assistant, Research Centre for Digital Games & Narrative Design* Aug. 2017 — Jul. 2018
  - Center daily operations, serious game development, narrative design research

### PROJECTS

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- **Smile Resonance – A 2049 Carefree Life Combining Affective Technology and Generative Art** Taipei, Taiwan  
*Research Assistant* May 2025 — Apr. 2026
  - Developing an SLM-based module for creating and adapting uplifting stories, including the design of a safety mechanism that quantitatively evaluates the cultural diversity of story texts.
- **LLM-enabled Cognitive Enhancement Tabletop Games Analysis and Recommendation System for Older Adults** Taipei, Taiwan  
*Research Assistant* Jul. 2024 — Jun. 2025
  - Designing in-context learning prompts for LLMs to enable automated analysis of cognitive board-game activities; and using the analysis results as the knowledge source for a RAG pipeline to develop a chatbot for occupational therapists.
- **Augmented Self and Networked Generations: Development and Application of Narrative AI with the Retired Generation as Its Main Object: From VR Through to NarrativeBot** Taoyuan, Taiwan  
*Full-Time Research Assistant* Aug. 2018 — Jul. 2021

- Developing intelligent agents for older adults—such as humanoid robots and virtual avatars—that use narratological frameworks to effectively guide users in recalling and sharing everyday stories, ultimately compiling and retelling them as well-structured autobiographical narratives.
- **Integral and Interdisciplinary Research Across the Technology and Creative Industries with the Retired Generation as Its Main Object: Cloud Gaming Industry as an Example** Hualien, Taiwan  
*Research Assistant* Aug. 2015 — Feb. 2018
  - Recruiting and training team members from humanities, social sciences, and art/design backgrounds to develop 3D adventure and VR serious-game content using Unreal Engine; and for investigating and analyzing narrative design practices in the digital game industry.

## PUBLICATIONS

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### Journal Papers & Book Chapters

- Cheih-Ying Chen, Fanfan Chen, and **Cheng-En Tsai**. 2025. Exploring Older People’s User Experiences with VR: A Case Study of Taiwanese Seniors. *Entertainment Computing* 55 (September 2025), Article 100974. <https://doi.org/10.1016/j.entcom.2025.100974>
- Fanfan Chen and **Cheng-En Tsai**. 2025. Redefining Boundaries: Human and Computer in AI-Generated Worlds. In *Impacts of Sensetech on Society*. IGI Global, 127–148. <https://doi.org/10.4018/979-8-3693-7147-3.ch007>
- Fanfan Chen and **Cheng-En Tsai**. 2021. Revisiting Human Identity vis-à-vis AI Evolution. *Caietele Echinoc* 40 (2021), 332–350. <https://doi.org/10.24193/cechinoc.2021.40.26>

### Conference Papers

- **Cheng-En Tsai**, Fanfan Chen, and Jane Yung-Jen Hsu. 2025. Integrating Todorov’s Narrative Framework in Dialogue Management of An Oral History Interview Chatbot. In *Proceedings of the 8th International Workshop on Computational Models of Narrative (CMN 2025)*, May 28–30, 2025, University of Geneva, Geneva, Switzerland.
- **Cheng-En Tsai**, Fanfan Chen, and Jane Yung-Jen Hsu. 2025. A Narrative Agent for the “Family Story Hoard”: An Information-Theoretic Framework for Interactive Storytelling. In *AAAI Spring Symposium Series: MAKE 2025*, 399–403. <https://doi.org/10.1609/aaais.v5i1.35620>
- **Cheng-En Tsai** and Fanfan Chen. 2024. Integrating Narratological Framework in Dialogue Management: A Case Study of an Oral History Interview Chatbot. In *Proceedings of the 2024 8th International Conference on Natural Language Processing and Information Retrieval (NLPPIR 2024)*, December 13–15, 2024, Okayama, Japan.
- Fanfan Chen and **Cheng-En Tsai**. 2024. When AI ‘Create’ Narratives. . . : Reflection on Iconicity or Idolatry vis-à-vis Ricoeur’s Theory of Imagination. Presented at 18th Annual Society for Ricoeur Studies Conference: “Imagination and Metaphor: Paul Ricoeur at Chicago, 50th Anniversary”, October 24–27, 2024, University of Chicago Divinity School, Chicago, IL, USA.
- Fanfan Chen and **Cheng-En Tsai**. 2024. Is the tide turning in synecdoche’s favor? Revisiting Todorov’s theory of synecdoche. Presented at RhetCanada Conference 2024 (The Canadian Society for the Study of Rhetoric), June 12–14, 2024, McGill University, Montreal, Canada.
- **Cheng-En Tsai** and Gwo-Jeng Hwang. 2022. The impact of 3D digital game-based learning with two-tier testing on university students’ technological literacy lessons. Presented at The 7th Conference on Digital Learning Strategies and Applications (DLSA 2022), May 13, 2022, Taipei, Taiwan.
- **Cheng-En Tsai** and Fanfan Chen. 2021. Expert System-Based Ubiquitous Learning Approach with a Virtual Reality Designed Game for Learning Tai Chi Chuan. Presented at The 4th International Conference on Future Learning (ICFL 2021), December 17–19, 2021, Tokyo, Japan.
- Fanfan Chen and **Cheng-En Tsai**. 2019. The Historical and Cultural Hybridity of Narrative and the Gameplay Effect of Warriors Orochi Serie. Presented at The 7th International Japan Game Studies Conference: Replaying Japan 2019—Japanese Games: Past, Present and Future, August 9–11, 2019, Ritsumeikan University, Kyoto, Japan.
- Fanfan Chen, Yang-Cheng Lin, Jen-Wei Chien, and **Cheng-En Tsai**. 2016. Virtual Reality for Digital User Experience and Interactive Learning Based on User Satisfaction: A Pilot Study. In *Proceedings of the 2016 International Conference on Computational Science and Computational Intelligence (CSCI 2016)*, pp. 374–377. DOI: 10.1109/CSCI.2016.0077.

## AWARDS

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### Excellence Award; Best Popularity Award

- The 2024 Advanced Display Technologies Innovative Applications Contest

Taipei, Taiwan

Nov. 2024

### Outstanding Teaching Assistant

*National Taiwan University, Department of Computer Science and Information Engineering*

Taipei, Taiwan

- Artificial Intelligence
- Game for Life: Reading and Re-designing Games for a Purpose

Dec. 2024

Oct. 2024

## INDUSTRY LECTURER

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<b>National Taiwan University Hospital, Department of Nursing</b>	Taipei, Taiwan
• UI/UX for 3D Digital Educational Games	Apr. 2023
• 3D Digital Educational Games & Intro to UE4	Aug. 2022
<b>National Ilan University, Department of Computer Science and Information Engineering</b>	Ilan, Taiwan
• Introduction to Unreal Engine Game Design	Nov. 2022
• Industry Representative for Department Evaluation	Oct. 2022
• AR Interactive Design Workshop	Feb. 2022
<b>National Taiwan University of Science and Technology, Department of Industrial Management</b>	Taipei, Taiwan
• HoloLens 2 “MR 365” Training	Sep. 2023
<b>National Taipei University of Technology, Industry Liaison Office</b>	Taipei, Taiwan
• Cross-Technology Digital New Retail Business Services	Aug. 2023
• Metaverse Intro Workshop: Virtual Humans, Extended Reality, and Motion Capture	Aug. 2023
• Railway Information & Communication Product Design Practice: Unreal AR System Development	Mar. 2020
<b>Soochow University, Department of Data Science</b>	Taipei, Taiwan
• Introductory Workshop on Unreal Engine 3D Game Design	Aug. 2023
• Unreal Engine AR	Apr. 2023
• Introductory Workshop on Unreal Engine 3D Game Design	Feb. 2023
• Unreal Engine Fundamentals	Nov. 2022
• AR/MR Interactive Design Workshop	Apr. 2022

## SKILLS

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- **Programming:** Python
- **Software:** Visual Studio, Unreal Engine, Blender, Illustrator, Twine
- **Soft Skills:** Design Thinking, Cross-Functional Communication, Rapid Prototyping