

Yusi Sun

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RESEARCH INTERESTS

Mixed Reality, Augmented Reality, Reasoning, Contextual AI

EDUCATION

The University of Hong Kong	09/2022 — 12/2027
Ph.D. student in Data and Systems Engineering, HIS Lab	01/2024 — 12/2027
Supervisor: Prof. Yong-Hong Kuo	
MSc in Industrial Engineering and Logistics Management	09/2022 — 12/2023
Supervisor: Dr. leith K.Y. Chan	
The University of California, Los Angeles	11/2025 — 04/2026
Visiting student in Mathematic, AIVC Lab	
Supervisor: Prof. Chenfanfu Jiang, Dr. Ying Jiang, Dr. Lu Jiayin	
Tianjin University	09/2018 — 06/2022
B.Eng. in Engineering Management	

ACADEMIC EXPERIENCE

AR Storytelling Framework	03/2025 — Present
Student, the University of Hong Kong	
Faculty mentor: Prof. Yong-Hong Kuo	
Description: <i>We have developed a unified authoring pipeline in Unity for the automatic generation of AR narratives. By coupling MLLM with object generation models, the system synthesizes coherent visual assets and textual story elements directly from abstract script inputs.</i>	
Depth Perception during Immersive Interaction	09/2022 — 09/2023
Student, the University of Hong Kong	
Mentor: Dr. leith K.Y. Chan	
Description: <i>This study systematically evaluated human depth perception in virtual reality during interactive UI manipulation and free-hand painting tasks.</i>	

PUBLICATIONS

Under Review	
• Y. Sun*, Y. Jiang*, J. Lu*, Y. Yang, Y.H. Kuo, C. Jiang, “JARVIS: A Just-in-Time AR Visual Instruction System for Cross-Reality Task Guidance”, <i>UIST 2026</i>, under review	
Conference Proceedings	
• Y. Sun, H. Guan, L.K.Y. Chan, Hyriem Park, Y.H. Kuo, “ODAN: A Scenario-Metaphor Framework with VLM Integration”, <i>IEEE VR 2026 Poster</i>, • Y. Sun, L.K.Y. Chan, Y.H. Kuo, “Depth Perception in Virtual Reality: The Impact of Spatial Interaction and Color-Based Cues”, in <i>EuroXR International Conference (EuroXR)</i>, 2024. Best Paper Award	
Journal Paper	
• Y. Sun, H. Guan, L.K.Y. Chan, Y.H. Kuo, “Depth Perception in Virtual Reality: The Impact of Spatial Interaction and Color-Based Cues”, <i>Computers & Graphics</i>, 2025	

PROJECTS

Cathay Pacific SHE Training Program	06/2024 — 04/2025
<i>Main Programmer</i>	

- Architected and implemented the CAVE-based SHE training simulator.
- Took participant in asset-processing pipeline for strap and cargo models: performed UV unwrapping, texture optimization, lightmap baking and mesh decimation to achieve real-time performance without visual degradation.

PSTS

08/2023 — 04/2024

Main Programmer

- Designed and implemented the core structure, scenarios, and interactions.

Virtual Pet

10/2022 — 12/2023

Team Leader, Main Programmer, Modeler

- Developed the whole pipeline: pre-defined narrative flow, crafted interactive storyboards, and implemented character animation systems to ensure design coherence and technical feasibility.
- Leveraged XR Interaction Toolkit and custom state machines to manage scene transitions, user input, and pet AI behaviors.
- Authored HLSL shaders for dynamic visual effects (e.g., reactive lighting, procedural fur shading) to enhance immersion and visual feedback.
- Modeled, rigged, and animated 3D assets in Blender; optimized asset bundles and LODs to maintain 90 fps performance targets on standalone VR hardware.
- Integrated Haptics Glove SDK for precise haptic feedback, mapping in-game interactions to tactile sensations and increasing user embodiment.

AWARDS**The award of Finalist of Mathematical Contest In Modeling (International level, top 1%)**

02/2022

WORK EXPERIENCES**China Construction 2nd Engineering Bureau LTD.**

07/2021 — 09/2021

Internship (Business Department)

Beijing, China

- Reviewed steel and concrete quantities and purchase orders for each project phase, and compiled penalty reports to support schedule control.
- Employed Glodon to perform quantity take-offs and verify 3D model accuracy.

Sinopec Shanghai Petrochemical Company LTD.

01/2021 — 03/2021

Internship (Environment Engineering Department)

Shanghai, China

- Completed foundational training in engineering mechanics, environmental monitoring, and management planning.

China Communications 2nd Navigational Bureau 2nd Engineering Company

07/2020 — 09/2020

Internship (Contract Department)

Zhejiang, China

- Assisted with quantity take-offs for bidding documents.
- Conducted on-site inspections of concealed works to ensure compliance.
- Reviewed contract specifications and requirements.

Leadership and Activities**Beiyang Digital Art Media Center**

08/2021 — 06/2022

President, Tianjin University

- Organized newcomer demonstrations, training sessions, and a game-development competition, resulting in 10 playable demos.
- Led five hands-on workshops on game design and development.

Tianwaitian media center

10/2018 — 06/2020

Minister of design, Tianjin University

- Directed the design team for the Haitang Festival, attracting over 2,000 attendees across two years.
- Created promotional materials and cultural-creative products for campus events, drawing 100+ visitors to the Begonia Festival.
- Produced and managed more than 20 multimedia campaigns.

SKILLS

- **Programming:** C#, Python, Linux
- **Software:** Blender, Unity, Unreal, Photoshop, Matlab, P6, Revit