

Research Interests

embodied & perceptual interaction • computational interaction • multimodal sensing • real-time generative systems • sensory ecologies

Honors & Grants

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| 2023 | Graduate Merit Scholarship, SCI-Arc |
| 2022 | First Place in Architectural Design, Solar Decathlon Europe 21/22 |
| 2022 | Third Place in Innovation Design, Solar Decathlon Europe 21/22 |
| 2020 - 2022 | Undergraduate Research Fellowship (Net-Zero Housing Research, Solar Decathlon Europe 21/22), NSTC |
| 2020 | Undergraduate Summer Research Fellowship (Data Privacy & Security), National Science and Technology Council (NSTC) |

Education

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| Southern California Institute of Architecture | Los Angeles, US |
| M.S. in Fiction & Entertainment (Interactive Technology & Media) | 2023 - 2024 |
| National Yang Ming Chiao Tung University | Hsinchu, Taiwan |
| B.S. in Information Management and Finance | 2018 - 2023 |

Research Experience

J-Mex, HYPE Sports Innovation

Interaction Researcher (project-based), July 2025 - Nov 2025

- Designed a **movement-responsive 3D avatar** for a health-supportive system, exploring how avatar-based feedback supports **motor awareness, engagement, and user motivation**.
- Developed early motion-based prototypes to examine digital embodiment and feedback framing in gesture logic, motion-capture sensing, and real-time visualization in health applications.

Southern California Institute of Architecture, Department of Fiction and Entertainment

Graduate Researcher, Sep 2023 - Sep 2024

Advisor: Prof. Liam Young

- Designed gesture-driven computational systems that translate human motion into real-time force fields and responsive systems.
- Developed methods for multimodal sensing, signal processing, and field-based simulation, integrating motion capture, dynamic modeling, and generative computation.
- Conducted independent research on embodied movement as a computational medium, examining how kinetic input and temporal variation shape interaction logic and visual expression.

National Yang Ming Chiao Tung University (NYCU)

Undergraduate Researcher, Jan 2023 - June 2023

Advisor: Prof. June-Hao Hou

- Designed and developed an audio-reactive visual system to investigate how sensory stimuli influence human–environment coupling.
- Engineered a multimodal signal-processing pipeline using field recordings and real-time computational visual synthesis to examine how auditory cues shape spatial perception and emotional response.
- Conducted independent research under faculty supervision, focusing on system design, perceptual analysis, and computational method development.

Solar Decathlon Europe 21/22 , Team TDIS

Undergraduate Research Fellow, Oct 2020 - Aug 2022

Research Fellowship funded by the National Science and Technology Council (NSTC)

- Developed a system-level net-zero housing model integrating solar-energy generation, environmental simulation, and socio-economic feasibility.
- Conducted urban-scale data analysis and scalability modeling to address redevelopment barriers in Taipei's fragmented lot and party-wall conditions.
- Facilitated cross-disciplinary research and translated system findings into a replicable mid-scale housing prototype recognized by international juries.

V5 Technologies

Front-End Web Development Intern, June 2021 - Aug 2021

- Designed and implemented a scalable, content-managed website architecture, improving maintainability and long-term extensibility.
- Developed a performance- and SEO-optimized front-end workflow, resulting in a 74% increase in site traffic and a 65% increase in user engagement within three months of deployment.
- Translated organizational communication goals into structured interface and information architecture decisions, aligning visual design, usability, and technical constraints to support clearer user navigation and trust-building.

National Yang Ming Chiao Tung University (NYCU), Data Privacy & Security Lab

Undergraduate Summer Research Fellow, July 2020 - Oct 2020

Summer Research Fellowship funded by the National Science and Technology Council (NSTC)

Advisor: Prof. Chia-Mu Yu

- Developed and implemented a method for Mondrian Multidimensional K-Anonymity for large-scale financial datasets, improving privacy guarantees for structured sensitive data.
- Designed and evaluated anonymization workflows using open-source financial datasets, analyzing utility–privacy trade-offs and validating model performance.

Technical Skills

Programming & Systems: Python, C++, JavaScript, GLSL; signal processing, real-time system design, data-driven simulation.

Interaction & Graphics: Computational design, motion-driven interaction design, generative visual systems.

Research & Prototyping: User studies, interaction research and prototyping, sensing interface development, system modeling.

Web & Interface Design: React, interactive interface system design, full-stack development