Ho Yin (Sam) Ng 吳浩賢

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EDUCATION

Pennsylvania State University — University Park, PA
M.S. in Informatics — 2023 – 2024 (Expected)
Advisor: Prof. Ting-Hao 'Kenneth' Huang

National Taipei University of Technology (Taipei Tech) — Taipei, Taiwan
M.Des. in Interaction Design — 2021 – 2023
Advisor: Prof. Ping-Hsuan Han

Hong Kong University of Science and Technology (HKUST) — Hong Kong
B.B.A. in Information Systems & Professional Accounting (Double Major) — 2011 – 2016
Minor: Design & Social Science (Double Minor)
Exchange Program: Tsinghua University, Beijing China (Fall 2014)

AWARDS AND HONORS

Best Paper Award, *UbiComp/ISWC'22 Adjunct: MIMSVAI '22* — 2022

People's Choice Award, *TAICHI '22* — 2022

Bronze Prize, *The 31st Time Young Creative Award* — 2022

National Cultural Memory Bank Special Award, *XR Edu Reality Creativity Competition* — 2022

Outstanding Overseas Chinese Graduate Student Scholarship, *Ministry of Education, Taiwan* — 2022 – 2023

Winning Prize, *World Hackathon 2014 (Beijing Division), Tsinghua University Makers' Space* — 2014

HKUST ELITE International Leadership Scholarship, *HKUST* — 2013

PUBLICATIONS

[P.7] **Ho Yin Ng**, Zeyu He, Ting-Hao 'Kenneth' Huang. *What Color Scheme is More Effective in Assisting Readers to Locate Information in a Color-Coded Article?* IEEE Visualization Conference 2024 (**VIS '24**), Short Papers.

[P.6] Luis Andres Mendez S., **Ho Yin Ng**, Zin Yin Lim, Yi-Jie Lu, Ping-Hsuan Han. *MovableBag: Substitutional Robot for Enhancing Immersive Boxing Training with Encountered-Type Haptic.* SIGGRAPH Asia 2022 XR (**SA '22 XR**). Association for Computing Machinery, New York, NY, USA, Article 10, 1–2.

[P.5] **Ho Yin Ng**, Chia-Hui Lin, Zin Yin Lim, Yi-Jie Lu., Chu-Yu Lin, Ping-Hsuan Han. *PressySofties: Explore Multi-player Squeeze Interaction with Conductive Fabric Cubes*. ACM Conference On Computer-Supported Cooperative Work And Social Computing 2022 (**CSCW '22**), Invited Demos.

[P.4] Luis Andres Mendez S., **Ho Yin Ng**, Zin Yin Lim, Yi-Jie Lu, Ping-Hsuan Han. *MovableBag: Integrating Haptics and Visual Feedback on Mobile Devices to Enhance the Virtual Reality Experience of Sport Training*. The 8th Annual Conference of Taiwanese Association of Computer-Human Interaction (**TAICHI '22**), Demos.
***People's Choice Award, 1st Place (among 20 accepted demo papers)**

[P.3] **Ho Yin Ng**, Chia-Hui Lin, Zin Yin Lim, Yi-Jie Lu, Chi-Yu Lin, Ping-Hsuan Han. *PressySofties: Utilize Conductive-Cloth Cube to Explore Squeeze Interaction Among Multi-Users*. The 8th Annual Conference of Taiwanese Association of Computer-Human Interaction (**TAICHI '22**), Demos.
***People's Choice Award, 3rd Place (among 20 accepted demo papers)**

[P.2] Luis Andres Mendez S., **Ho Yin Ng**, Ping-Hsuan Han. *Movablebag: Exploring Asymmetric Interaction for Multi-user Exergame in Extended Reality*. Adjunct Proceedings of the 2022 ACM International Joint Conference on Pervasive and Ubiquitous Computing and the 2022 ACM International Symposium on Wearable Computers (**UbiComp/ISWC 2022 Adjunct: MIMSVAI '22**) (pp. 515-519).
***Best Paper Award (1 out of 8 accepted papers)**

[P.1] Chain Yi Chu, **Ho Yin Ng**, Chia Hui Lin, Ping-Hsuan Han. *PressyCube: An Embeddable Pressure Sensor with Softy Prop for Limb Rehabilitation in Immersive Virtual Reality*. 2022 IEEE International Conference on Multimedia and Expo Workshops (**ICMEW '22**) (pp. 1-1).

THESIS

[T.2] **Ho Yin Ng**.
Understanding Researchers' Behaviors and Design Considerations for AI-Assisted Scientific Caption Writing.
Master's Thesis for Pennsylvania State University, 2024.

[T.1] **Ho Yin Ng**.
MovableBlocks: Exploring Dynamic Furniture for Whole-body Interaction in Room-scale Substitutional Reality.
Master's Thesis for National Taipei University of Technology, 2023.

WORK UNDER REVIEW

[R.3] **Ng H. Y.**, Hsu T. Y., Min J., Kim S., Rossi R., Yu T., Jung H., Huang T. H. K.
Understanding How Paper Writers User AI-Generated Captions in Figure Caption Writing. Workshop paper under review, submitted in December 2024.

[R.2] Tang Z. X., Huang C. Y., Li Y. C., **Ng H. Y.**, Huang H. H., Huang T. H. K.
Using Contextually Aligned Online Reviews to Measure LLMs' Performance Disparities Across Language Varieties. Short paper under review, submitted in November 2024.

[R.1] Weng Y. H., Han P. H., Chang K. N., Lin C. Y., Lin C. H., **Ng H. Y.**, Chou C. H., Chiu W. H.
Hit Around: Substitutional Moving Robot for Immersive and Exertion Interaction with Encountered-Type Haptic. Paper under review, submitted in September 2024.

RESEARCH EXPERIENCE

Pennsylvania State University — University Park, PA
Research Assistant, *Crowd-AI Lab* — Nov. 2023 – Present
Advisor: Prof. Ting-Hao 'Kenneth' Huang

- Conducted a user study with 18 interdisciplinary researchers to examine their interactions with AI-generated suggestions during the caption writing process. Identified opportunities to enhance AI configuration, improving suggestion quality and writing efficiency. [T.2, R.3]
- Led controlled experiments (n=32) to assess the impact of various annotation schemes on text-based information seeking, identifying optimal color-coding strategies for enhanced text annotation. [P.7]
- Coordinated user studies, managing data collection and performing statistical analyses to validate research hypotheses effectively. [R.2]

National Taipei University of Technology — Taipei, Taiwan
Research Assistant, *XR Lab* — Dec. 2021 – Jul. 2023
Advisor: Prof. Ping-Hsuan Han

- Utilized Unity for prototyping innovative interaction techniques, haptic feedback systems, and integrated Arduino capacitive sensing sensors for custom interaction design. Investigated multi-body interactions, involving hands and limbs, for applications in exergames and rehabilitation within VR environments. [P.1-6]
- Engineered real-time motor control system integrating Unity3D with Raspberry Pi through socket-based communication for interactive prototype development. Designed and conducted controlled user studies (n=24), analyzing interaction models through statistical methods (ANOVA, t-tests) [T.1, R.1]

TEACHING EXPERIENCE

(† denotes leading programming/technical lab sessions)

Taipei Tech, Graduate Instructional Assistant

- Virtual Reality Application† (*Graduate*) — Spring 2023
- Game Media Design† (*Graduate*) — Fall 2022
- Creating 360 Panoramic Virtual Reality Video (*Undergraduate* & *High School*) — Spring 2022

HKUST, Full-time Instructional Assistant

- Information System Development Methodologies† (*Graduate*) — Spring 2017
- Information System Analysis and Design† (*Undergraduate*) — Spring 2017
- Information Systems Project Management† (Undergraduate) — Spring 2017
- Information Systems Auditing (Undergraduate) — Fall 2016, Winter 2017
- Business Applications Programming† (*Undergraduate*) — Fall 2016

PROFESSIONAL EXPERIENCE

HKUST — Hong Kong
Education Development Officer (Graphic Design), *Dept. Computer Science & Engineering* — Jun. 2017 – May 2021

Baidu Inc. — Shenzhen
UX Design Intern, *Dept. of Operations* — Sep. 2015 – Jan 2016

Tencent — Shanghai
Game Designer Assistant (Intern), *Aurora Studio, Interactive Entertainment Group* — Jun. 2015 – Jul. 2015

IBM — Hong Kong
Analyst Programmer (Placement Student), *Global Business Services* — Aug. 2013 – Jun. 2014

Forerunner Technology Limited — Hong Kong
UAT Tester — Feb. 2013 – May. 2013

KPMG — Hong Kong
Audit Intern, *KPMG Elite Programme* — Aug. 2012 – Jan. 2013

SERVICE AND OUTREACH

ACM CHI 2024 (CHI'24) — Honolulu, Hawaii
Student Volunteer — May 2024

- Facilitated conference and workshop sessions with international volunteers, fostering cross-cultural teamwork.

Hong Kong Art Center — Hong Kong
Docent (Educational & Curational Stream) — Jul. 2019 – Jun. 2021

- Designed interactive educational games to enhance public engagement with art exhibits, incorporating user feedback and iterative design.
- Led interactive cultural education sessions, developing effective communication strategies for diverse audiences.