Ho Yin (Sam) Ng　吳浩賢

Email: sam.ng@psu.edu / sam.ng.hoyin@gmail.com | Website: hy-ng.github.io | University Park, PA, USA

EDUCATION

Pennsylvania State University　　　　　　　　　　　　　　　　　　　　　　　　University Park, PA
M.S. in *Informatics*　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　2023 – 2024
　　　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)
　　　Outbound Exchange: 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.11] Ting-Yao (Edward) Hsu, Yi-Li Hsu, Shaurya Rohatgi, Chieh-Yang Huang, **Ho Yin Ng**, Ryan Rossi, Sungchul Kim, Tong Yu, Lun-Wei Ku, Clyde Lee Giles, Ting-Hao 'Kenneth' Huang. (accepted). *Do Large Multimodal Models Solve Caption Generation for Scientific Figure? Lessons Learned from SciCap Challenge 2023*. In Transactions of the ACL (**TACL**).

[P.10] Zixin Tang, Chieh-Yang Huang, Tsung-Chi Li, **Ho Yin (Sam) Ng**, Hen-Hsen Huang, Ting-Hao 'Kenneth' Huang. (accepted). *Using Contextually Aligned Online Reviews to Measure LLMs' Performance Disparities Across Language Varieties*. In the 2025 Annual Conference of the Nations of the Americas Chapter of the ACL (**NAACL 2025**)

[P.9] **Ho Yin (Sam) Ng**, Ting-Yao Hsu, Ting-Yao Hsu, Jiyoo Min, Sungchul Kim, Ryan A. Rossi, Tong Yu, Hyunggu Jung, Ting-Hao 'Kenneth' Huang. (accepted). *Understanding How Paper Writers Use AI-Generated Captions in Figure Caption Writing*. In 2nd AI4Research Workshop: Towards a Knowledge-grounded Scientific Research Lifecycle (**AI4Research @ AAAI 2025**).

[P.8] Yu-Hsiang Weng, Ping-Hsuan Han, Kuan Ning Chang, Chi-Yu Lin, Chia-Hui Lin, **Ho Yin Ng**, Chien-Hsing Chou, Wen-Hsin Chiu. (accepted). *Hit Around: Substitutional Moving Robot for Immersive and Exertion Interaction with Encountered-Type Haptic*. In the 32nd IEEE Conference on Virtual Reality and 3D User Interfaces (**IEEE VR 2025**).

[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?* 2024 IEEE Visualization and Visual Analytics (**VIS '24**) (pp. 291-295).

[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.1]   Anonymous Submission (First Author). *Designing Writing Assistants for Scientific Figure Captions: A Thematic Analysis.* Under review, submitted to major HCI conference in January 2025.

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. [P.9, T.2, R.1]
- 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. [P.10, P.11]

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), analysing interaction models through statistical methods (ANOVA, t-tests) [T.1, P.8]

TEACHING EXPERIENCE
(† denotes leading programming/technical lab sessions)

Penn State, Teaching Assistant
- IST 504: Foundations of Theories and Methods of Info. Sciences and Tech. (*Graduate*)   Fall 2024
- HCDD 440: Human-Centered Design and Development Capstone (*Undergraduate*)   Spring 2024

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
- Developed the department's first design guidelines through independent research on design standards, fostering consistency in UI development.

- Coordinated with developer to create user interfaces and graphical assets for Android/iOS applications, emphasizing usability and seamless integration.

Baidu Inc.
UX Design Intern, *Dept. of Operations*

Shenzhen
Sep. 2015 – Jan. 2016

- Designed website and interface layouts for 'Baidu Gaojing' using Sketch, focusing on usability and visual clarity, accompany with HTML/CSS for membership page and logo animation.
- Developed front-end components with HTML/CSS, including a membership page and logo animation

IBM
Analyst Programmer (Placement Student), *Global Business Services*

Hong Kong
Aug. 2013 – Jun. 2014

- Facilitated System Integration Testing by engaging directly with users to understand their needs and requirements, ensuring the financial systems met user expectations.
- Collaborated with a cross-border team of 20 to successfully migrate systems from VB6 to VB.NET, enhancing system performance and maintainability.

SERVICE AND OUTREACH

ACM CHI 2024 (CHI'24)
Student Volunteer

Honolulu, Hawaii
May 2024

- Supported the conference and workshop sessions, ensuring smooth operations and a productive environment for knowledge exchange in the HCI research community.
- Collaborated with international volunteers to facilitate cross-cultural teamwork, contributing to the success of academic event.

Taipei Tech
Student Helper, *Office of International Affairs*

Taipei, Taiwan
Feb. 2022 – May. 2023

- Coordinated seminar logistics and designed promotional materials to increase engagement among international students.
- Facilitated communication between students and staff, addressing concerns and fostering a supportive campus environment.

Hong Kong Art Centre
Docent (Educational & Curational Stream)

Hong Kong
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.

Tsinghua University Maker Space
Student Coordinator

Beijing, China
Sep. 2014 – Jan. 2015

- Facilitated brainstorming sessions and organized activities to foster innovation among members, while managing duty roster and providing technical assistance for equipment rentals.

HKUST Business Cohort Community
Cohort Chief

Hong Kong
Apr. 2012 – Jun. 2013

- Co-led a team of 15 student leaders to organize and execute diverse activities for 150+ freshmen, including orientation day, community service, intra-cohort sports competitions, promoting teamwork, inclusivity and student engagement.
- Mentored peers and collaborated with Business School staff to interview and select the next cohort of leaders, ensuring continuity in leadership and community-building efforts.

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