

# Emran Poh

Phone: +65 98310114

Email: [emranpoh@gmail.com](mailto:emranpoh@gmail.com)

Webpage: [emranpoh.github.io](http://emranpoh.github.io)

Google Scholar: [scholar.google.com/citations?user=wYcrORkAAAAJ](https://scholar.google.com/citations?user=wYcrORkAAAAJ)

LinkedIn: [linkedin.com/in/emranpoh](https://linkedin.com/in/emranpoh)

**Professional Summary:** Human-computer interaction PhD student specializing in human-agent interaction, intelligent agents, and agent-assisted creative workflows. Experienced in mixed-methods research, extended reality prototyping, and AI-mediated interaction design. Research focuses on collaborative systems for creativity and learning—turning ambiguous human–AI problems into deployable prototypes and empirically validated interaction frameworks.

## EDUCATION

2025 - 2029 **Doctor of Philosophy (Computer Science)**, Singapore Management University (SMU), SG

THESIS *Adv: Jiannan Li*

2022 - 2024 **Master of Computing (Computer Science Specialisation)**, National University of Singapore (NUS), SG

THESIS Understanding Artefact Awareness for Partially-Replicated Workspace

*Adv: Anthony Tang, Jeannie Lee, Zhao Shengdong*

COURSES Phenomena and Theories of Human-Computer Interaction (HCI), Theoretical Foundations of Multimedia

2018 - 2020 **Bachelor of Science (First Class Hons) in Computing Science**, University of Glasgow, SG

THESIS 3D User Interface in Mixed Reality for Engineering Design Finite Element Analysis

*Adv: Kyrin Liong, Jeannie Lee*

2013 - 2016 **Diploma in Infocomm Security Management**, Singapore Polytechnic, SG

---

## PUBLICATIONS

### Full Papers

- [P.7] **Emran Poh**, Yueyue Hou, Tianyi Zhang, and Jiannan Li. "Show It, Don't Just Say It': The Complementary Effects of Instruction Multimodality for Software Guidance" *CHI '26: Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (Accepted)*, 2026,
- [P.3] **Emran Poh**, Kyrin Liong, and Jeannie Lee. "Mixed Reality for Mechanical Design and Assembly Planning" *HCI International 2022—Late Breaking Posters: 24th International Conference on Human-Computer Interaction*, HCII 2022,
- [P.1] **Emran Poh**, Kyrin Liong, and Jeannie Lee. "Mixed Reality Interface for Load Application in Finite Element Analysis." *Innovations in Social Computing and Digital Transformation, International Conference on Human-Computer Interaction 2021*, Vol. 4, pp. 513,

### Workshop Papers

- [P.5] **Emran Poh**, Anthony Tang, Jeannie S. Lee, and Shengdong Zhao. "Supporting Artefact Awareness for Partially-Replicated Workspaces." *2023 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*, Sydney, Australia, 2023
- [P.6] Jeannie Lee, Adriel Yeo, Benjamin Kwok, Zi Feng Wong, **Emran Poh**, and Raymond Chan. "IntVRsection: Virtual Reality Environment for Evaluating Signalized and Unsignalized Intersection Scenarios." *International ACM SIGCHI Conference on Automotive User Interfaces and Interactive Vehicular Applications*, Ingolstadt, Germany, 2023
- [P.2] **Emran Poh**, Alfred Tan, Vivek Balachandran, Jeannie Lee, and Kyrin Liong. "Designing with Holograms – A Preliminary Study on Improving Design Visualisation Through Holographic Display." *NewRIIS Research Conference (NewRIIS 2021)*, August 2021,

### Posters

- [P.4] **Emran Poh**, Kyrin Liong, and Jeannie Lee. "Mixed Reality for Engineering Design Review Using Finite Element Analysis." *2022 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*, Singapore, 2022

## Special Mentions

1. Y. Bai, A. Ikkala, A. Oulasvirta, S. Zhao, L. J. Wang, P. Yang, and P. Xu. (2024, May). "Heads-Up Multitasker: Simulating Attention Switching on Optical Head-Mounted Displays." *Proceedings of the CHI Conference on Human Factors in Computing Systems*, pp. 1-18.
2. A. Chow, K. Liong, and S. Lee. (2021). "Investigation of Two Double Throws and Three Single Throws Square Surgical Knots – A Preliminary Experimental & Computational Study on Knot Integrity." *7th World Congress on Electrical Engineering and Computer Systems and Science (EECSS'21)*, July 2021, Virtual Conference.

---

## RESEARCH EXPERIENCE

- JAN 24 - MAY 25 **User Experience Research Engineer**, *School of Computing and Information Systems, Singapore Management University, SINGAPORE*  
*Developing Intelligent Agents that Assist with Human Situational Difficulties*, Principal Investigator: Li Jiannan
- Led research on LLM-powered educational agents; designed and evaluated interaction frameworks for multimodal instruction systems (qualitative interviews, controlled experiments); built prototypes integrating LLM APIs; resulted in CHI 2026 publication
- JAN 23 - FEB 24 **Research Project Manager**, *Syneraction Lab (formerly NUS-HCI Lab), National University of Singapore, SINGAPORE*  
*Collaborative Artefact Awareness for Partially-Replicated Workspaces*
- Architected artefact awareness framework for cross-reality collaboration (ISMAR-Adjunct 2023); built prototypes enabling real-time awareness across VR/AR/desktop
  - Delivered 2 presentations on ethical implications of human-AI interaction
- FEB 23 - JUL 23 **Augmented Reality Developer**, *National University of Singapore Center for the Arts, SINGAPORE*  
*Be-Longing: An Immersive Augmented Reality Concept*, Advisor: Anand Bhojan
- Designed and developed AR experiential artwork for NUS Arts Festival 2023; built site-specific installation using ARCore (spatial tracking, real-time rendering)
  - Created interaction design and visual aesthetics blending digital and physical spaces
- JUL 20 - OCT 23 **User Experience Research Engineer**, *Centre for Immersification, Singapore Institute of Technology, SINGAPORE*
- JAN 23 - OCT 23 *[Collab.] External Human Machine Interfaces (eHMIs) for Autonomous Vehicles (AVs) to Pedestrian Communication (AVHMI)*, Principal Investigators: Jeannie Lee, Raymond Chan
- Statistical analysis (JMP, R) on VR traffic simulator; contributed to AutoUI 2023 on eHMIs for autonomous vehicles
- JUL 20 - JUL 22 *Mixed Reality for Design for Manufacturing and Design Assembly (MR4DFMA)*, Principal Investigators: Kyrin Liong, Jeannie Lee
- Led multidisciplinary R&D team; 4 publications (ISMAR, HCII) on MR for assembly; built 4 Unity/HoloLens prototypes; user studies with engineers and non-engineers
  - Mentored 10 undergraduates; several contributed to publications; showcased at Singapore Airshow, Minister for Education visit, and 3 other events

---

## INDUSTRIAL EXPERIENCE

- FEB 25 - NOV 25 **Co-Founder**, *BetterTwo, SG*
- Co-founded mobile app for couples; integrated chatbot for relationship support and communication
- JAN 21 - JUL 23 **Creative Technology Consultant (Freelance)**, *Got Drip? Coffee Company, SG*
- Led branding: logo design, visual identity, brand guidelines
  - Designed packaging, web assets, and digital marketing; collaborated with creative teams within budget
- 2015 **Intern**, *Advanced Digital Science Centre (by University of Illinois Urbana-Champaign), SG*
- Code refactoring and graphic design; visual assets and interface improvements for international research team
- 2014 - 2016 **Frontend Developer Intern** → **UI/UX Developer (Freelance)**, *Cyclone Creative Technology, SG*
- Designed UIs for YouTube, GE; responsive web and digital advertising campaigns
  - Collaborated with designers; translated concepts to pixel-perfect front-end solutions

## SKILLS AND METHODS

- **Research:** mixed methods, qualitative coding, experimental design, usability testing, scenario-based evaluation, statistical analysis, literature review
  - **Collaboration & Awareness:** distributed collaboration studies
  - **Studies with Domain Experts:** user studies and expert evaluations with engineering professionals and non-engineers
- **Research Practice:** research ethics, IRB drafting and submission
- **Experimental Tooling:** VR simulation, interface instrumentation
- **AI/Agents:** LLM-based agent design, multimodal agent prototyping, prompt engineering
- **Design:** interaction design, prototyping, evaluation frameworks, collaborative systems, cross-reality development, 3D interaction design, multimodal interfaces, awareness mechanisms, branding, visual identity, graphic design
  - **Interaction Design & XR:** design visualization, assembly planning, finite element analysis (FEA) context
- **Leadership:** project management, team leadership, mentoring and supervision, curriculum development

## TECHNOLOGIES

- **Programming Languages:** Python, C#, JavaScript, HTML/CSS
- **Development Tools:** Unity, ARCore, Git, VR simulation platforms
- **AI/ML:** OpenAI API, Hugging Face, PyTorch
- **Analysis Tools:** JMP, R
- **Design Tools:** Adobe Creative Suite, Figma
- **Platforms:** Android, iOS, Windows Mixed Reality, Oculus
- **Other:** L<sup>A</sup>T<sub>E</sub>X, holographic displays, cross-reality frameworks

## TEACHING EXPERIENCE

MAR 2025 **Minecraft Coding Instructor**, Linguaspark, SG (8 students)

2023 **Graduate Teaching Assistant**, School of Computing, NUS, SG

WINTER 23 **Professional Certificate in User Interface and Interaction Design** (16 students)

FALL 23 **CS3240 Interaction Design** (40 students)

SUMMER 23 **Professional Certificate in User Interface and Interaction Design (Run 1, 2, 3)** (16 students each)

– Co-developed and delivered 6-day professional certification program

SPRING 23 **CS4240 Interaction Design for Virtual and Augmented Reality** (38 students)

– Mentored 38 students across 5 project teams; guided 3 teams to win awards at 22nd SoC Term Project Showcase (STePS)

2021 **L<sup>A</sup>T<sub>E</sub>X Crash Course**, Monthly *z-axis*, Center for Immersification, SIT, SG (10 participants)

– Delivered technical workshop on L<sup>A</sup>T<sub>E</sub>X to lab researchers and faculty, improving research documentation quality

## PRESENTATIONS AND TALKS

### Talks

DEC 25 HCI Research Gathering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan

JAN 24 *Emptiness, Isolation, Death: Parallels from Kojima's Death Stranding for Human Connection*, NUS-HCI CHciE (Continuing HCI Education) Presentation, NUS

JUN 23 *'How to use Extended Reality for Physical Assault' — A Less-than-Optimistic Commentary of 'The Ethics of Realism in Virtual and Augmented Reality' through Netflix's Black Mirror*, NUS-HCI CHciE (Continuing HCI Education) Presentation, NUS

### Project Showcases

2023 NUS Arts Festival 2023 — Be-Longing AR experiential artwork, NUS Center for the Arts

APR 23 The Institution of Engineering and Technology (IET) Singapore Talk, Singapore Polytechnic Graduate's Guild

OCT 22 International Symposium on Mixed and Augmented Reality (ISMAR) Visit to SIT, SIT@SP — Mixed Reality for Design Engineering & FEA

FEB 22 2022 Singapore Airshow — Project showcase, Mixed Reality for Design Engineering & FEA

OCT 21 Minister for Education SIT Visit, SIT@Dover

SEP 21 Infocomm Media Development Authority (IMDA) Educational Visit, SIT@NYP

## SERVICE

### Reviewing

- 2026 **External Reviewer**, ACM SIGCHI Conference on Human Factors in Computing Systems (Poster)
- 2026 **External Reviewer**, ACM SIGCHI Conference on Human Factors in Computing Systems
- 2025 **External Reviewer**, International Conference on Human-Engaged Computing (ICHEC)

### Organising & Conference Volunteering

- 2026 **Organising Team**, Future Computer Science Education Workshop 2.0
- 2025 **Student Volunteer**, International Conference on Human-Engaged Computing (ICHEC)
- 2025 **Volunteer**, NUS-Google Workshop: Future of Computer Science Education

### Community Volunteering

- 2017-2020 **Instructor**, Bukit Batok Community Emergency and Engagement Committee — Volunteered as an instructor every alternate Saturdays educating the local community with basic life-saving skills (CPR, AED, basic wound dressing) for audiences of 30+ residents
- 2015-2020 **Volunteer**, People's Action Party Bukit Batok Branch — Meet-The-People Session every Friday assisting and advising residents on job-matching, financial assistance, rental homes, medical and legal aid

## LANGUAGES

- **English** — Fluent (written & spoken)
- **Malay** — Fluent (written & spoken)
- **Indonesian** — Fluent (written & spoken)
- **Mandarin** — Beginner (spoken)

## AWARDS

- 2025 **SMU PhD Scholarship**: Competitive scholarship covering registration and subsidised tuition fees, with monthly living stipend for the first 4 years of PhD candidature
- 2022 **NUS MComp Study Award** [SGD\$ 20,000]: Merit-based scholarship awarded to top-performing Master's applicants
- 2020 **MENDAKI Anugerah Cemerlang Award** [SGD\$ 1,000]: Academic excellence award for achieving first-class honours

## HOBBIES

Engineering and haphazardly flying interplanetary rockets in Kerbal Space Program, Bouldering, Graphic Design