

# XUE Xiao (Sean)

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## Education

### The University of Edinburgh (the United Kingdom)

09/2020 – 09/2021

- MSc Design Informatics

Award Class: **Distinction**

*Relevant Modules: Analyzing Qualitative Data, The Human Factor: Working with Users, Histories and Future of Technology, Data Science for Design, Design with Data*

### The Hong Kong Polytechnic University

09/2016 – 08/2020

- BSc (Hons) Internet and Multimedia Technologies

Dean's Honours List (2019/ 2020) in Faculty of Engineering

Best Semester GPA Award (2019/ 2020 Semester 1,2 and 3) in the EIE Department

*Relevant Modules: Object-Oriented Programming, Computer Game Development, Computer Vision and Pattern Recognition, Multimodal Human Computer Interaction Technology*

## Master's Dissertation

### Enhancing Self-management during Quarantine: A Gamified Exploration for Short-term Motivation Improvement (Supervised by Prof. John Vines) [\(PDF download\)](#)

2021

- Explored gamified approaches to support self-management during short-term quarantine. Designed and evaluated a prototype app informed by participatory approach, addressing critical self-management needs and providing actionable insights into gamification usability for future health technologies.

## Project Experience

### Configuring People as Critics in Designer-led Smart Technology Design: A Case study

2024

- Conducted a user-centered design workshop aiming at creating intelligent experiences for pour-over coffee enthusiasts, which positioned them as evaluators, critically examining how designers and engineers utilized design materials, analyzed data, and engaged in technical decision-making, revealing challenges within designer-led paradigms in Human-centered AI.
- Contributed as the lead author by designing the research methodology, leading literature reviews, performing qualitative data analysis, and authoring the manuscript to consolidate findings and insights.

### Research on Safeguarding Older Adults from Deepfake Scam

2024

- Addressed the rising vulnerability of older adults to Deepfake-enabled scams by exploring safeguarding strategies through participatory design workshops.
- Developed novel co-design methods for enabling older adults to critically evaluate scam scenarios and provide insights into safeguarding interventions.

### Case Study: Towards an Experience-Centered Approach for Envisioning Non-driving Related Tasks in Fully Automated Vehicles

2024

- A journal paper aims to explore in-car activities in fully automated vehicles (FAV) with experience-centered approach.
- Designed participatory workshops coupled with AV cabin and Mixed Reality (MR) scenarios as means to facilitate speculative enactment and critiques on non-driving related tasks (NDRT).
- Led thematic analysis of interview transcripts to explore how the cabin and MR scenarios become resource for demand elicitation and capture critical contextual factors under experience.

### What Can 3D Food Printing Technology Do for Older Adults? An Interdisciplinary Co-design Workshop

2024

- A co-design workshop investigating opportunities and challenges in developing 3D food printing technology for older adults' well-being.
- Included 12 interdisciplinary participants with older people who have swallowing issue, elderly food practitioners, food printing researchers, cooking enthusiasts and designers in the brainstorming, knowledge sharing and collaborative ideation of possible solutions.
- Framed the workshop process, designed the shared materials and resources, conducted the post-workshop interviews with participants and working on qualitative data analysis.

### Rethinking Empowerment in Home Automation among Cohabitants through the Lens of Co-Design

2023

- Conducted a qualitative study with a series of co-design workshops, which utilized card-based tools to engage cohabitants with diverse backgrounds in the ideation of home automation.
- Provided a critical perspective that identifies home automation as a problematic co-design process,

showing how shared material and configuring processes in automation systems usage become obstacles and sources of empowerment through the lens of co-design.

### **Ballads Illusion: Enhancing the Attractiveness of British Ballads with Human-AI Collaboration** **2021**

- Aimed to enhance the accessibility and attractiveness of British ballads provided by National Library of Scotland to the people outside the cultural context with human-AI collaboration.
- Led the ideation and design by the literature review and case study to define the design context, enabling technology and methodologies.
- Worked with over 22,000 painting from the British in the 19<sup>th</sup> century as training data to train the StyleGAN for generating new animated artwork.

### **Publication**

Xue, X., Li, X., Jia, B., Du, J., & Fu, X. (2024). Who Should Hold Control? Rethinking Empowerment in Home Automation among Cohabitants through the Lens of Co-Design. In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems. Association for Computing Machinery. <https://doi.org/10.1145/3613904.3642866>

Zhai, Y., Xue, X., Guo, Z., Jin, T., Diao, Y., & Jeung, J. (2025). *Hear us, then protect us: Navigating deepfake scams and safeguard interventions with older adults through participatory design*. In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems. Association for Computing Machinery. <https://doi.org/10.1145/3706598.3714423>

Xue, X., He, S., Chen, K., Qiao, R., Xu, W., Wang, E., Zhao, Y., & Fu, X. (2025). *When my car whispers secrets to my home: Envisioning the opportunities and challenges of human-vehicle-home integrated ecosystems through probes*. In Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems. Association for Computing Machinery. <https://doi.org/10.1145/3706599.3720252>

Yu, T., Wang, X., Lu, Y., Yu, K., Yao, X., Deng, W., Li, Z., Li, X., Xue, X., Yang, Y., Guo, Y., Yao, Y., Liu, G., & Mi, H. (2025). *A card-based co-design toolkit for exploring smart material applications with multiple stakeholders: A case study on automotive interior design*. In Proceedings of the 2025 ACM Designing Interactive Systems Conference (DIS '25). Association for Computing Machinery.

### **Under Review**

Chen, K., Xue, X., Tan, R., & Lyu, C.. Beyond Driving: Envisioning Activities in Future Autonomous Vehicles through Experience-centered Design. Manuscript under revision in IHCS.

### **Academic Service**

- PC member, the 7th International Symposium of Chinese CHI (Chinese CHI 2024), 2024
- 2AC & Senior PC member, the 7th International Symposium of Chinese CHI (Chinese CHI 2023), 2023
- Subreviewer, the 7th Annual International GamiFIN Conference (GamiFIN 2023), 2022-2023

### **Work Experience**

#### **The Future Laboratory, Tsinghua University – Research Intern** **10/2022-Present**

- Worked in a long-term research assistant capacity on HCI and design research related to smart home technologies, AI, and human-centered design. Authored and co-authored four papers published or submitted to CHI, DIS, and IHCS. Collaborated with the Principal Investigator on drafting four national and university-industry collaborative grant proposals.
- Engaged in interdisciplinary collaborations with partners such as Microsoft Asia, the Hong Kong Productivity Council, and Xiaomi. Facilitated the exchange of research insights related to design-led approach to shape future-oriented technology design (e.g., smart driving, human-vehicle-home integration, and domestic technology).

#### **Nanyang Technological University – Research Assistant (Supervised by Dr. SHUM Ping)** **05/2019-08/2019**

- Worked with computer vision researchers to design an emotion recognition system with Deep learning, developed an AR presentation host and implemented it into [Xperience Room](#) which is an escape room equipped by EEE technologies in NTU.
- Participated in international study tours and had in-depth academic communication with researchers at Universiti Teknologi Malaysia.

### **Extra-Curricular Activities & Voluntary Work**

#### **Extra-Curricular Activities**

#### **External Vice President, Chinese Mainland Students' Association, PolyU** **2017-2018**

- Sourced over 300,000 HKD in sponsorship during the tenure.
- Designed and organized the second joint school singing competition attracting more than 700 audiences from 10 universities in Hong Kong.

#### **Vice President, The Orientation Program for Non-Local Students 2018, PolyU** **2017**

- Designed and organized the O-camp to facilitate the adaptation of over 450 non-local new students coming from more than 30 countries.

#### **Voluntary Work**

#### **Volunteer of HeartFire 17th voluntary teaching trip** **2018**

- Taught and organized activities 200 hours for more than 100 youths at Nijiangkou Secondary

School, Yiyang City, Hunan Province, China.

## Scholarship

- Dr. Y.K. Ching Memorial Scholarship 2017/18

2018

## Skills

**Language:** Native in Chinese mandarin, professional in English and Cantonese.

**Technical:** C/C++, Java, Python, SQL, JavaScript, PHP, Html      **Software:** Adobe, Blender, 3ds Max, Unity