Luyao Shen

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INTRODUCTION

I am Luyao Shen, a fourth-year Ph.D. candidate in the Computational Media and Arts Thrust at the Hong Kong University of Science and Technology (Guangzhou), advised by Prof. Mingming Fan (primary supervisor) and Prof. Pan Hui (co-supervisor). I expect to graduate in **July 2026**. My research focuses on **human–AI collaboration in design practices**, particularly how AI can support and enhance the workflows of designers. I also explore **collaborative interactions in virtual reality (VR)**, with a specific interest in two-person communication and collaboration in immersive environments.

EDUCATION

HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (GUANGZHOU)　　　　　Guangzhou
Computational Media and Arts Thrust　　　　　　　　　　　　　　　　　　　　　*Sep. 2022-Present*
Doctor of Philosophy

UNIVERSITY OF SCIENCE AND TECHNOLOGY BEIJING　　　　　　　　　　　　　Beijing
Department of Industrial design　　　　　　　　　　　　　　　　　　　　　　*Sep. 2017-Jan. 2020*
Master of Art

UNIVERSITY OF SCIENCE AND TECHNOLOGY BEIJING　　　　　　　　　　　　　Beijing
Department of Industrial design　　　　　　　　　　　　　　　　　　　　　　*Sep. 2013-Jun. 2017*
Bachelor of Engineering

RESEARCH ARTICLES

Human-AI collaboration in design practices

- **MultiUX: A Human-AI Collaborative Tool to Facilitate Multiple Usability Test Video Analyses** (accepted by IJHCI, CCF B journal)
  Author list: **Luyao Shen**, Qing Shi, Linjie Qiu, Shixu Zhou, Emily Kuang, Pan Hui, Mingming Fan
- **Standardizing the Evaluation of Usability Test Results: Criteria Development and Human-AI Collaborative Performance** (revised manuscript under review at IJHCI)
  Author list: Emily Kuang[#], **Luyao Shen**[#], Ehsan Jahangirzadeh Soure, Mingming Fan, Kristen Shinohara
- **Understanding Designers' Decision-making Processes with AI Assistance** (revised manuscript under review at DESIGN STUDIES, Chinese Academy of Sciences (CAS) Q1 journal)
  Author list: **Luyao Shen**, Xian Wang, Yunna Cai, Emily Kuang, Lik-Hang Lee, Pan Hui, Mingming Fan
- **Understanding Graphical User Interface Design of Human-AI Collaborative Tools: A Systematic Literature Review** (manuscript under review at IJHCS, CCF A journal)
  Author list: **Luyao Shen**, Qing Shi, Emily Kuang, Lik-Hang Lee, Pan Hui, Mingming Fan
- **Understanding and Designing Technology to Support Mentoring Functions in Chinese Design Teams** (manuscript under review at IJHCI)
  Author list: **Luyao Shen**, Zhongyue Zhang, Qianjie Wei, Lik-Hang Lee, Pan Hui, Mingming Fan
- **Exploring the Impact of Artificial Intelligence-Generated Content(AIGC) Tools on Social Dynamics in UX Collaboration** (accepted by DIS, CCF C conference)
  Author list: Ziyan Wang, **Luyao Shen**, Emily Kuang, Shumeng Zhang, Mingming Fan
- **It Became My Buddy, But I'm Not Afraid to Disagree: A Multi-Session Study of UX Evaluators Collaborating with Conversational AI Assistants** (second round at CHI, CCF A conference)
  Author list: Emily Kuang, Ehsan Jahangirzadeh Soure, **Luyao Shen**, Nitesh Goyal, Mingming Fan, Kristen Shinohara

Collaborative interactions in VR

- **EmojiChat: Toward Designing Emoji-Driven Social Interaction in VR Museums** (accepted by IJHCI)
  Author list: **Luyao Shen**[#], Xian Wang[#], Sijia Li, Lik-Hang Lee, Mingming Fan, Pan Hui

Note: # These authors contributed equally to this work.

- **A Systematic Review of XR-Enabled Remote Human-Robot Interaction Systems** (accepted by CSUR, CAS Q1 journal)
  Author list: Xian Wang, **Luyao Shen,** Lik-Hang Lee
- **TeamPortal: Exploring Virtual Reality Collaboration Through Shared and Manipulating Parallel Views** (accepted by TVCG, CCF A journal)
  Author list: Xian Wang, **Luyao Shen**, Lei Chen, Mingming Fan, Lik-Hang Lee
- **A Dual-Stick Controller for Enhancing Raycasting Interactions with Virtual Objects** (accepted by IEEE VR, CCF A conference)
  Author list: Nianlong Li, Tong Wu, Zhenxuan He, **Luyao Shen**, Tianren Luo, Teng Han, Boyu Gao, Yu Zhang, Liuxin Zhang, Feng Tian, Qianying Wang

EXPERIENCE

INSTITUTE OF SOFTWARE, CHINESE ACADEMY OF SCIENCES *Beijing*
HCI Research Assistant *Sep. 2019-May 2021*

- **HapLinkage: Prototyping Haptic Proxies for Virtual Hand Tools Using Linkage Mechanism** (accepted by UIST, CCF A conference)
  Author list: Nianlong Li, Han-Jong Kim, **Luyao Shen**, Feng Tian, Teng Han, Xing-Dong Yang, Tek-Jin Nam
- **Douleur: Creating Pain Sensation with Chemical Stimulant to Enhance User Experience in Virtual Reality** (accepted by IMWUT, CCF A conference)
  Author list: Chutian Jiang, Yanjun Chen, Mingming Fan, Liuping Wang, **Luyao Shen**, Nianlong Li, Wei Sun, Yu Zhang, Feng Tian, Teng Han

SKILLS

AI and human-AI collaboration: prototype design, LLM integration and debugging
Virtual Reality: 3D modeling and asset preparation, interaction design in VR