Shengxin Li

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CONTACT INFORMATION

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RESEARCH INTERESTS

Human-Computer Interaction (HCI), Neurodivergent Support, Inclusive Design, Creativity Support, Human-AI Collaboration, Data Visualization

EDUCATION

ShanghaiTech University, Shanghai, China

B.Eng. in Computer Science (*Major*), Interaction Design (*Minor*)
Sept. 2021 - Jun. 2025 (expected)

Advisor: Quan Li GPA: 3.56/4.0 (Until Sept. 2024), Ranked Top 34%

ACADEMIC EXPERIENCE

ShanghaiTech University, Shanghai, China

Undergraduate Research Assistant (Advisor: Quan Li) May. 2023 - Present

Participate in multiple research projects, establishing a solid foundation for HCI research.
Please see PUBLICATIONS and PAPERS IN PREPARATION for outcome.

PUBLICATIONS

Yuchen Wu, **Shengxin Li**, Shizhen Zhang, Xingbo Wang, Quan Li. *Trinity*: Synchronizing Verbal, Nonverbal, and Visual Channels to Support Academic Oral Presentation Delivery.
Accepted at ChineseCHI 2024 · **Best Paper Award** · Full Paper
Temporary Paper Link · arXiv Preprint

- Academic Oral Presentation allows students to express ideas and present research findings. However, English-as-Foreign-Language students often face the challenge of integrating verbal, nonverbal and visual elements into the presentation.
- Based on a need-finding survey, a design study and an expert interview, we proposed *Trinity*, a hybrid delivery support system that provides guidance for multichannel delivery on-the-fly.
- We conducted a controlled between-subject user study to investigate the usability, effectiveness, interaction, influence, trust and collaboration of *Trinity*.

DancingBoard: Streamlining the Creation of Motion Comics to Enhance Narratives
Conditially Accepted by IUI 2024 · Full Paper

- Motion Comic, a form of animation that appropriates an existing comic book into a screen-based animated narrative, proposes challenges for amateur creators as they lack proficiency with professional creation tools.
- We conducted (1) a formative study to identify challenges faced by amateurs and (2) a review of the Motion Comics design space. Based on these results, we developed *DancingBoard*, an integrated authoring tool streamlines motion comic creation for amateur creators.
- We evaluated *DancingBoard*'s usability and the outcome's efficiency in conveying the story through two user studies and semi-structured interviews.

PAPERS IN PREPARATION

UPinch: Enabling Unaligned Gaze-Hand Coordination for Selection in 3D Environments
Under Review · Full Paper

- Interaction techniques in virtual environments (such as Mixed Reality) necessitate Gaze-Hand Alignment, which requires gaze fixation and hand selection on the same target at the same time. However, people's gaze-hand behaviour in real world is often unaligned.
- We proposed **UPinch**, a gaze-hand based selection technique that adapts the inherent gaze-hand coordination observed in human reach-to-grasp process to 3D environments.
- We conducted a series of cross-reality experiments comparing UPinch to Gaze + Pinch, Gaze + Handray and Reality, identifying their gaze-hand characteristics in diverse tasks.

Understood: Facilitating Alignment Between Neurotypical Individuals and Adults with ADHD
In Progress

- People with ADHD often exhibit distinct thought patterns and communication styles compared to neurotypical / normal individuals, which can lead to frequent Misalignment in understanding between the two groups.
- We are planning for a series of formative studies including literature review, semi-structured interviews and open coding, to better understand these characteristics.
- We aim to propose *Understood*, a tool that facilitates alignment between individuals with and without ADHD, and conduct user studies to evaluate its effectiveness.

Course Projects

What a witty comment! Identify Clever Comments in Online Media Platforms
Data Mining · 2024 Spring

- Comments with *cleverness* can make positive contributions to the community atmosphere. We established a framework for evaluating the cleverness of a given comment from online media platforms, and implemented a BERT-based model applying the framework.

Heating System Simulation and Interaction
Environment Simulation and Interaction · 2023 Fall

- To propose a more efficient policy for centralized heating, we developed an Deep Learning model for simulating the room environment, and applied multiple Reinforcement Learning algorithms on this model.

ComfortaBot: a ChatGPT-Based Customized Multimodal Interactive Accompany System
Human-Computer Interaction · 2023 Spring

- Addressing the need for accompany when people are undergoing a hard time, we proposed *Comfortabot*, a GPT-Based chatbot capturing user's current status and providing companionship while avoiding limitations of human interaction such as social costs and privacy concern.

Epidemiology Dissemination for Children
User Experience and Innovative Design · 2023 Spring

- Understanding the pandemic is challenging for children. We designed an Interaction Video to help them learn about epidemiology considering their interests and receptivity.

Shanghai COVID-19 Pandemic Visual Analysis System
Data Visualization · 2022 Spring

- We analyzed the Shanghai 2022 COVID-19 pandemic data, and developed a visual analysis system to show the development of the outbreak on a daily basis.

Services

ShanghaiTech University, Shanghai, China
Teaching Assistant

- Studio 3: Interactive Design (with lab) — Spring 2023, 2024
- Human Factors & Ergonomics — Fall 2023
- Human-Computer Interaction — Spring 2024

Skills

Computer Science: HCI, AI & ML, Application Development, Web Programming, Data Visualization, Hardware Programming, Data Mining; and corresponding programming languages.

Design: Human-Centered Design, Interaction Design & Prototyping, Graphic Design, Video Editing, 3D Modeling.

HCI Research: Quantitative & Qualitative Research, User Study, Interview, Iterative Design.

Softwares: Figma, Adobe Illustrator, Adobe PS, Adobe Pr, GraphPad Prism, Blender.

Programming: Python (Basics, DS Libraries & PyTorch), C/C++, Frontend (JavaScript, Vue, HTML, CSS), Arduino C++, SQL, Kotlin (Android), Assembly (RISC-V), Matlab.

Languages: Chinese (Mandarin; native), English (proficient, TOEFL 105/120, TOEIC 965/990), Japanese (beginner). Visualization, LaTeX.