# Shengxin Li

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RESEARCH **INTERESTS**  Human-Computer Interaction (HCI), Neurodivergent Support, Inclusive Design,

Creativity Support, Human-AI Collaboration, Data Visualization

**EDUCATION** 

Shanghai Tech 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 Shanghai Tech 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 Papers in Preparation for the 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

- 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*.

PAPERS IN **PREPARATION** 

# DancingBoard: Streamlining the Creation of Motion Comics to Enhance Narratives

Under Review · Full Paper

- Motion Comic, a form of animation that appropriates an existing comic book into a screenbased 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.

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 gazehand 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 have 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 expect to propose *Understood*, a tool that facilitates alignment between individuals with and without ADHD, and expect to 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 an 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 companion ship 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, Web Programming, Application Development, Data Visualization, Hardware Programming, Data Mining.

**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), Japanese (beginner). Visualization, LATEX.