Shizhen Zhang

(+86)199-7472-7415 | zhangshzh@shanghaitech.edu.cn | ShanghaiTech University, Shanghai, China

Education

ShanghaiTech University *Shanghai*

Undergraduates, Major: Computer Science, Minor: Interaction Design Sep. 2021 - Jun. 2025

- Research interest: **Human-Computer Interaction**, Accessibility, Storytelling, VR/AR, Installation Art, etc.
- GPA: 3.64 / 4.0, Ranked Top 19%, Minor GPA 4.0/4.0
- Research Intern. at ViSeer LAB of ShanghaiTech University

Research Internship

ViSeer LAB *ShanghaiTech University*

Undergraduate Research Assistant supervised by Prof. Quan Li Apr. 2023 - Present

- Conducted human-computer interaction research and visualization internships within Professor Quan Li's group, contributing to four distinct research projects aimed at enhancing user experience through the integration of design and technology.
- Investigated strategies for employing thoughtful design to bridge the gap between complex technological systems and their users, ultimately enhancing accessibility and usability in technology.

Publications

Trinity: Synchronizing Verbal, Nonverbal, and Visual Channels to Support Academic Oral Presentation Delivery *Chinese CHI 2024 (Best paper award)*

Yuchen Wu, Shengxin Li, **Shizhen Zhang**, Xingbo Wang, Quan Li Jun. 2023 - Sep. 2023

From Requirement to Solution: Unveiling Problem-Driven Design Patterns in Visual Analytics *TVCG 2025*

Yuchen Wu, Shenghan Gao, **Shizhen Zhang**, Xiaofeng Dou, Xingbo Wang, Quan Li Dec. 2023 - Apr. 2024

Understood: Real-Time Communication Support for Adults with ADHD Using Mixed Reality *UIST 2025*

Shizhen Zhang*, Shengxin Li*, Quan Li Dec. 2024 - Apr. 2025

Research Projects

Trinity: Synchronizing Verbal, Nonverbal, and Visual Channels to Support Academic Oral Presentation Deliver *Chinese CHI 2024 (Best paper award)*

Yuchen Wu, Shengxin Li, **Shizhen Zhang**, Xingbo Wang, Quan Li Jun. 2023 - Sep. 2023

- EFL students often struggle to integrate verbal, nonverbal, and visual elements into their presentations, risking monotony and a lack of appeal.
- Through a need-finding survey, design study, and expert interview, we introduce Trinity, a hybrid mobile-centric system offering on-the-fly support for multichannel delivery.
- A controlled user study indicates that Trinity effectively aids AOP delivery and is perceived as more helpful than baselines, without adding excessive cognitive load.

From Requirement to Solution: Unveiling Problem-Driven Design Patterns in Visual Analytics *TVCG 2025*

Yuchen Wu, Shenghan Gao, **Shizhen Zhang**, Xiaofeng Dou, Xingbo Wang, Quan Li Dec. 2023 - Apr. 2024

- Despite progress in exploring requirement and solution spaces, challenges remain due to the lack of guidance in the initial consideration space and insufficient shared problem-solving knowledge, often leading to suboptimal solutions.
- To address these issues, we conducted an empirical study of VA research, focusing on mapping relationships between requirement and solution spaces. By consolidating solution paths into a graph and analyzing interconnections, we identified a subset of problem-driven design patterns that validated our approach.

Understood: Real-Time Communication Support for Adults with ADHD Using Mixed Reality *UIST 2025*

Shizhen Zhang*, Shengxin Li*, Quan Li Dec. 2024 - Apr. 2025

- 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 design workshop, to better understand these characteristics.
- We aim to propose Understood, a MR system that facilitates alignment between individuals with and without ADHD, and conduct user studies to evaluate its effectiveness.

UPinch: Enabling Unaligned Gaze-Hand Coordination for Selection in 3D Environments *Under review*

Yuchen Wu, **Shizhen Zhang**, Shengxin Li, Qian Zhu, Quan Li. Jun. 2024 - Sep. 2024

- People's natural gaze-hand coordination varies across tasks. However, existing gaze-hand based 3D selection techniques often require aligning gaze-based indication with hand-based confirmation.
- Therefore, we introduce UPinch, a gaze-hand based selection technique that enables unaligned gaze-hand coordination, as observed in human reach-to-grasp processes such as grasping an object to move.
- Results indicate that UPinch performs comparably to gaze-hand aligned techniques in manual pointing tasks and selections with prior location knowledge with trade-off of increased learning effort, while surpassing them in object translation tasks without penalty on error rate.

Course Projects

Popularization of Epidemiology for Primary School Children *User Experience and Innovative Design*

Shizhen Zhang*, Shengxin Li*, Yuxiao Wu* Mar. 2023 - Jun. 2023

- Existing popularization of epidemiology does not take into account the comprehension of children, who many times do not know why certain things are done.
- Interactive videos are designed to be easily understood by children from both micro and macro perspectives.
- Improve the user experience through design methods.

Boundless Notes: Enhancing Fragmented Record Collection *Interactive Product Design*

Shizhen Zhang, Zhenqi Liu Mar. 2024 - Jun. 2024

- Users often struggle with fragmented note-taking, leading to inefficiencies and constant window switching.
- We introduce Boundless Notes, a PC conceptual tool that integrates community features, reminders, and a calendar, allowing users to access notes seamlessly while working. The floating window keeps notes visible and organized.
- Boundless Notes boosts productivity and user satisfaction. It streamlines workflows by consolidating essential functions into one accessible platform, improving overall efficiency.

AniVoice: Delivering Discourse Emotions in Speech-to-Text with Animation *Human Computer Interaction*

Shizhen Zhang, Zixin Teng, Xuanjun Wen, Kuixiang Shao, Jiahe Dong Apr. 2024 - Jun. 2024

- Speech-to-text results in the loss of a great deal of emotional information in speech, which severely hampers its effectiveness, and existing solutions suffer from a range of shortcomings.
- Based on a series of complete design processes, we proposed a new way of expression: emoji animation, which combines animated emoji with subtitles to effectively convey emotional messages.
- We created Anivoice, which converts incoming speech into emoji animations, with the aim of providing users with an intuitive and dynamic way to express their emotions, thus enhancing the engagement and effectiveness of digital interactions.

Out of Control *Physical Space Interaction Design*

Shizhen Zhang*, Qingxi Hu*, Chenfei Liu* Sep. 2024 - Jan. 2025

- Designed an interactive installation that takes participants on a journey from discomfort to empowerment, using an environment that initially evokes powerlessness but gradually enables a regained sense of control, symbolizing agency in overwhelming circumstances.
- Encouraged deeper reflection on the lived experiences of marginalized individuals by immersing participants in a space that fosters empathy, understanding, and awareness, ultimately expanding public cognition of these communities.

Services

Teaching Assistant

ARTS 1701 - Design Thinking: Innovative Solutions in Product and Interactive Design *Sep. 2023 - Dec. 2023*

ARTS 1701 - Design Thinking: Innovative Solutions in Product and Interactive Design *Mar. 2024 - Jun. 2024*

ARTS 1422 - Data Visualization *Sep. 2024 - Dec. 2024*

ENT 1117 - Integrated Applications of Interaction Design *Sep. 2024 - Jan. 2025*

ENT 1121 - Studio IV: Mixed Reality and Moving Images *Feb. 2025 - Present*

Extracurricular Activities

Volunteer in the Shanghai International Marathon *Nov. 27 2022*

Tenor in Chenyin choir *Nov. 2021 - Present*

Skills

Programming C, C#, C++, Python, Javascript, etc

Framework MRTK3, Vue, D3, etc

Research Human-Computer Interaction, Interaction Design, Data Visualization, Installation Art, etc

Softwares Figma, Unity, GraphPad Prism, Reaper, etc

Languages Chinese (Native), English (Fluent, Toefl: 95/120)