

# TIANSU CHEN

Email: [tiansu.contact@gmail.com](mailto:tiansu.contact@gmail.com) ♦ Tel: (217)979-1674

## RESEARCH INTERESTS

Human-Computer Interaction, Spatial Computing, AR/VR Simulation, Human-AI Collaboration

## EDUCATION

### University of Illinois at Urbana-Champaign

Master of Computer Science GPA: 4.0/4.0

Advisor: Elahé Soltanaghahi

Urbana, Illinois USA

08/2022 - 12/2023

### ShanghaiTech University

B.Eng in Computer Science GPA: 3.73/4.0

Advisor: Kewei Tu

Shanghai, China

09/2018 - 06/2022

## RESEARCH EXPERIENCES

### Health Care Engineering Systems Center, UIUC

AR/VR Research Assistant (Advisor: Inki Kim)

Urbana, Illinois USA

02/2024 - Present

- Designed and developed an AR vision simulator to simulate visual impairments induced by Traumatic Brain Injury (TBI), streamlining the collection of datasets for training diagnostic models and advancing data-driven approaches in TBI diagnostics.
- Explored the human-centered interaction designs in a Surgical Digital Twin (SDT) system, enhancing the collaboration efficiency and communication effectiveness in surgical training and planning process by enabling seamless interactions between onsite and remote users.

### iSENS Lab, UIUC

Graduate Research Assistant (Advisor: Elahé Soltanaghahi)

Urbana, Illinois USA

01/2023 - 12/2023

- Designed and developed **FocusFlow**, an intuitive hands-free interaction model in VR leveraging binocular visual depth information and layer-based user interface, and conducted user studies with quantitative and qualitative analysis to improve learnability and usability through iterative design.

### NLP Lab, ShanghaiTech University

Undergraduate Research Assistant (Advisor: Kewei Tu)

Shanghai, China

09/2021 - 06/2022

- Developed a Seq2Seq neural model enhanced with the attention mechanism to integrate Pointer Network for versatile Named Entity Recognition (NER) tasks, including flat, nested, and discontinuous NER, enabling efficient token extraction from input sequences.

## PUBLICATIONS

Chenyang Zhang\*, **Tiansu Chen\***, Eric Shaffer, Elahé Soltanaghahi. **FocusFlow: 3D Gaze-Depth Interaction in Virtual Reality Leveraging Active Visual Depth Manipulation**. In *The ACM Conference on Human Factors in Computing Systems*.

CHI 2024 · Full Paper

Chenyang Zhang\*, **Tiansu Chen\***, Rohan Russel Nedungadi, Eric Shaffer, Elahé Soltanaghahi. **FocusFlow: Leveraging Focal Depth for Gaze Interaction in Virtual Reality**. In *The ACM Symposium on User Interface Software and Technology*.

UIST 2023 · Demo

## HONORS AND AWARDS

ShanghaiTech University Merit Student (top 2%)

2020, 2021

Meritorious Winner of COMAP's Mathematical Contest in Modeling (top 4%)

2021

## TEACHING

### ShanghaiTech University

Teaching Assistant

CS 110: Computer Architecture I, Spring 2021

CS 181: Artificial Intelligence, Fall 2021

Shanghai, China

03/2021 - 01/2022

## SKILLS

### Research

Human-Centered Design, Quantitative & Qualitative Research, Root Cause Analysis

### Computer Science

AI&ML, Web Programming, Algorithm & Data Structures, Databases

### Languages and Tools

C/C++, Python, Java, Kotlin, JavaScript, SQL, Pytorch, Unity, OpenXR, L<sup>A</sup>T<sub>E</sub>X

### AR/VR Hardware

HTC Vive Pro, Magic Leap 2, Meta Quest 3