TIANSU CHEN

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RESEARCH INTERESTS

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

EDUCATION

University of Illinois at Urbana-Champaign   *Urbana, Illinois USA*
Master of Computer Science   GPA: 4.0/4.0   *08/2022 - 12/2023*
Advisor: Elahé Soltanaghai

ShanghaiTech University   *Shanghai, China*
B.Eng in Computer Science   GPA: 3.73/4.0   *09/2018 - 06/2022*
Advisor: Kewei Tu

RESEARCH EXPERIENCES

Health Care Engineering Systems Center, UIUC   *Urbana, Illinois USA*
AR/VR Research Assistant (Advisor: Inki Kim)   *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   *Urbana, Illinois USA*
Graduate Research Assistant (Advisor: Elahé Soltanaghai)   *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   *Shanghai, China*
Undergraduate Research Assistant (Advisor: Kewei Tu)   *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 Soltanaghai. 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 Soltanaghai. 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   *Shanghai, China*
Teaching Assistant   *03/2021 - 01/2022*
CS 110: Computer Architecture I, Spring 2021
CS 181: Artificial Intelligence, Fall 2021

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, LaTeX
AR/VR Hardwares	HTC Vive Pro, Magic Leap 2, Meta Quest 3