Tao Lu

 isthatdistance | Tao Lu | luttul@gatech.edu |

RESEARCH INTEREST

My research interest is to study how to extend human's ability or increase their performance and engagement on a wide range of **tasks** through different **environments**. My goal is to design interactions that maximize the power of the environment and minimize the difficulty of the task. The environments I touched in my past research are primarily *extended reality* and *mobile platforms*, and some tasks I have been working on are *data visualization* and *data collections*.

In the future, I'm going to approach my goal by exploring how **algorithms** can be incorporated in the environment to support more personalized and situated interactions.

WORK EXPERIENCE

Research Assistant   Sept 2023 - present
Advised by Dr. Yalong Yang on immersive data storytelling

Teaching Assistant   Jan 2024 - Apr 2024
Human-AI Interaction by Dr. Christopher J. MacLellan

Research Assistant   Apr 2022 - May 2023
Advised by Dr. Anhong Guo on interactions on mobile devices

SELECTED PROJECTS

Understanding Perspective Change in Immserive Data Storytelling with Spatial Context (*Aiming for CHI 2025*)   Apr 2024 - present

We simulated spatial-related data storytelling in Virual Reality (VR) using Unity3D game engine and compared active vs. passive reader perspective change in story progress control.
My Role: Leading Investigator
I led the research ideations (literature reviews). I'm also going to be responsible for implementations (VR development), evaluations (study and result analysis) and documentations (paper writing).

Civic Dark Patterns in Public Record Portals (*Aiming for CHI 2025*)   Oct 2023 - present

We analyzed and identified dark patterns in some important daily functions on civic websites among counties in Atlanta municipal area.
My Role: Investigator
I conducted all UX audit work on civic websites (court portals and tax assessors). I contributed to the corresponding contents in methodology and result sections

Mixplorer: A Mixed-reality Object Placement Data Collection Tool   Jan 2023 - Apr 2023

We created a mixed-reality object placement data collection tool, instantiating human-in-the-loop human-AI collaboration where AI provides suggestions and users modify the suggestions for model improvement.
My Role: Investigator
I led the UI development in SwiftUI. I am also involved in AR development for object placement and research ideations.

EDUCATION

2023 - present	**Georgia Institute of Technology**	(GPA: 4.0/4.0)
	MS, Human-Computer Interaction (expected)	
2021 - 2023	**University of Michigan**	(GPA: 3.9/4.0)
	BS, Computer Science	
2019 - 2023	**Shanghai Jiao Tong University**	(GPA: 3.8/4.0)
	BS, Electrical and Computer Engineering	

PUBLICATIONS

Tao Lu, Hongxiao Zheng, Tianying Zhang, Xuhai Xu, and Anhong Guo (2024). "InteractOut: Leveraging Interaction Proxies as Input Manipulation Strategies for Reducing Smartphone Overuse". In: *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems.*

IN-SUBMISSIONS

Zhu, Qian, **Tao Lu**, Shunan Guo, Xiaojuan Ma, and Yalong Yang (2024). "CompositingVis: Exploring Interactions for Creating Composite Visualizations in Immersive Environments". In: *Submission to IEEE VIS24, Under Review.*

SKILLS

VR Development	Unity3D (C#), Meta Quest Link, SteamVR
Mobile Development	Android (Java+Kotlin), IOS (SwiftUI), Firebase
Quantitative Data Analysis	R script, Python
Web Development	React, D3

AWARDS

Summa Cum Laude — May 2023
University of Michigan

Dean's List — Fall 2021, Winter 2022
University of Michigan

Tang Junyuan Scholarship Nomination Award — July 2021
Shanghai Jiao Tong University

Undergraduate Excellent Scholarship — Nov 2020
Shanghai Jiao Tong University

The John Wu & Jane Sun Sunshine Scholarship — Oct 2020
Shanghai Jiao Tong University

Chinese National Scholarship — Sept 2020
Shanghai Jiao Tong University