

Xijie Wu

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EDUCATION

Robotics

South China University of Technology, China

GPA 3.79/4.0

Advisor: Lin Shu

RESEARCH EXPERIENCE

Shanghai Artificial Intelligence Laboratory

Research Intern (Advisor: Rong Fu)

2025.07 - Present | Shanghai, China

Real2Sim & Profiling for software simulation.

For soft objects such as clothing, point clouds are extracted from captured video using VGGT. Newton reconstructs the Mass-Spring model for VBD simulation, and tests this in IsaacSim robotic manipulation tasks. Profiling analysis is also performed on the VBD and XPBD algorithms.

Migrate Warp's graphics simulation kernel to the domestic platform

Evaluated that "Moore's Law" S80 supports custom kernels and graphics emulation.

BAIR, University of California, Berkeley

Research Assistant (Advisor: Roberto Calandra)

2025.03 - 2025.05 | Remote

Applying VR tactile technology to robot teleoperation.

Develop a simulation mode where users can record their movements in VR while the haptic gloves provide real-time tactile feedback.

Reinforcement learning training for legged robots at Genesis.

Develop a simulation mode where users can record their movements in VR while the haptic gloves provide real-time tactile feedback.

HCI Lab, South China University of Technology

Researcher Assistant (Advisor: Lin Shu)

2024.11 - 2025.04 | Guangzhou, China

VR haptic development and haptic evaluation system for flexible electronic skin.

Established communication between the ESP32, EMS, and VR environments to produce real-time feedback based on VR interactions. Developing a VR-based tactile feedback evaluation system to assess the properties of our flexible electronic skin, including texture fineness.

The Future Laboratory, Tsinghua University

Research Assistant (Advisor: Yingqing Xu)

2024.07 - 2024.09 | Beijing, China

VR haptic development and mechanical design for mechanical brake tactile devices.

Developing multiple shaders to render destructive object behaviors such as chopping, slicing, tearing, breaking, etc. in VR. Mechanical design, exploring how motor-controlled string braking mechanisms can generate kinesthetic feedback for the destruction of large objects in VR. Developing VR. Established communication between the ESP32 and VR environments to produce haptic feedback.

PUBLICATIONS

Hongbo Yao, Jialong Liu, Qiwei Xiong, Mingyu Tan, Jiyu Wang, **Xijie Wu**, Yuanjun Ma, Chuhang Lin, Yihuan Lin, Qingao Hu, Changfu Zhong, Tao Huang, Haoqiang Hua, Wenjun Zhang, Zikang Dong, Jusheng Chen, Xiaobin Chen, Lin Shu, Lei Wei, Xinge Yu, Xiangmin Xu.

Wearable Fabric-Based Electrotactile System with Simulation-Inhibition Electrode Units for Enhanced Tactile Perception in VR. In **Science Advances**.

Mingyu Tan*, Hongbo Yao*, **Xijie Wu**.

Modeling Simulation and Application Research for Multi-Dimensional Electro-Haptic Feedback. In **Journal of Neural Engineering**.

PROFESSIONAL EXPERIENCE

VR content generation AI agent based on MCP

Engineering/Algorithms

2025.04 - 2025.06 | Guangzhou, China

Develop artificial intelligence agents that allow users to generate objects used to build VR scenes through natural interaction, and modify code and adjust game logic in real time during the game.

SKILLS

Computer Science: Robot simulation, reinforcement learning, deep learning, computer graphics, network programming

Tools: Pytorch, Unity 3D, Isaac Sim, Genesis, Newton, Warp, Blender, SolidWorks, ROS, Gazebo, Nsight, Figma

Hardware: STM-32, ESP32, PCB Design

Language: English (C1), Spain (Junior), Python, C/C++, JavaScript