

# Zhiqi Li

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## EDUCATION

### Georgia Institute of Technology

M.S. in Computer Science GPA: 4.00/4.00

Atlanta, US

2023 – 2025 (Expected)

### Zhejiang University

B.Eng. in Computer Science, B.S. in Applied Mathematics GPA: 3.97/4.00

Hangzhou, China

2019 – 2023

## RESEARCH INTERESTS

I'm interested in physical-based simulation in computer graphics, scientific computing and their combination with LLMs.

## PUBLICATIONS

- Particle-Laden Fluid on Flow Maps** SIGGRAPH Asia, 2024  
*Zhiqi Li, Duowen Chen, Candong Lin, Jinyuan Liu, Bo Zhu*  
*Best Paper Award*
- Lagrangian Covector Fluid with Free Surface** SIGGRAPH, 2024  
*Zhiqi Li, Barney (Barnabás) Börcsök, Duowen Chen, Yutong Sun, Bo Zhu, Greg Turk*  
*Conference Track*
- Solid-Fluid Interaction on Particle Flow Maps** SIGGRAPH Asia, 2024  
*Duowen Chen, Zhiqi Li, Junwei Zhou, Fan Feng, Tao Du, Bo Zhu*  
*Journal Track*
- Not displayed here due to the double-blind policy** SIGGRAPH, 2025  
*Unknown\*, Zhiqi Li\*, Unknown, ... (\* co-first author)*  
*Under Review*
- Not displayed here due to the double-blind policy** SIGGRAPH, 2025  
*Zhiqi Li, Unknown, Unknown, ... (\* co-first author)*  
*Under Review*
- Not displayed here due to the double-blind policy** SIGGRAPH, 2025  
*Zhiqi Li\*, Unknown\*, Unknown, ... (\* co-first author)*  
*Under Review*
- Enhancing Immersive 3D Video Communication with Hand Touch** IEEE VR, 2023  
*Yizhong Zhang\*, Zhiqi Li\*, ... , Jiaolong Yang, Xin Tong, Baining Guo (\* co-first author)*
- Federated Learning with Label Distribution Skew via Logits Calibration.** ICML, 2022  
*Jie Zhang, Zhiqi Li, Bo Li, Jianghe Xu, Shuang Wu, Shouhong Ding, Chao Wu*  
*Spotlight*
- Improving Group Connectivity for Generalization of Federated Deep Learning** FL@FM-NIPS, 2024  
*Zexi Li\*, Jie Lin\*, Zhiqi Li\*, Didi Zhu, Chao Wu (\* co-first author)*
- Swift Parameter-free Attention Network for Efficient Super-Resolution.** NTIRE-CVPR, 2024  
*Cheng Wan\*, Hongyuan Yu\*, Zhiqi Li\*, ..., Xuanwu Yin, Kunlong Zuo (\* co-first author)*

## EXPERIENCE

### Research Assistant

Advisor: Prof. Bo Zhu and Prof. Greg Turk

May 2022 – Present

Georgia Tech, Dartmouth College

- Through theoretical derivation, I proposed a new long-short flow map algorithm that extends the Covector Fluid method to particle-based methods and addresses free surface problems, leading to a breakthrough in vortex-preserving algorithms for free surfaces. This work is presented in the paper "Lagrangian Covector Fluid with Free Surface", published at SIGGRAPH 2024.
- I improved the particle flow map algorithm to enable it to simulate fluid flow involving complex phenomena such as viscosity, multiphase flow, and fluid-solid coupling. This enhanced algorithm was used to simulate new visual effects for laden flow and fluid-solid interaction. The results are presented in the papers "Particle-Laden Fluid on Flow Maps" and "Solid-Fluid Interaction on Particle Flow Maps", published at SIGGRAPH Asia 2024.
- I developed my own C++ simulation code library, Research-G, using it to simulate codimensional-1 fluid flows such as soap bubbles. Additionally, I proposed a new codimensional-1 adaptive SPH algorithm.

## Research Intern

Oct. 2021 – Oct 2022

Advisor: Dr. Yizhong Zhang and Dr. Xin Tong

Microsoft Research Lab - Asia, Internet Graphics Group

- Improve VirtualCube system: For the virtual meeting system(refer to paper virtualCube: An Immersive 3D Video Communication System), I find a problem that hands close to the screen destroy the quality, and propose a method to remove the information of hand to improve the quality
- Develop RemoteTouch system: With the proposed dual representation of hands, we design and implement a video-communication system, which reconstructs the hands of users and allows users to clamp and touch with each other, with the sensors of Leap Motion. The results are presented in the papers "RemoteTouch: Enhancing Immersive 3D Video Communication with Hand Touch" published at IEEE VR, 2023

## Research Intern

Jan. 2025 – May 2025 (Incoming)

Advisor: Prof. Bo Zhu

Epic Games

- Large Language Model and Game Design

## PROJECTS

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### Simplified Linux Kernel | C, Assembly

Oct. 2021 – Dec. 2021

- Implemented kernel entry, interrupt handling, process creation and priority scheduling, multithreading, virtual memory management, and hierarchical page tables.
- Implemented a simplified version of the Linux kernel in C, featuring essential operating system functionalities.

## HONORS AND AWARDS

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### Best Paper Awards of SIGGRAPH Asia 2024

2024

granted by ACM

## TECHNICAL SKILLS

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- **Languages:** Python, C, C++, CUDA, matlab, Assembly, Shell, JavaScript
- **Frameworks:** PyTorch, Numpy, Taichi, OpenCV, OpenGL
- **Toolkits:** Git, Tmux, Markdown, LaTeX, MeshLab