

## JINYUAN LIU

15 Engineering Dr  
Dartmouth College  
Hanover, NH 03755

<https://jinyuan-liu.github.io/>  
[jinyuan.liu.gr@dartmouth.edu](mailto:jinyuan.liu.gr@dartmouth.edu)  
(650) 507-9942

## EDUCATION

Ph.D. Computer Science, Dartmouth College, Jan 2020-present.

Advisor: Prof. Bo Zhu

M.S. Aero&Astro, Stanford University, June 2017.

Advisor: Prof. Antony Jameson

B.S. Engineering Mechanics, Beihang University, June 2015.

## RESEARCH INTERESTS

- Physical simulations: rigid (articulated), soft, cloth, liquid, gas and their two-way/three-way interactions.
- Numerical optimization: fast solutions applied to topology, shape and interfacial physics.

## PEER-REVIEWED PUBLICATIONS <sup>†</sup>

1. **Liu, J.**, Wang, M., Feng, F., Tang, A., Le, Q. and Zhu, B., 2022. Hydrophobic and Hydrophilic Solid-Fluid Interaction *ACM Transactions on Graphics (TOG)*, 41(6), pp.1-15.
2. **Liu, J.**, Xian, Z., Zhou, Y., Nomura, T., Dede, E.M. and Zhu, B., 2022. A marker-and-cell method for large-scale flow-based topology optimization on GPU. *Structural and Multidisciplinary Optimization*, 65(4), pp.1-18.
3. Feng, F., **Liu, J.**, Xiong, S., Yang, S., Zhang, Y. and Zhu, B., 2022. Impulse Fluid Simulation. *IEEE Transactions on Visualization and Computer Graphics*.
4. Ruan, L.\*, **Liu, J.\***, Zhu, B., Sueda, S., Wang, B. and Chen, B., 2021. Solid-fluid interaction with surface-tension-dominant contact. *ACM Transactions on Graphics (TOG)*, 40(4), pp.1-12.
5. Yang, S., Xiong, S., Zhang, Y., Feng, F., **Liu, J.** and Zhu, B., 2021. Clebsch gauge fluid. *ACM Transactions on Graphics (TOG)*, 40(4), pp.1-11.

## TEACHING EXPERIENCE

### *Dartmouth College*

Teaching Assistant, GPU Programming and High-Performance Computing (COSC 89.25/189): Spring 2020

Lecture, Reading Course (COSC 294.02): Winter 2022

## EMPLOYMENT

*Toyota Research Institute of North America*, Research Intern, remote, 2020.

Work with Dr. Ercan M. Dede and Dr. Yuqing Zhou

*AICFVE*, Research Intern, Beijing, 2019.

Work with Dr. Bin Wang and Prof. Baoquan Chen

*Carbon*, Student Researcher, Stanford CA, 2017.

Work with Prof. Adrian Lew and Dr. Hardik Kabaria

---

<sup>†</sup>\* indicate equal contribution

## HONORS & AWARDS

The First-Class Scholarship, Beihang University, 2012-2014.

Baosteel Scholarship, Beihang University, 2014.

Kwang-hua Scholarship, Beihang University, 2013.

National Scholarship, China Ministry of Education, 2012.

## OTHERS

Languages: Chinese, English

Skills: C++, Matlab, Python, L<sup>A</sup>T<sub>E</sub>X