CURRICULUM VITAE: YUE SUN

School of Engineering and Applied Sciences
Harvard University
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EDUCATION

Harvard University — 2020 – present
Ph.D. Candidate in Applied Mathematics
Advisor: Professor Chris H. Rycroft

Harvard University — 2018 – 2020
M.E. in Computational Science and Engineering
Advisor: Professor Chris H. Rycroft
Thesis: *A lattice Boltzmann implementation of the reference map technique*

New York University Shanghai — 2014 – 2018
B.S. in Mathematics, *Magna Cum Laude*
Minors in Interactive Media Arts, Urban Design and Architecture Studies

RESEARCH INTERESTS

Broadly: computational fluid dynamics, scientific computing, computer graphics, science communication

Specifically: reference map technique, lattice Boltzmann method, parallel computation, data visualization;
numerical methods for continuum mechanics: fluid–structure interaction, materials of multiple interfaces;
scientific data analysis: integration of experiment and simulation, data-driven methods for physics;
mechanical modeling of biological systems: complex suspension, microswimmer locomotion;
physics-based animation: dynamic bones for secondary animation;
art and science: artistic stylization of fluid simulation, educational video production

PROFESSIONAL EXPERIENCE

DisneyResearch|Studios — Zürich, Switzerland
Research Intern, supervisor: Dr. Vinicius C. Azevedo — Summer 2022

Activision / Raven Software — Middleton, WI
Technical Animation Intern, game credit: "Call of Duty: Black Ops Cold War" — Summer 2020
Technical Animation Intern, game credit: "Call of Duty: Modern Warfare" — Summer 2019

Pearl Studio (formerly Oriental DreamWorks) — Shanghai, China
Production Education Intern — Summer 2016

VIDEOS

Y. Sun, Y. L. Lin, N. J. Derr, and C. H. Rycroft, *Settling down: simulations of soft immersed rods with the reference map technique*, APS Division of Fluid Dynamics Gallery of Fluid Motion, V0045 (2021). (doi:10.1103/APS.DFD.2021.GFM.V0045)

Invited Seminars

University of Michigan Applied Mathematics Graduate Student AIM Seminar, Virtual — March 25, 2022
Soft, squishy, submerged: Eulerian simulation of fluid–structure interaction with the lattice Boltzmann method

Conference Presentations

SIAM Conference on the Life Sciences, Pittsburgh, PA — July 11-15, 2022
Lattice Boltzmann reference map technique for Eulerian simulation of fluid–structure interaction

APS Division of Fluid Dynamics Annual Meeting, Phoenix, AZ — November 21-23, 2021
A fully Eulerian lattice Boltzmann simulation of multi-soft-body fluid–structure interaction

SIAM Annual Meeting, Virtual — July 19-23, 2021
A lattice Boltzmann implementation of the reference map technique for fluid–structure interaction

APS March Meeting, Virtual — March 15-19, 2021
A lattice Boltzmann based reference map technique for fluid–structure interaction

Teaching Experience

Teaching Fellow for five semesters at Harvard University, for three undergraduate and two graduate courses:

Semester	*Course*	*Instructor*
Fall 2022	AM/ES 111: Introduction to Scientific Computing	Dr. Sarah Iams
Spring 2022	AM/ES 115: Mathematical Modeling[‡]	Prof. Zhiming Kuang
Fall 2021	AM 205: Advanced Scientific Computing: Numerical Methods I[†]	Prof. Chris Rycroft
Spring 2020	ES 123: Introduction to Fluid Mechanics and Transport Processes[*§]	Dr. David Sondak
Fall 2019	AM 205: Advanced Scientific Computing: Numerical Methods I	Prof. Chris Rycroft

(*: served as Head Teaching Fellow, 200-level: graduate courses)

Teaching assistant for one semester at New York University Shanghai:

Semester	*Course*	*Instructor*
Fall 2017	SOCS-SHU 100: Public Speaking in a Leadership Context	Prof. Diane Yu

Awards and Scholarships

Certificate of Distinction in Teaching[†‡] — 2022
Harvard College Office of Undergraduate Education

David B. Heller Innovation Fund Fellowship — 2020 – 2021
Harvard John A. Paulson School of Engineering and Applied Sciences

Special Commendation Extraordinary Teaching in Extraordinary Times[§] — 2020
Harvard College Office of Undergraduate Education

Certificate of Special Distinction in Teaching[§] — 2020
Harvard Institute for Applied Computational Science

IACS Student Scholarship — 2019 – 2020
Harvard Institute for Applied Computational Science

Phi Beta Kappa Society 2018
Beta Chapter of New York (New York University)

HiTime Global Scholar 2016 – 2018
New York University Shanghai

Deans' Undergraduate Research Fund 2016
New York University Shanghai

ACADEMIC ACTIVITIES

Conference session chair
CP5 Applied Mathematics at SIAM Annual Meeting 2021, Virtual July 19, 2021

Workshop organizer
From Notebook to the Cloud January 21, 2020
https://github.com/Harvard-IACS/2020-ComputeFest/tree/master/notebook_to_cloud
Jointly organized at Harvard IACS ComputeFest 2020, Cambridge, MA
with Dr. David Sondak, Dylan Randle, Bhaven Patel and Donghun Lee (Harvard IACS)

SKILLS

Languages: C++, Python, LaTeX, MATLAB, Mathematica, JavaScript, C#, Processing
Applications: Maya, Blender, Unity3D, Arduino, Adobe After Effects / Premiere / Photoshop / Illustrator
Technologies: OpenMP, TensorFlow, Maya API, OpenGL, Git, Perforce, gnuplot, PySide, p5.js, PS4 Dev Tools