Haoren Zheng

800 Dongchuan Road, Minhang District, Shanghai 200240, P.R. China
Shanghai Jiao Tong University (Minhang Campus)
zhenghaoren@sjtu.edu.cn • +86-18357901386 • https://puzhre.github.io/

EDUCATION

Nanjing University of Science and Technology, Nanjing, China
- B.S. in Information and Computational Science (Mathematics), minor in Artificial Intelligence Sep 2021 – Jun 2025
  - Major rank: 1/40.
  - GPA: 3.85 / 4.0.

Global College, Shanghai Jiao Tong University (SJTU), Shanghai, China
- Ph.D. student — Sep 2025 – Present
  - Adviser: Prof. Dezhi Zhou.

RESEARCH & VISITING EXPERIENCE

Nanjing University of Science and Technology, Nanjing, China
- Undergraduate research: Remote Sensing Image Unmixing
  - Supervisor: Prof. Hongyi Liu.

AI Industry Research (AIR), Tsinghua University, Beijing, China
- Visiting student — Jan 2024 – Mar 2024
  - Supervisor: Prof. Yan Wang.

School of Engineering, Westlake University, Hangzhou, China
- Visiting student — Jan 2025 – Present
  - Supervisor: Prof. Tailin Wu; Co-supervisor: Prof. Long Wei.

Global College, Shanghai Jiao Tong University (SJTU), Shanghai, China
- Ph.D. student — Sep 2025 – Present
  - Adviser: Prof. Dezhi Zhou.
  - Current direction: foundation model for integrated simulation–optimization–design in combustion dynamical systems (advised by Prof. Dezhi Zhou and Prof. Tailin Wu).

PUBLICATIONS & PREPRINTS

[1] Peiyan Hu*, Haodong Feng*, Hongyuan Liu*, Tongtong Yan, Wenhao Deng, Tianrun Gao, Rong Zheng, Haoren Zheng, Chenglei Yu, Chuanrui Wang, Kaiwen Li, Zhi-Ming Ma, Dezhi Zhou, Xingcai Lu, Dixia Fan, Tailin Wu. "RealPDEBench: A Benchmark for Complex Physical Systems with Real-World Data." Submitted to *International Conference on Learning Representations (ICLR)*, 2026. (arXiv; Code; Project)

[2] Tianrun Gao*, Haoren Zheng*, Wenhao Deng*, Haodong Feng, Tao Zhang, Ruiqi Feng, Qianyi Chen, Tailin Wu. "GenCP: Towards Generative Modeling Paradigm of Coupled Physics with Application to Fluid-Structure Interaction." Submitted to *International Conference on Learning Representations (ICLR)*, 2026.

[3] Tian Bu*, Chuanrui Wang*, Hao Ma, Haoren Zheng, Xin Lu, Tailin Wu. "GGBall: Graph Generative Model on Poincaré Ball." Submitted to *International Conference on Learning Representations (ICLR)*, 2026. (arXiv; Code)

[4] Haoren Zheng, Shibo Gu, Evatt R. Hawkes, Dezhi Zhou, Xingcai Lu. "Generate reacting flow fields with flow matching neural operators on high-resolution grids." Submitted to the 41st International Symposium on Combustion (ISOC), 2026.

[5] Haodong Feng*, Haoren Zheng*, Peiyan Hu, Hongyuan Liu, Chenglei Yu, Long Wei, Ruiqi Feng, Jinlong Duan, Dixia Fan, Tailin Wu. "FluidZero: Mastering Diverse Tasks in Fluid Systems through a Single Generative Model." Submitted to *Nature Machine Intelligence*. (Paper; Code)

[6] Haoren Zheng, Zulong Li, Chenyu Sun, Hanqiu Zhang, Hongyi Liu, Zhihui Wei. "Blind unmixing using dispersion model-based autoencoder to address spectral variability." *IEEE Transactions on Geoscience and Remote Sensing (TGRS)*, 2024. (Paper; Code)

AWARDS & HONORS
- Jinhua "Five-Good Student". — 2020
- Annual Outstanding Athlete, Nanjing University of Science and Technology. — 2022

- Meritorious Winner, Mathematical Contest in Modeling / Interdisciplinary Contest in Modeling (MCM/ICM). 2024

SKILLS

Python, C++, PyTorch, Git, Linux, LaTeX

SERVICE & LEADERSHIP

- Research mentorship: led a hyperspectral image unmixing research project mentoring 3 junior students. Sep 2024 – Jun 2025
- Research mentorship: led an AI-for-combustion control research project mentoring 2 senior undergraduates. Nov 2025 – Present

INTERESTS

Fitness, Cycling, Go (Weiqi) (Amateur 4-dan), Rubik's Cubes

[*Last updated on 2026-01-18*]