

CHENG Tao

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EDUCATION

Zhejiang University

B.Eng. in Computer Science and Technology (expected June 2027)

2023.09 — 2027.06

Hangzhou, China

- **Cumulative GPA:** 93.15/100 (4.76/5.00) | **Rank 1** in cohort

• **Relevant Coursework:** Data Structures, Mathematical Modeling, OS, AI, NLP, CV, Robotics and Practice

• **Honors & Awards:**

- National Scholarship
- First-Class University Scholarship
- NITORI International Scholarship

RESEARCH INTERESTS

3D Reconstruction & Neural Rendering, Physics-Informed Scene Modeling, Differentiable Simulation, Embodied AI

PUBLICATIONS

DiffWind: Physics-Informed Differentiable Modeling of Wind-Driven Object Dynamics

ICLR 2026

5th Author

Accepted

- **Proposed** a physics-informed differentiable framework unifying wind-object interaction modeling, video-based reconstruction, and forward simulation using MPM and LBM.
- **My contribution:** baseline research on generative models, designed and validated experiments for reconstruction accuracy and simulation fidelity.

PhysSkin: Real-Time and Generalizable Physics-Based Animation via Self-Supervised Neural Skinning

2nd Author

Under Review

- **Proposed** a physics-informed neural skinning framework achieving real-time, generalizable physics-based animation via transformer-based autoencoder and self-supervised learning.
- **My contribution:** code and paper modifications, baseline fine-tuning, experiments, metric analysis, 3D visualization comparisons, and supplementary materials.

PROJECT EXPERIENCE

SRTP: City-scale Multi-modal 3D Reconstruction & Weather Simulation

2025.04 — Present

Project Leader, Co-Author / National Level Research Grant

State Key Lab of CAD&CG, ZJU

- **Led** the development of a city-scale 3D reconstruction framework integrating multi-modal data; secured national level funding for its technical novelty and scalability.
- **Built** research proficiency via experimental validation, code implementation, and literature synthesis; honed scientific communication through weekly group presentations and critical discussions.
- **Contributed** to research on dynamic object modeling and scene reconstruction; co-authored two papers (see above).
- **Currently leading** a research project on physics-informed multi-modal reconstruction with novel contributions to geometric quality and scalability, targeting top-tier venue publications.

“Shenzhen Cup” National Collegiate Mathematical Modeling Challenge

2024.04 — 2024.08

Team Leader / Second Prize (3rd Place Nationally)

Shenzhen, China

- **Developed** an optimization algorithm for sonic boom localization of rocket debris, enhancing positioning accuracy.
- **Led** a team of three to deliver high-quality technical reports, securing a 10,000 CNY prize for top-tier performance.

CAMPUS EXPERIENCE

HPC101: High-Performance Computing Workshop

2024.07 — 2024.08

Project-based Training

Zhejiang University

- **Mastered** cluster configuration, parallel computing, and **CUDA programming**.

- **Optimized** CPUBench on Kunpeng CPUs (PAC 2024) via compiler tuning and C/Fortran profiling.

Data Factor Markets Workshop

2025.06 — 2025.07

Selected Coursework & Implementation

Zhejiang University

- **Mastered** core concepts including Game Theory, MAB algorithms, and auction mechanism design for data assets.

- **Independently implemented** a database versioned pricing algorithm from the **QIRANA** (SIGMOD ‘17) paper, achieving full marks for the project.