

# CHENG Tao

Hangzhou / Shenzhen, China | [travischeng123@gmail.com](mailto:travischeng123@gmail.com) | [tao-cheng.cc](http://tao-cheng.cc)

## EDUCATION

<b>Zhejiang University</b> <i>B.Eng. in Computer Science and Technology (expected June 2027)</i>	2023.09 — 2027.06 <i>Hangzhou, China</i>
<ul style="list-style-type: none"><li>• <b>Cumulative GPA:</b> 93.15/100 (4.76/5.00)   <b>Rank 1</b> in cohort</li><li>• <b>Relevant Coursework:</b> Data Structures, Mathematical Modeling, OS, AI, NLP, CV, Robotics and Practice</li><li>• <b>Honors &amp; Awards:</b><ul style="list-style-type: none"><li>▸ National Scholarship</li><li>▸ First-Class University Scholarship</li><li>▸ NITORI International Scholarship</li></ul></li></ul>	

## RESEARCH INTERESTS

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

## PUBLICATIONS

<b>DiffWind: Physics-Informed Differentiable Modeling of Wind-Driven Object Dynamics</b> <i>5th Author</i>	<b>ICLR 2026</b> <i>Accepted</i>
<ul style="list-style-type: none"><li>• <b>Proposed</b> a physics-informed differentiable framework unifying wind-object interaction modeling, video-based reconstruction, and forward simulation using MPM and LBM.</li><li>• <b>My contribution:</b> baseline research on generative models, designed and validated experiments for reconstruction accuracy and simulation fidelity.</li></ul>	
<b>PhysSkin: Real-Time and Generalizable Physics-Based Animation via Self-Supervised Neural Skinning</b> <i>2nd Author</i>	<i>Under Review</i>
<ul style="list-style-type: none"><li>• <b>Proposed</b> a physics-informed neural skinning framework achieving real-time, generalizable physics-based animation via transformer-based autoencoder and self-supervised learning.</li><li>• <b>My contribution:</b> code and paper modifications, baseline fine-tuning, experiments, metric analysis, 3D visualization comparisons, and supplementary materials.</li></ul>	

## PROJECT EXPERIENCE

<b>SRTP: City-scale Multi-modal 3D Reconstruction &amp; Weather Simulation</b> <i>Project Leader, Co-Author / National Level Research Grant</i>	2025.04 — Present <i>State Key Lab of CAD&amp;CG, ZJU</i>
<ul style="list-style-type: none"><li>• <b>Led</b> the development of a city-scale 3D reconstruction framework integrating multi-modal data; secured national level funding for its technical novelty and scalability.</li><li>• <b>Built</b> research proficiency via experimental validation, code implementation, and literature synthesis; honed scientific communication through weekly group presentations and critical discussions.</li><li>• <b>Contributed</b> to research on dynamic object modeling and scene reconstruction; co-authored two papers (see above).</li><li>• <b>Currently leading</b> a research project on physics-informed multi-modal reconstruction with novel contributions to geometric quality and scalability, targeting top-tier venue publications.</li></ul>	
<b>“Shenzhen Cup” National Collegiate Mathematical Modeling Challenge</b> <i>Team Leader / Second Prize (3rd Place Nationally)</i>	2024.04 — 2024.08 <i>Shenzhen, China</i>
<ul style="list-style-type: none"><li>• <b>Developed</b> an optimization algorithm for sonic boom localization of rocket debris, enhancing positioning accuracy.</li><li>• <b>Led</b> a team of three to deliver high-quality technical reports, securing a 10,000 CNY prize for top-tier performance.</li></ul>	

## CAMPUS EXPERIENCE

<b>HPC101: High-Performance Computing Workshop</b> <i>Project-based Training</i>	2024.07 — 2024.08 <i>Zhejiang University</i>
<ul style="list-style-type: none"><li>• <b>Mastered</b> cluster configuration, parallel computing, and <b>CUDA programming</b>.</li><li>• <b>Optimized</b> CPUBench on Kunpeng CPUs (PAC 2024) via compiler tuning and C/Fortran profiling.</li></ul>	
<b>Data Factor Markets Workshop</b> <i>Selected Coursework &amp; Implementation</i>	2025.06 — 2025.07 <i>Zhejiang University</i>
<ul style="list-style-type: none"><li>• <b>Mastered</b> core concepts including Game Theory, MAB algorithms, and auction mechanism design for data assets.</li><li>• <b>Independently implemented</b> a database versioned pricing algorithm from the <b>QIRANA</b> (SIGMOD ‘17) paper, achieving full marks for the project.</li></ul>	