

# TENGYUE ZHANG

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## 🎓 EDUCATION

**Shanghai Jiao Tong University (SJTU)**, Shanghai, China 2023 – Present

*B.S. in Physics (Major) & Computer Science (Minor)* (Expected Jun. 2027)

- Member of the **Zhiyuan Honor Program** (Physics Track, Top 10% of Cohort)
- **Overall GPA:** 4.00 / 4.30, **Average Score:** 92.10 / 100
- **Rank:** 2 / 29 as of Feb. 2026

## ♥ RESEARCH INTERESTS

- **Generative Modeling & Representation Learning:** Focusing on advanced generative models and representation learning across various modalities such as speech, video, and language.
- **AI for Science:** Integrating AI with physical principles to enhance the performance of neural networks or solve applied problems.

## 🔬 RESEARCH EXPERIENCE

**MOVA Group**, MOSI & Shanghai Innovation Institute (SII) Mar. 2026 – Present

*Research Intern / Visiting Student*

**X-LANCE Lab**, SJTU Jun. 2025 – Present

*Research Assistant* Advisor: Assoc. Prof. Xie Chen

Developing DiTAR-like TTS model using LocDiT architecture with patchification techniques and discrete diffusion methods based on F5-TTS framework. *Currently at MOVA.*

**ReThinkLab**, SJTU Sept. 2025 – Feb. 2026

*Research Assistant* Advisor: Prof. Junchi Yan

Conducting researches on AI for Science. Key focuses include Quantum Machine Learning (QML) for variational quantum circuits, Physics-Informed Neural Networks (PINNs) for solving PDEs, and AI for Fusion.

**Zhiyuan Scholar Program**, SJTU Jan. 2025 – Jun. 2027 (Exp.)

*Research Assistant* Advisor: Prof. Hao Zheng

Investigating the spectroscopy of Higher-Order Topological Matter (HOTIs and HOTSCs) on STM platform.

## 📖 RESEARCH PUBLICATIONS

**Co4ICF: Co-evolving Physics-Informed Surrogate and RL-based Pulse Optimizer for Inertial Confinement Fusion** May 2026

Jiatong Zhao\*, **Tengyue Zhang\***, Yuhan Wang\*, Fuyuan Wu, Junchi Yan Accepted by The 32nd ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD '26)

Proposed **Co4ICF**, a co-evolving framework coupling a physics-informed surrogate with a PPO pulse optimizer to address the OOD failure mode in ICF surrogate-based optimization. The surrogate is iteratively fine-tuned on policy-induced trajectories while the optimizer queries it as a fast environment. Achieved **146.1%** normalized yield in 1D-MULTI and **246.9%** in 2D-MULTI without any 2D fine-tuning. Budget-matched ablations confirm the gain stems from co-evolution rather than additional data.

## 🏆 HONORS AND AWARDS

*Meritorious Winner*, Interdisciplinary Contest in Modeling (ICM) May 2025  
Huatai Securities Technology Scholarship, Shanghai Jiao Tong University 2024