Chengyang Ying

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Contact Information

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Education

Department of Computer Science and Technology   *2021.8 - 2026.6 (expected)*

Ph.D Student, **Tsinghua University (THU)**, Beijing, China

· **TSAIL lab,** advised by Prof. **Jun Zhu** and A/Prof. **Hang Su**

· Research: Machine Learning, Reinforcement Learning, Embodied AI, RL Agents

Department of Mathematical Science   *2017.8 - 2021.6*

Bachelor of Science, **Tsinghua University (THU)**, Beijing, China

· Major in Mathematics and Applied Mathematics, Minor in Computer Application

· **GPA: 3.92/4.00** (156 credits); **Rank: 4/128**

· Average math GPA: **3.96/4.00** (82 credits); CS courses GPA: **4.00/4.00** (25 credits)

Work Experience

Research intern in **JQ Investment**, Beijing, China   2025.11-2026.1

· Work on deep generative models for building foundation models in financial data

Research intern in **Qwen**, Alibaba, Beijing, China   2025.5-2025.9

· Work on RL training of LLM agents for improving open-web search

Publications (First Author, *for equal contribution)

Exploratory Diffusion Model for Unsupervised Reinforcement Learning

Chengyang Ying, Huayu Chen, Xinning Zhou, Zhongkai Hao, Hang Su, Jun Zhu

*International Conference on Learning Representations (**ICLR**), Rio de Janeiro, Brazil, 2026*

Task Aware Dreamer for Task Generalization in Reinforcement Learning

Chengyang Ying[*], Xinning Zhou[*], Zhongkai Hao, Hang Su, Songming Liu, Dong Yan, Jun Zhu

*SCIENCE CHINA Information Sciences (**SCIS**), 2026*

PEAC: Unsupervised Pre-training for Cross-Embodiment Reinforcement Learning

Chengyang Ying, Zhongkai Hao, Xinning Zhou, Xuezhou Xu, Hang Su, Xingxing Zhang, Jun Zhu

*Neural Information Processing Systems (**NeurIPS**), Vancouver, Canada, 2024*

On the Reuse Bias in Off-Policy Reinforcement Learning
Chengyang Ying, Zhongkai Hao, Xinning Zhou, Hang Su, Dong Yan, Jun Zhu
International Joint Conference on Artificial Intelligence (IJCAI), Macao, China, 2023

Towards Safe Reinforcement Learning via Constraining Conditional Value at Risk
Chengyang Ying, Xinning Zhou, Hang Su, Dong Yan, Ning Chen, Jun Zhu
International Joint Conference on Artificial Intelligence (IJCAI), Vienna, Austria, 2022
An early version is published in ICML 2021 Workshop on Adversarial Machine Learning

Consistent Attack: Universal Adversarial Perturbation on Embodied Vision Navigation
Chengyang Ying[*], You Qiaoben[*], Xinning Zhou[*], Hang Su, Wenbo Ding, Jianyong Ai
Pattern Recognition Letters (PRL), 2023

Self-Consistent Model-based Adaptation for Visual Reinforcement Learning
Xinning Zhou[*], **Chengyang Ying**[*], Yao Feng, Hang Su, Jun Zhu
International Joint Conference on Artificial Intelligence (IJCAI), Montreal, Canada, 2025

ManiBox: Enhancing Spatial Grasping Generalization via Scalable Simulation Data Generation
Hengkai Tan*, Xuezhou Xu*, **Chengyang Ying***, Xinyi Mao, Songming Liu, Xingxing Zhang, Hang Su, Jun Zhu
arXiv preprint arXiv:2411.01850

Publications (Coauthor)

A2Search: Ambiguity-Aware Question Answering with Reinforcement Learning
Fengji Zhang, Xinyao Niu, **Chengyang Ying**, Guancheng Lin, Zhongkai Hao, Zhou Fan, Chengen Huang, Jacky Keung, Bei Chen, Junyang Lin
International Conference on Learning Representations (ICLR), Rio de Janeiro, Brazil, 2026

Embodied Active Defense: Exploiting Recurrent Feedback for Robust Visual Perception in Adversarial 3D Environments
Xiao Yang, Lingxuan Wu, Lizhong Wang, **Chengyang Ying**, Hang Su, Jun Zhu
IEEE Transaction on Pattern Analysis and Machine Intelligence (TPAMI), 2025

Fourier Controller Networks for Real-Time Decision-Making in Embodied Learning
Hengkai Tan, Songming Liu, Kai Ma, **Chengyang Ying**, Xingxing Zhang, Hang Su, Jun Zhu
International Conference on Machine Learning (ICML), Vienna, Austria, 2024

DPOT: Auto-Regressive Denoising Operator Transformer for Large-Scale PDE Pre-Training
Zhongkai Hao, Chang Su, Songming Liu, Julius Berner, **Chengyang Ying**, Hang Su, Anima Anandkumar, Jian Song, Jun Zhu
International Conference on Machine Learning (ICML), Vienna, Austria, 2024

Understanding Adversarial Attacks on Observations in Deep Reinforcement Learning
You Qiaoben, **Chengyang Ying**, Xinning Zhou, Hang Su, Jun Zhu, Bo Zhang
*SCIENCE CHINA Information Sciences (**SCIS**), 2024*

GNOT: A General Neural Operator Transformer for Operator Learning
Zhongkai Hao, Zhengyi Wang, Hang Su, **Chengyang Ying**, Yinpeng Dong, Songming Liu, Ze Cheng, Jun Zhu, Jian Song
*International Conference on Machine Learning (**ICML**), Hawaii, USA, 2023*

NUNO: A General Framework for Learning Parametric PDEs with Non-Uniform Data
Songming Liu, Zhongkai Hao, **Chengyang Ying**, Hang Su, Ze Cheng, Jun Zhu
*International Conference on Machine Learning (**ICML**), Hawaii, USA, 2023*

Offline Reinforcement Learning via High-Fidelity Generative Behavior Modeling
Huayu Chen, Cheng Lu, **Chengyang Ying**, Hang Su, Jun Zhu
*International Conference on Learning Representations (**ICLR**), Kigali, Rwanda, 2023*

Bi-level Physics-Informed Neural Networks for PDE Constrained Optimization using Broyden's Hypergradients
Zhongkai Hao, **Chengyang Ying**, Hang Su, Jun Zhu, Jian Song, Ze Cheng
*International Conference on Learning Representations (**ICLR**), Kigali, Rwanda, 2023*

Physics-Informed Machine Learning: A Survey on Problems, Methods and Applications
Zhongkai Hao, Songming Liu, Yichi Zhang, **Chengyang Ying**, Yao Feng, Hang Su, Jun Zhu

A Unified Hard-Constraint Framework for Solving Geometrically Complex PDEs
Songming Liu, Zhongkai Hao, **Chengyang Ying**, Hang Su, Jun Zhu, Ze Cheng
*Neural Information Processing Systems (**NeurIPS**), New Orleans, USA, 2022*

GSmooth: Certified Robustness against Semantic Transformations via Generalized Randomized Smoothing
Zhongkai Hao, **Chengyang Ying**, Yinpeng Dong, Hang Su, Jian Song, Jun Zhu
*International Conference on Machine Learning (**ICML**), Baltimore, USA, 2022*

Strategically-timed State-Observation Attacks on Deep Reinforcement Learning Agents
You Qiaoben, Xinning Zhou, **Chengyang Ying**, Jun Zhu
ICML 2021 Workshop on Adversarial Machine Learning, 2021

Selected Awards

· **Comprehensive Excellence Award,** Dept. CS, THU	*2022, 2023, 2025*
· Tsinghua Friends - Huangpu Talent Scholarship	*2025*
· Tsinghua Friends - Weihai Talent Scholarship	*2023*
· Yang Huiyan Scholarship, Dept. CS, THU	2022
· **Beijing Outstanding Gradates**, THU (5% on THU)	*2021*

· **Tsinghua Good Gradates**, THU (10% on THU)   *2021*
· Honorable Mention of Mathematical Contest In Modeling(MCM/ICM)   *2020*
· ZhaoFangxiong Scholorship, Dept. Math, THU(top 1 in course Numerical Analysis) *2020*
· WQF Scholarship   *2020*
· Hengda Scholarship, Hengda Corporation   *2019*
· Three star volunteer, Dept. Math, THU   *2019*
· **China National Scholarship**, Ministry of Education of China (2% in THU)   *2018*
· **Comprehensive Excellence Award,** Dept. Math, THU   *2018, 2019, 2020*
· First prize of "Gao Jiao She Bei" national mathematical modeling competition   *2018*
· The first prize of national college students' Mathematics Competition   *2018*
· **Silver model of Chinese Mathematical Olympiad (CMO)**   *2016*

Services

Conference & Journal Review: Reviewer for ICML 2022-2026, NeurIPS 2022-2025, ICLR 2024-2026, IJCAI 2024-2026, AAAI 2025-2026, CVPR 2024-2026, ICCV 2025, ECCV 2026, AISTATS 2025, ECAI 2025, TCSVT

Teaching

2024 Fall, **TA** in *Advanced Machine Learning*, instructed by Prof. Jie Tang and Prof. Jun Zhu
2022 Spring, **TA** in *Deep Learning*, instructed by A/Prof. Xiaolin Hu and Prof. Jun Zhu
2022 Spring, **TA** in *Statistical Machine Learning*, instructed by Prof. Jun Zhu
2021 Spring & 2021 Fall & 2023 Spring & 2024 Spring & 2025 Spring, **TA** in *Discrete mathematics for Computer Science*, instructed by A/Prof Hang Su

Computer Skills

Language: C++, Python, Matlab
Deep Learning Skill: Pytorch