

Chengyang Ying

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Contact Information

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Education

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

Tsinghua University (THU), Beijing, China

- **Ph.D Student** in **TSAIL lab**, advised by Prof. **Jun Zhu** and A/Prof. **Hang Su**
- Research Focus: Machine Learning, Reinforcement Learning, Embodied AI, and AI for Science

Department of Mathematical Science 2017.8 - 2021.6

Tsinghua University (THU), Beijing, China

- **Bachelor of Science**
- Major in Mathematics and Applied Mathematics, Minor in Computer Application
- Major courses GPA: 3.92/4.00 (156 credits); Rank: **4/128**
- Average math grade: 3.96/4.00 (82 credits); Minor courses GPA: 4.00/4.00 (25 credits)

Zhenhai Jiaochuanshuyuan 2014.8 - 2017.6

Publications (First Author)

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

Publications (Coauthor)

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

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

Preprints & Workshops

Task Aware Dreamer for Task Generalization in Reinforcement Learning

Chengyang Ying, Zhongkai Hao, Xinning Zhou, Hang Su, Songming Liu, Jialian Li, Dong Yan, Jun Zhu

arXiv preprint arXiv:2303.05092

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

arXiv preprint arXiv:2211.08064

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

- Tsinghua Friends - Weihai Talent Scholarship 2023
- Yang Huiyan Scholarship, Dept. CS, THU 2022
- **Beijing Outstanding Graduates**, THU (5% on THU) 2021
- **Tsinghua Good Graduates**, THU 2021
- Honorable Mention of Mathematical Contest In Modeling(MCM/ICM) 2020
- ZhaoFangxiong Scholarship, 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
- The first prize of “Gao Jiao She Bei” national mathematical modeling competition for College Students 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, 2024, NeurIPS 2022, 2023, 2024, ICLR 2024, 2025, IJCAI 2024, AAAI 2025, CVPR 2024, AISTATS 2025, TCSVT

Others: Reviewer for adversarial ML workshop@ICML 2021 & AAAI 2022

Work Experience

Research intern in AI Platform Group, RealAI, Beijing, China 2021.04-2022.4

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, TA in *Discrete mathematics for Computer Science*, instructed by A/Prof Hang Su

Computer Skills

Language: C++, Python, Matlab

Deep Learning Skill: Pytorch