Yu Li

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Education

George Washington University	**Washington, D.C.**
Ph.D. Candidate in Electrical and Computer Engineering, GPA: 4.0/4.0	*Aug 2025 – May 2029*
Advisor: Prof. Tian Lan ↗; Mentor: Prof. Zhengling Qi ↗	*(expected)*
Wuhan University, Hongyi Honor College	**Wuhan, China**
B.Eng. in Microelectronics Science and Technology, GPA: 3.87/4.0	*Sept 2021 – Jun 2025*
Advisor: Prof. Cheng Lei ↗ & Prof. Wei Liu ↗	

Research Interests

My research focuses on **LLM post-training**, **agent policy learning**, and **generative AI**. Specific topics include LoRA fine-tuning, preference optimization, reasoning, agentic RL, and multimodal in-context learning.

Preprints & Under Review

[1] Right Meets Wrong: Bilateral Context Conditioning with Reward-Confidence Correction for GRPO
Yu Li, Tian Lan, Zhengling Qi
Under review at International Conference on Machine Learning (ICML), 2026

[2] INSPO: Unlocking Intrinsic Self-Reflection for LLM Preference Optimization ↗
Yu Li, Tian Lan, Zhengling Qi
Under review at International Conference on Machine Learning (ICML), 2026

[3] Reason in Chains, Learn in Trees: Self-Rectification and Grafting for Multi-turn Agent Policy Optimization
Yu Li, Sizhe Tang, Tian Lan
Under review at Annual Meeting of the Association for Computational Linguistics (ACL), 2026. OA:3/3.5/2.5

[4] MultiRefine-V: Multi-Turn Reinforcement Learning for Enhancing Verilog Code Synthesis
Qiufeng Li, **Yu Li**, Shu Hong, Tian Lan, Weidong Cao
Under review at Design Automation Conference (DAC), 2026

[5] Prada: Black-Box LLM Adaptation with Private Data on Devices ↗
Ziyao Wang, Yexiao He, Zheyu Shen, **Yu Li**, Guoheng Sun, Myungjin Lee, Ang Li
arXiv preprint, 2025

Publications
<small>C=Conference, J=Journal, †=Equal Contribution</small>

[C.1] CRAFT-LoRA: Content-Style Personalization via Rank-Constrained Adaptation and Training-Free Fusion
Yu Li, Yujun Cai, Chi Zhang
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2026

[C.2] KG-SAM: Injecting Anatomical Knowledge into Segment Anything Models via Conditional Random Fields
Yu Li, Da Chang, Xi Xiao
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2026

[C.3] ACDZero: Graph-Embedding-Based Tree Search for Mastering Automated Cyber Defense
Yu Li†, Sizhe Tang†, Rongqian Chen, Fei Xu Yu, Guangyu Jiang, Mahdi Imani, Nathaniel D. Bastian, Tian Lan
Intelligent Cloud Computing and Networking Workshop @ INFOCOM, 2026

[C.4] Calibrating and Rotating: A Unified Framework for Weight Conditioning in PEFT
Da Chang, Peng Xue, **Yu Li**, Yongxiang Liu, Pengxiang Xu, Shixun Zhang
The 40th Annual AAAI Conference on Artificial Intelligence (AAAI), 2026

[C.5] DLoRA-TrOCR: Mixed Text Mode Optical Character Recognition Based On Transformer
Yu Li†, Da Chang†
International Conference on Neural Information Processing (ICONIP), 2024

[C.6] ECG Classification with Dual Models: XGBoost Voting and Deep Learning with Attention
Yu Li, Yunhao Hu, Jie Chen, Binghao Wang, Wei Liu *et al.*
International Conference on Advanced Computer Technology and Electronics, 2023

[J.1] Dual branch SAM-Transformer Fusion Network for Accurate Breast Ultrasound Image Segmentation
Yu Li, Jin Huang, Du Wang, Liye Mei, Cheng Lei *et al.*
Medical Physics, 2025

[J.2] SfMDiffusion: Self-supervised Monocular Depth Estimation in Endoscopy Based on Diffusion Models
Yu Li, Da Chang, Jin Huang, Du Wang, Liye Mei, Cheng Lei *et al.*
International Journal of Computer Assisted Radiology and Surgery, 2025

[J.3] Local Optimum Time-Reassigned Synchrosqueezing Transform for Bearing Fault Diagnosis
Site Lv, Shan Zeng, **Yu Li**, Ke Yang, Yulong Chen
IEEE Sensors Journal, 2024

Selected Awards & Honors

- **Innova International Exchange Scholarship**, 6 recipients university-wide, ¥70,000.   *2024*
- **Innova Excellence Scholarship**, Top 3%, ¥10,000, twice.   *2023, 2024*
- **First-Class Scholarship**, Top 5%, ¥3,000, three times.   *2022, 2023, 2024*

Academic Services

- **Conference Reviewer:** ICML'26, CVPR'26, ICLR'26, AAAI'26, ICASSP'26
- **Journal Reviewer:** Neurocomputing, Frontiers in Oncology, IEEE Transactions on Networking

Skills

- **Languages:** English (TOEFL 105), Chinese (Native), Japanese (Basic)
- **ML/LLM Stack:** PyTorch, DeepSpeed, Flash Attention, vLLM, OpenRLHF, VERL, TRL
- **Tools & Platforms:** Linux/Ubuntu, Docker, Git, Weights & Biases, Cadence