

# Yu Li

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## Education

**George Washington University**

*Ph.D. Candidate in Electrical and Computer Engineering, GPA: 4.0/4.0*

Advisor: [Prof. Tian Lan](#) 📧; Mentor: [Prof. Zhengling Qi](#) 📧

**Washington, D.C.**

*Aug 2025 – May 2029*

(expected)

**Wuhan University, Hongyi Honor College**

*B.Eng. in Microelectronics Science and Technology, GPA: 3.87/4.0*

Advisor: [Prof. Cheng Lei](#) 📧 & [Prof. Wei Liu](#) 📧

**Wuhan, China**

*Sept 2021 – Jun 2025*

## Research Interests

My research focuses on **LLM post-training** and **agent policy learning**, with specific interests in: (i) parameter-efficient fine-tuning (LoRA), (ii) preference alignment and reasoning for LLMs, (iii) agent reasoning, planning, and policy optimization.

## 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*
- [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] **CRAFT-LoRA: Content-Style Personalization via Rank-Constrained Adaptation and Training-Free Fusion**  
Yu Li, Yujun Cai, Chi Zhang  
*Under review at IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2026. Review: 5/4/2*
- [6] **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

C=Conference, J=Journal, †=Equal Contribution

- [C.1] **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.2] **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.3] **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.4] **DLoRA-TrOCR: Mixed Text Mode Optical Character Recognition Based On Transformer**  
Yu Li†, Da Chang†  
*International Conference on Neural Information Processing (ICONIP), 2024*
- [C.5] **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

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

### Academic Services

◦ <b>Conference Reviewer:</b> ICML'26, CVPR'26, ICLR'26, AAAI'26, ICASSP'26
◦ <b>Journal Reviewer:</b> Neurocomputing, Frontiers in Oncology, IEEE Transactions on Networking

### Skills

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