Yu Li

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Education

George Washington University — **Washington, D.C.**
Ph.D. in Electrical and Computer Engineering — *Aug 2025 – Present*

Wuhan University, Hongyi Honor College — **Wuhan, China**
B.Eng. in Microelectronics Science and Technology, GPA:3.87/4.0 — *Sept 2021 – Jun 2025*

Research Experiences

Mobile Intelligence Lab, George Washington University — **Washington, D.C.**
Topic: Post-training, Reinforcement Learning. *Advisor: Prof.Tian Lan* — *August.2025 – Present*

Artificial General Intelligence Lab, Westlake University — **Hangzhou, China**
Topic: Generative AI. *Advisor: Prof.Chi Zhang* — *March.2025 – June.2025*

Cyber-Physical Systems Lab, UC Irvine — **Irvine, CA**
Topic: Multimodal Uncertainty Fusion. *Advisor: Prof.Mohammad Al Faruque* — *May.2024 – Oct.2024*

Selected Projects

Unlocking Implicit Self-Reflection in Preference Optimization for LLM Alignment *Jul. 2025 – Present*
Leveraging implicit preference information within preference pairs to establish a self-improvement mechanism, generalizing the theoretical foundation of existing preference optimization methods to enhance LLM alignment.

Aligning LLMs with Finite State Machine Logic for Multi-turn Verilog Code Generation *Sep. 2025 – Present*
Enabling LLMs to learn state transition logic of finite state machines through structured alignment, constructing a multi-turn generation paradigm for Verilog code synthesis.

CRAFT-LoRA: Content-Style Personalization via Rank-Constrained Adaptation *Apr. 2025 – Jul. 2025*
Enhancing content-style LoRA decomposition through rank-space constrained fine-tuning, and achieving personalized image generation via prompt mapping and asymmetric CFG for style-content LoRA fusion.

Prada: Black-Box LLM Adaptation with Private Data on Devices *Jan. 2025 – Apr. 2025*
Achieving efficient black-box LLM adaptation on edge device systems through probability differential methods while robustly preserving data privacy.

Publications

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

[C.1] **Y. Li**†, J. Wang†, P. Khargonekar, and M. A. A. Faruque. **Vision-Language Model-Guided Uncertainty-Aware Cross-Modal Sensor Fusion for Autonomous Vehicles**. *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2026.*

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

[C.3] **Y. Li**, Y. Hu, J. Chen *et al.* **ECG Classification with Dual Models: XGBoost Voting and Deep Learning with Attention**. *International Conference on Advanced Computer Technology and Electronics (ICACTE), 2023.*

[J.1] **Y. Li**, J. Huang *et al.* **Dual branch SAM-Transformer Fusion Network for Accurate Breast Ultrasound Image Segmentation**. *Medical Physics, 2025.*

[J.2] **Y. Li**, D. Chang *et al.* **SfMDiffusion: Self-supervised Monocular Depth Estimation in Endoscopy Based on Diffusion Models**. *International Journal of Computer Assisted Radiology and Surgery, 2025.*

[J.3] S. Lv, S. Zeng, **Y. Li** *et al.* **Local Optimum Time-Reassigned Synchrosqueezing Transform for Bearing Fault Diagnosis of Rotating Equipment**. *IEEE Sensors Journal, 2024.*

Honors & Scholarships

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

Skills

- **Languages:** English (TOEFL 110), Chinese (Native), Japanese (N5)
- **Programming:** Python, C/C++, Matlab, Verilog
- **Tools & Platforms:** Ubuntu, FPGA, Docker, Git, Cadence, Vivado