Xirui Wang

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Education

2024 - 2028	**Huazhong University of Science and Technology (HUST, China),** *Bachelor of Engineering, Robotics* Relevant courses: Data Science, Machine Learning, Linear Algebra, Probability and Statistics.

Research Experience

2025 -	**Independent Research, School of Mechanical Science and Engineering, HUST** - Authored a comprehensive survey on UAD, covering data generation, backbones, and training strategies, with discussion of current limitations and emerging research trends. - Independently proposed a training-free instance-level anomaly detection framework by integrating multi-cue information with interpretable outputs and achieved strong performance among unsupervised methods on MVTec LOCO.
2025 -	**Research Intern, School of Computer Science and Technology, HUST** - Worked on I2E for interactive multi-layer image editing; built evaluation dataset pipeline and contributed to the "Decompose-then-Action" pipeline design. - Independently exploring efficient RL-based post-training for flow models by combining flow dynamics with group-based advantage optimization (e.g., GRPO).

Selected Publications & Preprints

1. **Xirui Wang**, et al. "Unsupervised Anomaly Detection in Industry: Progress, Trends, and Future Avenues." *Under review*.

2. Jinghan Yu, Junhao Xiao, Chenyu Zhu, Jiaming Li, Jia Li, HanMing Deng, **Xirui Wang**, et al. "I2E: From Image Pixels to Actionable Interactive Environments for Text-Guided Image Editing." *arXiv preprint* arXiv:2601.03741, 2026. *Submitted to ACL*.

Personal Projects

2025	**Vibe Coding Projects** - **LazyDDL**: Designed for users overwhelmed by dense workloads; deadline assistant with OCR/ASR extraction, auto-generated tasks, and lightweight analytics. - **Qiming Mirror**: Enabling safer daily decisions for visually impaired users; converts visual inputs into multisensory descriptions via OCR, object recognition, and RAG.

Technical Skills

Technical: Python, C++, PyTorch, Linux, Git, Docker
Research: Computer Vision, Diffusion Models, Reinforcement Learning