Kanghui Tian

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Education

Shanghai Artificial Intelligence Laboratory & Fudan University — Shanghai, China
Admitted Ph.D. Student in Computer Science and Technology
School of Computing and Intelligent Innovation (Joint Program) — Starting Sep 2026

Sun Yat-sen University — Shenzhen, China
Bachelor of Engineering in Intelligent Science and Technology
School of Intelligent Engineering — Sep 2022 - Jul 2026

- **GPA**: 4.22/5.00 | **Overall Score**: 92.16/100 | **Ranking**: 3/187 (Top 1.6%)
- **Major Courses**: Mobile Robot Planning and Control (100), Engineering Mathematics (98), Operations Research (97), Database Principles (96), Image Processing (95), Data Structures and Algorithms (95), Deep Learning (94), Computer Vision (93), Computer Networks (91), etc.

Research Interests

Multimodal Large Language Models; Large Video Understanding Models

Honors & Achievements

- **First Prize of Outstanding Student Scholarship**, Sun Yat-sen University 2023
- **First Prize in Guangdong Province Division**, National College Mathematics Competition 2023
- **Second Prize in Guangdong Province Division**, National College Mathematics Competition 2024
- **First Prize in Guangdong Provincial Selection**, 6th Global Campus AI Algorithm Elite Competition 2024
- **First Prize of Outstanding Student Scholarship**, Sun Yat-sen University 2025
- **National Scholarship**, Ministry of Education of China 2025

Publications:

- FDG-Diff: Frequency-Domain-Guided Diffusion Framework for Compressed Hazy Image Restoration. *ICME 2025* (CCF-B). Co-first author. Accepted. Oral presentation.
- Unified Medical Image Segmentation with State Space Modeling Snake. *ACM MM 2025*. Third author.

Project Experience

- **Hybrid Interference Modeling for Image Compression and Adverse Vision** *Dec 2023 - Dec 2024*
  - Led a team as project leader in the University Student Innovation and Entrepreneurship Training Program, responsible for project planning and progress management.
  - Studied the superimposed interference mechanism of JPEG lossy compression and haze on image quality, proposing a deep learning-based hybrid interference recovery model.
  - Related achievements were published as co-first author in *ICME 2025* (CCF-B), with excellent review scores.
- **Unified Medical Image Segmentation Based on Deep Snake Algorithm** *Sep 2024 - Apr 2025*
  - Collaborated on a scientific innovation course project, advancing weekly progress.

- Conducted in-depth research on mainstream datasets and SOTA methods in medical image segmentation, replicating key models.
- Analyzed limitations of current deep snake models, designed improvement experiments, and contributed to paper writing (ACM MM 2025, third author, under review).

- **Visible and Infrared Image Bimodal Object Detection** *Oct 2024 - Apr 2025*
  - Worked on a professor's research project, leading model optimization efforts.
  - Developed cross-modal data mining techniques using pseudo-labels from teacher networks to improve detection performance.
  - Modified code, designed experiments for a three-stage training strategy, and contributed to paper preparation.
- **Hierarchical Decoupling Adaptation for Multimodal Representation Learning** *Mar 2025 - Jun 2025*
  - Independent research project as a research intern, focusing on multimodal large models.
  - Defined research objectives, reviewed literature, and designed a two-stage training framework for hierarchical decoupling adaptation.
  - Implemented codebase and established experimental protocols for model evaluation.

Skills

- **Mathematics:** Advanced Mathematics I (I, II) (97), Linear Algebra (98), Probability and Statistics (94), Discrete Mathematics (93), Engineering Mathematics (98), Operations Research (97)
- **Programming:**
  - Languages: Python, C/C++, Matlab
  - Frameworks: PyTorch
- **English:** CET-4, CET-6

Personal Statement

- **Motivated Achiever:** Maintains a strong passion for learning and exploration, consistently achieving top academic results.
- **Effective Communicator:** Collaborates efficiently with professors and peers to deliver high-quality project outcomes.
- **Self-Driven Learner:** Completes tasks promptly while proactively researching solutions to enhance professional capabilities.
- **Optimistic Team Player:** Approaches challenges with enthusiasm, committed to continuous improvement in both academic and professional pursuits.