Tianqi Xu

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Google Scholar | **LinkedIn** | **GitHub**

Education

Sichuan University (Project 985) — Chengdu, China
Bachelor of Science in Software Engineering — *Sept. 2023 – June 2027 (Expected)*

- **GPA:** 3.77 / 4.0; **Weighted Average:** 89.32 / 100
- **Advisor:** Tao He

Research Interests

Vision-Language-Action (VLA) models, Test-Time Adaptation (TTA).

Research Experience

University of Central Florida — Mar. 2026 – Present
Remote Research Intern; Advisor: Yuzhang Shang — *Orlando, FL*

- Investigating the integration of **Chain-of-Thought (CoT)** reasoning into Vision-Language-Action (VLA) models to enhance embodied reasoning and long-horizon capabilities.
- Developing a **self-supervised RL** strategy for VLA post-training, enabling online trial-and-error adaptation with self-supervised rewards to enhance **generalization** without manual annotations.

Sichuan University — Aug. 2025 – Feb. 2026
Research Assistant; Advisor: Tao He — *Chengdu, China*

- Proposed **SaCTTA**, a Continual Test-Time Adaptation method to mitigate domain shifts in medical image segmentation.
- Designed an attention-driven dynamic layer selection mechanism that treats layer outputs as information tokens to adaptively select discriminative layers.
- Introduced a self-distilled adaptive learning rate with dual constraints (sensitivity & consistency) to accelerate adaptation and suppress error accumulation.
- **Co-first author** paper submitted to **NeurIPS 2026**.

Sichuan University — Sep. 2024 – July 2025
Research Assistant; Advisor: Tao He — *Chengdu, China*

- Proposed **CNM-UNet**, a medical image segmentation model that replaces vanilla hierarchical decoders with a single **Continuous Neural Memory ODEs** block to minimize computational complexity.
- Leveraged Neural Memory ODEs for continuous temporal feature extraction, enabling precise data distribution modeling.
- Designed a **Dual Self-updating** strategy based on test-time adaptation principles to enhance cross-domain generalization.
- **First author** paper presented at **AAAI 2026**.

Publications

Tianqi Xu, Yashi Zhu, Quansong He, Yue Cao, Kaishen Wang, Zhang Yi, Tao He. CNM-UNet: Continuous Ordinary Differential Equations for Medical Image Segmentation, **AAAI 2026**. (Website & Paper & Code)

Honors and Awards

- **Merit Student Award** (Consecutive 2 Years), Sichuan University — 2023 – 2025
- Second-class Comprehensive Academic Scholarship (**Top 6%**), Sichuan University — 2023 – 2024
- Third-class Comprehensive Academic Scholarship (**Top 15%**), Sichuan University — 2024 – 2025

Skills

Languages: English (CET-4: 585, CET-6: 560), Chinese (Native).
Programming: Python, C/C++, Java, SQL.
Others: PyTorch, HuggingFace, Linux, Git, Docker, OpenCV, LaTeX.