Xiao Fan

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EDUCATION

- **Tongji University · College of Computer Science and Technology** — Shanghai, China
  B.Eng. in Data Science and Big Data Technology; GPA: 4.84/5; Rank: 1/37 — *2022.09–2026.06*
- **Tsinghua University · Tsinghua Shenzhen International Graduate School** — Shenzhen, China
  D.Eng. in Electronic Information, advised by Prof. Zhi Wang — *2026.09–2031.06*

RESEARCH INTERESTS

- **Test-Time Adaptation** — *2025.01–Present*
  Test-time model adaptation under data distribution shifts (domain shift) without access to source data.
- **Self-Evolving Embodied Agent** — *2025.05–Present*
  Embodied agents that learn from environmental interaction to continually self-improve.

EXPERIENCE

- **HeyWhale** — Remote
  Data Analyst Intern (Part-time) — *2024.07–2024.08*
  - **Community Support in Data Science**: Provided timely answers and guidance to learners and developers on data analysis, machine learning, statistics, and visualization questions in online communities.
  - **Tutorial and Educational Content Creation**: Designed and authored clear, structured tutorials and guides, translating complex data science concepts into practical, easy-to-follow instructions.
  - **Knowledge Sharing and Engagement**: Enhanced community learning by sharing example code, best practices, and learning paths to improve technical skills and foster engagement.

PUBLICATIONS (∗ EQUAL CONTRIBUTION, † CORRESPONDING AUTHOR)

- **Beyond the Exploration-Exploitation Trade-off: A Hidden State Approach for LLM Reasoning in RLVR** — 2025
  Fanding Huang∗, Guanbo Huang∗, **Xiao Fan**, Yi He, Xiao Liang, Xiao Chen, Qinting Jiang, Faisal Nadeem Khan, Jingyan Jiang†, Zhi Wang†
  Submitted to ACL ARR 2026.
  Keywords: LLM Reasoning, Reinforcement Learning, Representation Interpretability
  [PDF] [BibTeX] [Code] [Project Page]
- **MoETTA: Test-Time Adaptation Under Mixed Distribution Shifts with MoE-LayerNorm** — 2026
  Xiao Fan, Jingyan Jiang†, Zhaoru Chen, Fanding Huang, Xiao Chen, Qinting Jiang, Bowen Zhang, Xing Tang, Zhi Wang
  Proceedings of the 40th Annual AAAI Conference on Artificial Intelligence (AAAI, CCF-A, 17.6% overall acceptance rate)
  Keywords: Test-Time Adaptation, Mixture of Experts
  [PDF] [BibTeX] [Code] [Poster]

SELECTED HONORS AND AWARDS

- **Global Campus AI Algorithm Elite Competition** — National 1st Prize
  Challenge: "BIRADS Classification and Feature Recognition in Ultrasound Breast Images" — *2024.11*
- **15th Lanqiao Cup** — National 3rd Prize
  Python Programming — *2025.08*
- **Tongji University Excellent Student Scholarship** — 1st Prize
  Guo Xie Birong Scholarship, 2 out of 756 students — *2023.12*

SKILLS SUMMARY (∗ EXPERT, † PROFICIENT, ‡ BASIC, § HANDS-ON EXPERIENCE)

- **Programming**: Python∗, C++†, C†, Bash‡, SQL‡, JavaScript§, TypeScript§
- **Frameworks**: PyTorch†, Scikit†, Streamlit†, Next.js‡, Qt Quick‡, TailwindCSS‡
- **Tools**: Pandas†, LaTeX†, Vim†, Tmux†, Git†, Matplotlib†, Docker‡
- **Languages**: English† (CET-4: 658, Top 1%; CET-6: 608, ∼Top 5%), Japanese§ (Self-Study on Duolingo)
- **Sports**: Men's Pistol∗ (10m Air, 25m Rapid Fire, 50m Free; Achieved 1st Place (Team) and 4th Place (Individual) at Shanghai City Championship), Badminton†, Golf‡, Indoor Climbing‡

VOLUNTEER EXPERIENCE

- **Math Takeaway (Campus Public Welfare Organization)** — Tongji University
  Lecturer for Linear Algebra — *2025.09–2025.12*
  - Delivered a Linear Algebra final exam review lecture.
  - Co-developed two chapter-level knowledge summaries and revision sessions.
  - Produced and published recorded revision lectures on BiliBili.