Xi Chen

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EDUCATION

The Ohio State University *Columbus, OH, USA*
Ph.D. Candidate in Computer Science and Engineering *2020 – Present*

- Advisors: Prof. Andrew Perrault and Prof. Zhihui Zhu
- Research interests: **deep reinforcement learning (RL)**; **machine learning interpretability**; **large language models (LLMs)**

Xidian University *Xi'an, Shaanxi, China*
Bachelor in Software Engineering *2016 – 2020*

- GPA: 3.9/4.0; Rank: 15/445 (Top 3%)
- Class of Software Engineering for Talented (40 out of 445 students)

PUBLICATIONS

- Understanding Learned Representations and Action Collapse in Visual Reinforcement Learning
  Xi Chen, Zhihui Zhu, and Andrew Perrault
  RLC 2025
- The Distributional Reward Critic Framework for Reinforcement Learning Under Perturbed Rewards
  Xi Chen, Zhihui Zhu, and Andrew Perrault
  AAAI 2025
- Using Reinforcement Learning for Multi-Objective Cluster-Level Optimization of Non-Pharmaceutical Interventions for Infectious Disease
  Xueqiao Peng, Jiaqi Xu, **Xi Chen**, Dinh Song An Nguyen, Andrew Perrault
  ML4H 2023

CURRENT RESEARCH PROJECTS

Motivation. In current Reinforcement Learning with Verifiable Rewards (RLVR) tasks, RL has not fully showcased its strengths for LLMs.
Ongoing. (1) Conducting controlled experiments to reveal the limitations of today's RL fine-tuning setups for LLMs; (2) analyzing the observed failure modes to introduce a new RL paradigm for LLMs.

AWARDS

Eleanor Quinlan Graduate Teaching Award — CSE Department, The Ohio State University 2025

ACADEMIC SERVICES

AAAI	Student Volunteer	2025
IEEE VIS	Student Volunteer	2021

TECHNICAL SKILLS

Programming	Python; C/C++; Bash; (Java; MATLAB; SQL)
ML/LLM Frameworks	PyTorch (primary); TensorFlow/Keras (familiar)
RL & LLM	PPO; RLHF; DPO; RLVR/GRPO
Systems & Distributed	Linux; Slurm; PyTorch DDP (via Accelerate); CUDA