

Xulin Chen

Syracuse University

Ph.D. Candidate

Department of Electrical Engineering & Computer Science

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🌐 <https://amaranth819.github.io/>

Education

► **Ph.D. Candidate in Computer & Information Science and Engineering**

August 2020 – Expected May 2026

Syracuse University; Syracuse, New York, USA

Advisor: Dr. Garrett E. Katz

► **M.S. in Computer Science**

August 2018 – May 2020

Syracuse University; Syracuse, New York, USA

► **B.S. in Software Engineering**

September 2014 – July 2018

South China University of Technology; Guangzhou, Guangdong, China

Research Interests

Reinforcement learning; Robotics; Neural network theory.

Academic Experience

► **Syracuse University**

Syracuse, New York, USA

- Graduate Research Assistant, Mind-Body Lab (Instructor: Dr. Garrett E. Katz), *January 2019 - Present*
- Visiting Graduate Researcher, Dynamic Locomotion and Robotics Lab (Instructor: Dr. Zhenyu Gan), *September 2021 - Present*

► **South China University of Technology**

Guangzhou, Guangdong, China

- Undergraduate Researcher, Southern Artificial Intelligence Laboratory (Instructor: Dr. Mingkui Tan), *August 2017 - June 2018*
- Undergraduate Researcher, Intelligent Algorithm and Intelligent Software Laboratory (Instructor: Dr. Han Huang), *October 2016 - August 2017*

Teaching Experience

Teaching Assistant

► Syracuse University

- CIS655: Computer Architecture (*Spring 2023*)
- CIS667: Introduction to Artificial Intelligence (*Fall 2020*)
- CIS675: Design and Analysis of Algorithms (*Fall 2023, Fall 2024, Spring 2025, Fall 2025*)

Guest Lecture

Leveraging Symmetries in Deep Reinforcement Learning, *April 2025, Syracuse University*

Professional Service

- Reviewer, International Conference on Robotics & Automation (*ICRA 2026*)
- Reviewer, IEEE/RSJ International Conference on Intelligent Robots and Systems (*IROS 2024*)

Extracurricular Service

- Graduate teaching assistant, MIT Beaver Works Summer Institute (Orange Works), *July 2025, Syracuse, New York, USA*
- Teaching volunteer, TACNY Summer STEM Trekker Program, *July 2022 and July 2023, Syracuse, New York, USA*

Papers

My first- and co-first authorship papers are in red, and my doctoral advisor is in cyan.

- [1] Sizhe Wei, Xulin Chen, Fengze Xie, Garrett E. Katz, Zhenyu Gan, and Lu Gan. MS-PPO: Morphological-symmetry-equivariant policy for legged robot locomotion. 2025 (submitted).
- [2] Jiayu Ding, Xulin Chen, Garrett E. Katz, and Zhenyu Gan. Towards dynamic quadrupedal gaits: A symmetry-guided rl hierarchy enables free gait transitions at varying speeds. *arXiv preprint arXiv:2510.10455*, 2025 (submitted).
- [3] Xulin Chen, Ruipeng Liu, Zhenyu Gan, and Garrett E. Katz. Lipschitz-regularized critic leads to policy robustness against transition dynamics uncertainty. *arXiv preprint arXiv:2404.13879*, 2025 (submitted).
- [4] Akshay, Xulin Chen, Borui He, and Garrett E. Katz. Towards human-like learning dynamics in a simulated humanoid robot for improved human-machine teaming. In *International Conference on Human-Computer Interaction*, pages 225–241. Springer, 2022.

Skills

- **Programming Languages:** Python (proficiency), C++ (intermediate).
- **Libraries:** IsaacGym, MuJoCo, PyTorch.