Xulin Chen

Syracuse University

Ph.D. Candidate
Department of Electrical Engineering & Computer Science
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Education

- **Ph.D. Candidate in Computer & Information Science and Engineering**
  2020.8 – Expected 2025.12
  Syracuse University; Syracuse, New York, USA
  Advisor: Prof. Garrett E. Katz

- **M.S. in Computer Science**
  2018.8 – 2020.5
  Syracuse University; Syracuse, New York, USA

- **Scholar Exchange Program**
  2019.8 – 2019.12
  Cornell University; Ithaca, New York, USA

- **B.S. in Software Engineering**
  2014.9 – 2018.6
  South China University of Technology; Guangzhou, Guangdong, China

Research Interests

- **Reinforcement Learning**
  Robust Reinforcement Learning; Constrained Reinforcement Learning.
- **Robotics**
  Robot Control and Locomotion; Symmetry in Robotics.
- **Deep Learning**
  Robustness; Graph Neural Network; Neurosymbolic.

Academic Experience

- **Syracuse University**
  Syracuse, New York, USA
  Mind-Body Lab, Graduate Research Assistant (Instructor: Prof. Garrett Katz), *2019.1 - Present*

Dynamic Locomotion and Robotics Lab, Visiting Graduate Researcher (Instructor: Prof. Zhenyu Gan), *2021.9 - Present*

▶ **South China University of Technology**
Guangzhou, Guangdong, China
Southern Artificial Intelligence Laboratory, Undergraduate Researcher (Instructor: Dr. Mingkui Tan), *2017.8 - 2018.6*
Intelligent Algorithm and Intelligent Software Laboratory, Undergraduate Researcher (Instructor: Dr. Han Huang), *2016.10 - 2017.8*

Teaching Experience

Teaching Assistant

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

Guest Lecture

2025.4 Leveraging Symmetries in Deep Reinforcement Learning *(Syracuse University)*

Professional Service

2024 Reviewer, IEEE/RSJ International Conference on Intelligent Robots and Systems (*IROS 2024*)
2025 Reviewer, International Conference on Robotics & Automation (*ICRA 2026*)

Papers

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

Preprint

1. S. Wei, X. Chen, F. Xie, G. E. Katz, Z. Gan, and L. Gan, "MS-PPO: Morphological-Symmetry-Equivariant Policy for Legged Robot Locomotion", 2025 (submitted to ICRA 2026)
2. X. Chen, R. Liu, and G. E. Katz, "Lipschitz-Regularized Critic Leads to Policy Robustness against Transition Dynamics Uncertainty," arXiv preprint arXiv:2404.13879, 2024 (submitted to IEEE RAL)
3. J. Ding, X. Chen, G. E. Katz, and Z. Gan, "Towards Dynamic Quadrupedal Gaits: A Symmetry-Guided RL Hierarchy Enables Free Gait Transitions at Varying Speeds," arXiv preprint arXiv:2403.10723, 2024 (submitted to ICRA 2026)

Accepted

1. Akshay, X. Chen, B. He, and G. E. Katz, "Towards human-like learning dynamics in a simulated humanoid robot for improved human-machine teaming," in International Conference on Human-Computer Interaction, pp. 225–241, Springer, 2022