Shangqun Yu

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Google Scholar

Education

University of Massachusetts Amherst 2022 – Current
Ph.D. in Computer Science
Advisor: Donghyun Kim
Research Focus: Robotics, robust & agile loco-manipulation across diverse terrains

Brown University 2020 – 2022
Master in Computer Science
Advisor: Michael Littman & George Konidaris
Research Focus: Reinforcement Learning

Shanghai Jiao Tong University 2015 – 2019
B.S. in Computer Science

Publications

Conference

1. **Human-Centered Development of Guide Dog Robots: Quiet and Stable Locomotion Control**
   IEEE International Conference on Robotics and Automation (ICRA) 2026 **[Oral]**
   S. Yu†, H. Hwang†, T.M. Dang, J. Biswas, N.A. Giudice, S.I. Lee, D. Kim

2. **Learning generic and dynamic locomotion of humanoids across discrete terrains**
   IEEE-RAS 23rd International Conference on Humanoid Robots (Humanoids) 2024
   S. Yu, N. Perera, D. Marew, D. Kim

3. **A biomechanics-inspired approach to soccer kicking for humanoid robots**
   IEEE-RAS 23rd International Conference on Humanoid Robots (Humanoids) 2024
   D. Marew, N. Perera, **S. Yu**, S. Roelker, D. Kim

4. **Staccatoe: A single-leg robot that mimics the human leg and toe**
   2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2024
   N. Perera, **S. Yu**, D. Marew, D. Kim

5. **Impedance matching: Enabling an rl-based running jump in a quadruped robot**
   21st International Conference on Ubiquitous Robots (UR) 2024
   N. Guan, **S. Yu**, S. Zhu, D. Kim

6. **Integration of riemannian motion policy with whole-body control for collision-free legged locomotion**
   IEEE-RAS 22nd International Conference on Humanoid Robots (Humanoids) 2023
   D. Marew, M. Lvovsky, **S. Yu**, S. Sessions, D. Kim

7. **Meta-learning parameterized skills**
   Proceedings of the 40th International Conference on Machine Learning (ICML) 2023
   H. Fu, **S. Yu**, S. Tiwari, M. Littman, G. Konidaris

8. **Q-functionals for value-based continuous control**
   Proceedings of the AAAI Conference on Artificial Intelligence 2023
   S. Lobel, S. Rammohan, B. He, **S. Yu**, G. Konidaris

9. **Model-based lifelong reinforcement learning with bayesian exploration**
   Advances in Neural Information Processing Systems (NeurIPS) 2022
   H. Fu, **S. Yu**, M. Littman, G. Konidaris

10. **Hierarchical reinforcement learning of locomotion policies in response to approaching objects: A preliminary study**
    Reinforcement Learning and Decision Making (RLDM) 2022
    S. Yu, S. Rammohan, K. Zheng, G. Konidaris

Journal

1. **A domain-agnostic approach for characterization of lifelong learning systems**
   Neural Networks 2022
   M. M. Baker, A. New, M. Aguilar-Simon, et al

Research Experience

University of Massachusetts Amherst, Dynamic & Autonomous Robotics Lab — 2022 – Current
Graduate Research Assistant

- A Novel Framework for the Hardware and Control Co-design of Dynamic Humanoid Robots with Electric Motors

Brown University, Intelligent Robot Lab — 2020 – 2022
Research Assistant

- Learning Task-Specific Representations for Broadly Capable Reinforcement Learning Agents

Work Experience

Alpha-z, LA, USA — May 2025 – Dec 2025
PhD Research Intern

- Developing diffusion-based robot policy for door opening and passing.

Teaching Experience

Teaching Assistant @ UMass Amherst

- Make: A Hands-on Introduction to Physical Computing — Fall 2026
- Systems for Data Science — Fall 2024
- Introduction to Robotics: Perception, Mechanics, Dynamics and Control — Fall 2022
- Learning and Sequential Decision Making — Fall 2021