



ZHIYUAN XIAO

🔗 <https://zhiyuanxiao.github.io/> · ✉ zy.xiao.work@outlook.com

☎ (+86) 0754-13822824769

EDUCATION

South China University of Technology (SCUT)

2019 – 2023

Bachelor of Natural Science in Mathematics and Applied Mathematics, June 2023

National University of Singapore (NUS)

2024 – 2025

Master of Science (MSc) in Robotics

RESEARCH EXPERIENCE

Sun Yat-sen University, School of Aeronautics and Astronautics

Shenzhen, Guangdong

Research Assistant

2023.07 – 2024.06

PUBLICATIONS

[IROS 2024] **Z. Xiao**, X. Zhang, X. Zhou, and Q. Zhang, “PALOCO: Learning perturbation-adaptive locomotion for quadruped robots”

[CDC 2024] X. Zhang, **Z. Xiao**, Q. Zhang, and W. Pan, “SYNLOCO: Synthesizing central pattern generator and reinforcement learning for quadruped locomotion”

- Webpage: <https://synloco.github.io/>

[OCAM 2024] X. Zhang, **Z. Xiao**, X. Zhou, and Q. Zhang, “SYNLOCO-VE: Synthesizing central pattern generator with reinforcement learning and velocity estimator for quadruped locomotion”

- Open Access: <https://onlinelibrary.wiley.com/doi/epdf/10.1002/oca.3181>

RECENT PROJECTS

RAPTLOCO: Learning Robust Attention-based PercepTive Locomotion for Quadruped Robots

- Webpage: <https://perceptive-loco.github.io/>
- Focused on quadrupedal locomotion with adverse environmental conditions and unreliable depth perception.
- Leveraged an attention-based recurrent encoder RNN-Attn that seamlessly integrates proprioceptive and exteroceptive input, resulting in a robust and reliable legged locomotion controller.
- Developed a noise model to simulate exteroception failures during deployment, improving the denoising capability of RNN-Attn.
- Evaluated the effectiveness of RNN-Attn by visualizing the reconstructed exteroceptive information.

PALOCO: Learning Perturbation-Adaptive Locomotion for Quadruped Robots

- Webpage: <https://paloco-iros24.github.io/>
- Focused on blind quadrupedal locomotion traversing challenging terrains amidst unforeseen disturbances.
- Proposed multi-encoder structure to decouple latent features from different privileged information, ultimately leading to enhanced performance of the learned policy in terms of robustness, stability, and reliability.
- Analyzed the efficiency of the proposed feature encoding module via data visualization techniques.