NIU Xuezhi

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Uppsala, Sweden

Education

- **Uppsala University** 2024–2028(Est.)
  Ph.D. Student in Embedded Systems Uppsala, Sweden
- **KTH Royal Institute of Technology** 2021–2023
  M.Sc. Mechatronics Stockholm, Sweden
- **City University of Hong Kong** 2017–2021
  B.Eng. Mechanical Engineering Hong Kong SAR, China
- **National University of Singapore** 2020
  Academic Exchange Singapore

Research Interests

- Cyber-Physical Systems
- Control & Dynamics
- Reinforcement Learning
- Heterogeneous Robots Collaboration

Journal Publications

• Tan,K., **Niu, X.**, Q. Ji, L. Feng, and M. Törngren, "Optimal gait design for a soft quadruped robot via multi-fidelity Bayesian optimization," *Applied Soft Computing*, vol. 169, p. 112568, 2025.

Conference Publications

• **Niu, X.** and Broo, D. G. Investigating Symbiosis in Robotic Ecosystems: A Case Study for Multi-Robot Reinforcement Learning Reward Shaping. In *2025 9th International Conference on Robotics and Automation Sciences (ICRAS)*. IEEE

• **Niu, X.**, Calvo, N., and Broo, D. G. Enabling Symbiosis in Multi-Robot Systems through Multi-Agent Reinforcement Learning. In *2025 IEEE 8th International Conference on Industrial Cyber-Physical Systems (ICPS)*. IEEE

• **Niu, X.***, Tan, K.*, Broo, D. G. and Feng, L.. Optimal Gait Control for a Tendon-driven Soft Quadruped Robot by Model-based Reinforcement Learning. In *2025 International Conference on Robotics and Automation (ICRA)*. IEEE

Other Publications

• Maser Thesis: Xuezhi, N. (2023). Optimal Gait Control of Soft Quadruped Robot by Model-based Reinforcement Learning. Thesis, 2023. Available: DiVA, id: diva2:1810127.

• HK project: C. Egenäs*, F. Ekman*, C. Ma*, T. Naser*, **X. Niu***, A. Sernelin*, S. Stenow*, and B. Ström*, "Electronically Vacuum Regulated Shut-off Valve for Milking System," Report (Refereed), 2023. [Online]. Available: DiVA, id: diva2:1738909.

Professional Service

- Reviewer for IEEE-RAS International Conference on Humanoid Robots (Humanoids), IEEE International Conference on Industrial Cyber-Physical Systems (ICPS), Reviewer for IEEE International Conference on Robot and Human Interactive Communication (ROMAN)
- Teaching assistant for master level courses at KTH (MF2007) and Uppsala (1DT106, 1DT108, 1DT054, 1RT495, 1DT104, 1DT059)
- Master thesis supervision

Awards & Achievements

- IEEE Robotics and Automation Society Travel Grant Awardee for ICRA *2025.5*
- Talent Development Scholarship, Hong Kong SAR, China *2020.6*
- Second Prize in National Finals of the Challenge Cup Competition, Beijing, China *2019.11*
- Silver Prize in National Finals of Internet + Competition, Hangzhou, China *2019.10*
- Second Prize in HK University Student Innovation and Entrepreneurship Competition *2019.4*