

Chenhui Zuo

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Education

Tsinghua University, Ph.D. in Aeronautical and Astronautical Science and Technology Sep. 2022 – Present

Advisor: Prof. Yanan Sui

Tsinghua University, B.Eng. in Automation Aug. 2018 – Jun. 2022

GPA: 3.66 / 4.0

Publications and Manuscripts

Publications

- [1] **Self Model for Embodied Intelligence: Modeling Full-Body Human Musculoskeletal System and Locomotion Control with Hierarchical Low-Dimensional Representation** [Project](#)
IEEE International Conference on Robotics and Automation (ICRA), 2024 C. Zuo*, K. He*, J. Shao, Y. Sui
- [2] **Dynamical Synergistic Representation for Efficient Learning and Control in Overactuated Embodied Systems** [Project](#)
International Conference on Machine Learning (ICML), 2024 K. He, C. Zuo, C. Ma, Y. Sui
- [3] **Voluntary walking related joint movement training with targeted epidural electrical stimulation enabled neural recovery for individuals with spinal cord injury** [Paper](#)
Science Bulletin 69 (2024) X. Zhang, Y. Lu, ... , C. Zuo, ...
- [4] **Bipedal Balance Control with Whole-body Musculoskeletal Standing and Falling Simulations** [Project](#)
Conference on Robot Learning (CoRL), 2025 C. Ma, Y. Wei, C. Zuo, C. Zhang, Y. Sui
- [5] **MyoChallenge 2024: A New Benchmark for Physiological Dexterity and Agility in Bionic Humans** [Paper](#)
Conference on Neural Information Processing Systems (NeurIPS), 2025 C. Wang, C. K. Tan, ... , C. Zuo, ...
- [6] **Scalable Exploration for High-Dimensional Continuous Control via Value-Guided Flow** [Project](#)
International Conference on Learning Representations (ICLR), 2026 Y. Wei, C. Zuo, Y. Sui

Manuscripts

- [1] **Human sensory-musculoskeletal modeling and control of whole-body movements** [Paper](#)
Manuscript under review C. Zuo*, G. Lin*, C. Zhang*, S. Zhuang, Y. Sui
- [2] **Embodied Human Simulation for Quantitative Design and Analysis of Interactive Robotics** [Paper](#)
Manuscript under review C. Zuo, J. Xu, M. Q. Vergnolle, Y. Sui
- [3] **Scaling Whole-Body Human Musculoskeletal Behavior Emulation for Specificity and Diversity** [Project](#)
Manuscript under review Y. Wei*, C. Zuo*, S. Zhuang, H. Gong, Y. Liu, Y. Sui

Honors and Awards

- **2023–2025** Second-Class Scholarship of Graduate Students, Tsinghua University.
- **2024** Best Student Team Award, 2nd Place in Manipulation Track, MyoChallenge 2024.
- **2020** Technological Innovation Scholarship, Tsinghua University.
- **2019** First place in the 21st Electronic Design Competition, Tsinghua University.

Teaching

- Teaching Assistant, Human Factors and Artificial Intelligence, Tsinghua University, 2023–2025.

Research Profile

- **Research interests:** Embodied Intelligence, Musculoskeletal Simulation, Motion Control, Robotics.
- **Methods:** Deep Learning, Reinforcement Learning, Physical Simulation.
- **Technical skills:** Python, MATLAB, PyTorch, MuJoCo (Warp), OpenSim, etc.