

# CHENXI HAN

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## 🔬 RESEARCH PROFILE

Research focused on **reinforcement learning**, **vision-language-action (VLA) post-training**, **Sim-to-Real transfer**, and **teleoperation** for embodied robots, with experience in **algorithm development**, simulation, system identification, and real-robot validation. Co-founded a robotics startup and led motion-control and post-training directions for humanoid robot systems.

## 🎓 EDUCATION

**Tsinghua University, Shenzhen International Graduate School** Sep. 2024 – Present  
*M.S. Student in Artificial Intelligence* | Advisor: Prof. Houde Liu

**Harbin Institute of Technology, Shenzhen, China** Sep. 2020 – Jun. 2024  
*B.Eng. in Mechanical Design, Manufacturing and Automation* | Rank: 1/68; Advisors: Prof. Wenfu Xu and Prof. Jiaole Wang

## 🔧 RESEARCH AND ENGINEERING EXPERIENCE

**Tsinghua AI & Robot Lab, Tsinghua University** Sep. 2024 – Present  
*Graduate Researcher* | Humanoid reference motion generation, whole-body control, and Sim-to-Real

**Focus:** human-like reference motion generation, whole-body control, and Sim-to-Real deployment.

**Outputs:** **PRIOR** (manuscript under review for IROS 2026), **PMG** (ICRA 2026).

**ZERITH Robotics Co., Ltd.** Apr. 2024 – Present

*Co-founder; Head of Motion Control and Post-Training* | Teleoperation, reinforcement learning training, and VLA post-training

**Focus:** **teleoperation systems**, **RL training**, and **VLA post-training** for humanoid robot deployment.

**Shanghai University** Oct. 2023 – Apr. 2024

*Visiting Researcher* | Humanoid robot structure design, control, and system validation

**Focus:** structure design, control development, and validation of an in-house rigid-flex hybrid humanoid robot.

**Output:** **SERL** (IROS 2024).

## 📖 SELECTED PUBLICATIONS AND MANUSCRIPTS

- [1] PRIOR: Perceptive Learning for Humanoid Locomotion with Reference Gait Priors** 2026  
Chenxi Han\*, Shilu He\*, Yi Cheng, Linqi Ye, Houde Liu†  
*Manuscript under review for IROS 2026. Parameterized gait priors + terrain perception* for natural, terrain-adaptive humanoid locomotion.
- [2] PMG: Parameterized Motion Generator for Human-like Locomotion Control** 2026  
Chenxi Han\*, Yuheng Min\*, Zihao Huang, Ao Hong, Hang Liu, Yi Cheng, Houde Liu†  
*IEEE International Conference on Robotics and Automation (ICRA). Parameterized motion generator* synthesizing reference trajectories for imitation- and reinforcement-learning-based human-like locomotion.
- [3] Safe expeditious whole-body control of mobile manipulators for collision avoidance** 2025  
Bingjie Chen, Yancong Wei, Rihao Liu, Chenxi Han, Houde Liu†, Chongkun Xia, Liang Han, Bin Liang  
*Biomimetic Intelligence and Robotics. CBF-QP whole-body controller* for real-time safe collision avoidance in dynamic scenes.
- [4] Structural Optimization of Lightweight Bipedal Robot via SERL** 2024  
Yi Cheng\*, Chenxi Han\*, Yuheng Min, Linqi Ye, Houde Liu†, Hang Liu  
*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS). RL + evolutionary search* for lightweight bipedal robot design and performance improvement.
- [5] Visual servoing-based pneumatic hair transplantation mechanism for robotic FUE surgery** 2023  
Fulin Jia, Shenghao Yang, Chenxi Han, Junye Li, Xuanru Han, Chao Zhang, Jiaole Wang†  
*Biomimetic Intelligence and Robotics. Pneumatic mechanism + visual feedback* for high-precision robotic FUE surgery.

\* Equal contribution. † Corresponding author.

## 🏆 HONORS AND ACADEMIC SERVICE

**Outstanding Graduate, HIT Shenzhen; Dean's Scholarship (Top 1%)** 2024

**National Scholarship, Ministry of Education of China (Top 0.2%)** 2021

**Global 4th Place, IEEE ICRA Quadruped Robot Challenge** 2024

**National First Prize, "Higher Education Cup" Advanced Mapping Competition** 2022

**Software Copyright Registration, "Humanoid Robot Dataset Mapping Software" (first developer)** 2025

**Reviewer, IEEE ICRA 2025; IEEE Robotics and Automation Letters (RA-L), 2026**

## ⚙️ SKILLS

**Core tools:** Python, PyTorch, Isaac Lab / Isaac Sim / Isaac Gym, MuJoCo, Pinocchio, Pyroki, SolidWorks, AutoCAD.