

# Xiang Zheng

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CONTACT INFORMATION	G2322, AC1 City University of Hong Kong Kowloon, Hong Kong	Email: xzheng253-c@my.cityu.edu.hk Webpage: <a href="https://x-zheng16.github.io">https://x-zheng16.github.io</a> GitHub: <a href="https://github.com/x-zheng16">https://github.com/x-zheng16</a>
RESEARCH INTERESTS	Reinforcement Learning, Trustworthy AI, AI Red Teaming	
EDUCATION	<b>City University of Hong Kong</b> , Hong Kong, China <i>Ph.D. in Computer Science</i> Supervisor: Prof. Cong Wang Fields: Reinforcement Learning, AI Security GPA: 4.00/4.00	<b>2020-present</b>
	<b>Tsinghua University</b> , Beijing, China <i>M.S. in Control Science and Engineering</i> Supervisor: Prof. Tao Zhang Fields: Reinforcement Learning, Intelligent Robotics GPA: 3.55/4.00	<b>2016-2019</b>
	<b>Beihang University</b> , Beijing, China <i>B.S. in Automation, Double B.S. in Mathematics</i> Selected into Honors College (1/200) GPA: 3.74/4.00 (Total 222.5 credits)	<b>2012-2016</b>
RESEARCH & WORK EXPERIENCE	<b>City University of Hong Kong</b> , Hong Kong, China <i>Graduate Research Assistant</i> Supervisor: Prof. Cong Wang Topic: Efficient exploration strategies for reinforcement learning <ul style="list-style-type: none"><li>• Designed constrained intrinsic motivation for unsupervised reinforcement learning. This work is accepted by IJCAI 2024.</li><li>• Task-aware intrinsic motivation for sparse-reward reinforcement learning. This work is submitted to NeurIPS 2024.</li><li>• Developed intrinsically motivated adversarial policy against robotic RL agents. This work is accepted by DSN 2024.</li><li>• Explored intrinsically motivated red teaming for Large Language Models. This work is submitted to NeurIPS 2024.</li></ul>	<b>2020-present</b>
	<b>Xi'an Jiaotong University</b> , Xi'an, China <i>Visiting Researcher</i> Supervised by Prof. Chao Shen Topic: Efficient and robust reinforcement learning	<b>2022-2023</b>

<b>Huawei</b> , Xi'an, China <i>Senior Researcher</i> Topic: Cloud computing resource scheduling	<b>2020</b>
<b>Xi'an Jiaotong University</b> , Xi'an, China <i>Visiting Researcher</i> Supervised by Prof. Chao Shen & Dr. Xingjun Ma Topic: Adversarial machine learning	<b>2019</b>
<b>Tsinghua University</b> , Beijing, China <i>Graduate Research Assistant</i> Supervised by Prof. Tao Zhang Topic: Intelligent space robot	<b>2016-2019</b>
<b>National Institute of Informatics</b> , Tokyo, Japan <i>Research Intern</i> Supervised by Prof. Tetsunari Inamura Topic: Intelligent robotics	<b>2018</b>
<b>The University of New South Wales</b> , Sydney, Australia <i>Research Intern</i> Supervised by Prof. Elias Aboutanios Topic: Spacecraft de-orbiting control	<b>2016</b>

## PUBLICATION

### Journal

- J-1. Yuxue Cao, Shengjie Wang, **Xiang Zheng**, Wenke Ma, Xinru Xie, Lei Liu, "Reinforcement learning with prior policy guidance for motion planning of dual-arm free-floating space robot," *Aerospace Science and Technology*, vol. 136, pp. 108098, 2023.  
**Impact Factor 5.6, JCR Rank Q1 (3/34).**
- J-2. Shengjie Wang, Yuxue Cao, **Xiang Zheng**, Tao Zhang, "A learning system for motion planning of free-float dual-arm space manipulator towards non-cooperative object," *Aerospace Science and Technology*, vol. 131, pp. 107980, 2022.  
**Impact Factor 5.6, JCR Rank Q1 (3/34).**
- J-3. Shengjie Wang, Yuxue Cao, **Xiang Zheng**, Tao Zhang, "Collision-free trajectory planning for a 6-DoF free-floating space robot via hierarchical decoupling optimization," *IEEE Robotics and Automation Letters (RA-L)*, vol. 7, no. 2, pp. 4953–4960, 2022.  
**Impact Factor 5.2, JCR Rank Q2 (10/30).**

### Conference

- C-1. **Xiang Zheng**, Xingjun Ma, Chao Shen, and Cong Wang, “Constrained intrinsic motivation for reinforcement learning,” in *Proceedings of the 33rd International Joint Conference on Artificial Intelligence (IJCAI)*, 2024.
- C-2. **Xiang Zheng**, Xingjun Ma, Shengjie Wang, Xinyu Wang, Chao Shen, and Cong Wang, “Toward evaluating robustness of reinforcement learning with adversarial policy,” in *Proceedings of the 54th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)*, 2024.  
**Acceptance Rate 20.7%**
- C-3. Shengjie Wang, Fengbo Lan, **Xiang Zheng**, Yuxue Cao, Oluwatosin Oseni, Haotian Xu, Tao Zhang, Yang Gao, “A policy optimization method towards optimal-time stability,” in *Proceedings of the 7th Conference on Robot Learning (CoRL)*, 2023.
- C-4. Shengjie Wang, **Xiang Zheng**, Yuxue Cao, Tao Zhang, “A Multi-Target Trajectory planning of a 6-DoF free-floating space robot via reinforcement learning,” in *Proc. of the 34th IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021.
- C-5. Shengjie Wang, Yuxue Cao, **Xiang Zheng**, Tao Zhang, “An end-to-end trajectory planning strategy for free-floating space robots,” in *Proc. of the 40th Chinese Control Conference (CCC)*, 2021.
- C-6. Shihao Zhao, Xingjun Ma, Xiang Zheng, James Bailey, Jingjing Chen, Yungang Jiang, “Clean-label backdoor attacks on video recognition models,” in *Proc. of IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.  
**Acceptance Rate 22.1%**
- C-7. Xiang Zheng, Ziwei Wang, Tao Zhang, “Robust finite-time attitude tracking control for nonlinear quadrotor with uncertainties and delays,” in *Proc. of IEEE International Conference on Robotics and Biomimetics (ROBIO)*, 2017.

AWARDS & HONORS	<b>IJCAI Travel Grant</b>	<b>2024</b>
	IJCAI Organization and AIJ Division	
	Amount: USD 500	
	<b>International Conference Grant</b>	<b>2024</b>
	City University of Hong Kong	
	Amount: HKD 10,000	
	<b>DSN Student Travel Grant</b>	<b>2024</b>
	DSN Student Travel Awards Committee	
	Amount: USD 1,500	
	<b>Research Activities Fund</b>	<b>2022-2023</b>
	City University of Hong Kong	

	Amount: HKD 96,000	
	<b>Institutional Research Tuition Grant</b> City University of Hong Kong Amount: HKD 168,384	<b>2020-2024</b>
	<b>CityU Presidential PhD Scholarship</b> City University of Hong Kong Amount: HKD 1,353,120	<b>2020-2024</b>
	<b>NII MOU Research Activities Grant</b> National Institute of Informatics, Japan Amount: JPY 68,400	<b>2018</b>
	<b>CSC Scholarship</b> China Scholarship Council Amount: AUD 6,400	<b>2016</b>
TEACHING & EXPERIENCE	<b>Teaching Assistant</b> , City University of Hong Kong CS5293, Topics on Information Security	<b>Semester B</b> <b>2023/24</b>
	<b>Teaching Assistant</b> , City University of Hong Kong CS4394, Information Security and Management	<b>Semester A</b> <b>2023/24</b>
	<b>Teaching Assistant</b> , City University of Hong Kong CS4293, Topics in Cybersecurity CS5293, Topics on Information Security	<b>Semester B</b> <b>2021/22</b>
	<b>Teaching Assistant</b> , City University of Hong Kong CS4394, Information Security and Management CS5294, Information Security Technology Management	<b>Semester A</b> <b>2021/22</b>
	<b>Teaching Assistant</b> , City University of Hong Kong CS4293, Topics in Cybersecurity CS6290, Privacy-enhancing Technologies	<b>Semester B</b> <b>2020/21</b>
	<b>Teaching Assistant</b> , City University of Hong Kong CS2310 / CS2311, Computer Programming	<b>Semester A</b> <b>2020/21</b>
MISC.	Language: Python, C/C++ Framework: PyTorch Simulator: MuJoCo Platform: Tianshou, Stable Baselines, CleanRL, TRL, etc. Environment: Linux/Unix, macOS and Windows Fluent in English and Chinese	