

# Tianying Ji

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## EDUCATION

- **Tsinghua University** Beijing, China
  - *Hydraulic Engineering* *Sept. 2016 - June 2017*
  - *Computer Science and Technology* *Sept. 2017 - June 2020*
  - *Bachelor of Engineering*
- **Tsinghua University** Beijing, China
  - *Computer Science and Technology* *Sept. 2020 - Present*
  - *The State Key Laboratory of Intelligent Technology and Systems*

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## PROJECTS

- **Non-Markovian Behavior Learning and Decision Making (Reinforcement Learning)**  
**Project Leader.** Research-oriented, focus on the non-markovian decision process under partially observed environments with dynamics modeling. Explored several kinds of non-markovian decision process. (2020 -2022)
- **Cognitive Learning and Decision Manipulation of Unmanned Platforms in Dynamic Adversarial Environment (Reinforcement Learning)**  
Project Team Member. Responsible for experience-based agent cognition, implemented several kinds of experience replay techniques in the final unmanned platform. (2019 - 2021)
- **Generation of Adversarial Networks for Object Detection (Computer Vision)**  
Project Team Member. Responsible for data augmentation for target-oriented detection tasks in complex flight environments. Designed and implemented a joint architecture including image harmonization, image matting, sequence inpainting and segmentation. Received an honours GPA for the undergraduate project based on these. (2019 - 2021)

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## PUBLICATIONS

- Congcong Miao, Jilong Wang, **Tianying Ji**, Hui Wang, Chao Xu, Fenghua Li, Fengyuan Ren. BDAC: A Behavior-aware Dynamic Adaptive Configuration on DHCP in Wireless LANs. 2019 IEEE 27th International Conference on Network Protocols (ICNP), 2019.
- Chao Yang, Chengliang Zhong, Mingxuan Jing, Yu Luo, **Tianying Ji**, Wenbing Huang, Xiaodong Mu, Fuchun Sun. RGB-D Object Segmentation for Multi-Step Pick-and-Place in Open Cloud Robot Table. ICRA 2021 Workshop: Cloud-Based Competitions and Benchmarks for Robotic Manipulation and Grasping.
- Yu Luo, Mingxuan Jing, **Tianying Ji**, Fuchun Sun, Huaping Liu. A Robust Tube-Based Smooth-MPC for Robot Manipulator Planning. arXiv preprint arXiv:2103.09693, 2021.
- **Tianying Ji**, Yu Luo, Fuchun Sun, Mingxuan Jing, Fengxiang He, Wenbing Huang. When to Update Your Model: Constrained Model-based Reinforcement Learning. NeurIPS 2022 (Spotlight).
- Haoyi Niu\*, **Tianying Ji**\*, Bingqi Liu, Haocheng Zhao, Xiangyu Zhu, Jianying Zheng, Pengfei Huang, Guyue Zhou, Jianming Hu, Xianyuan Zhan. H2O+: An Improved Framework for Hybrid Offline-and-Online RL with Dynamics Gaps. arXiv preprint arXiv:2309.12716, 2023.
- **Tianying Ji**, Yu Luo, Fuchun Sun, Xianyuan Zhan, Jianwei Zhang, Huazhe Xu. Seizing Serendipity: Exploiting the Value of Past Success in Off-Policy Actor-Critic. arXiv preprint arXiv:2306.02865, 2023.
- Guowei Xu, Ruijie Zheng, Yongyuan Liang, Xiyao Wang, Zhecheng Yuan, **Tianying Ji**, Yu Luo, Xiaoyu Liu, Jiaxin Yuan, Pu Hua, Shuzhen Li, Yanjie Ze, Hal Daumé III, Furong Huang, Huazhe Xu. DrM: Mastering Visual Reinforcement Learning through Dormant Ratio Minimization. arXiv:2310.19668, 2023.

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## HONORS AND AWARDS

- Tsinghua University, Tsinghua 1st-class scholarship for overall excellence, 2023
- OCRTOC : Open Cloud Robot Table Organization Challenge @ IROS 2020 Simulation Track: Team Champion, Real Robot Track: Team 3rd place, 2020
- Tsinghua University, "Love Reading" Scholarship, 2019
- Tsinghua University, "Love Reading" Scholarship, 2017
- The 34th National University Student Physics Competition, Non-Physics Category A, 3rd prize, 2017

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## SKILLS

- Languages: Python, C++, C, MATLAB, Java, Javascript, Bash
- Frameworks: Qt, Vue, Django, Pytorch, Tensorflow, Gym, NumPy, Pandas, SciPy, MuJoCo
- Majors: Reinforcement Learning, Control Theory, Probability Statistics, Optimization Theory