Yizhuo Wang

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Ph.D. Student, Multi-Agent Robotic Motion (MARMot) Laboratory, National University of Singapore.
Research interest: robot planning/learning, reinforcement learning, multi-agent systems.

Education

- **Ph.D. (student), Robotics, National University of Singapore** — **Singapore**
  Advised by Asst. Prof. Guillaume Sartoretti — *Fall 2022 – Fall 2026*
  - Research topic: Machine learning based methods for scalable, long-term planning in large multi-agent teams.
- **Master in Mechanical Engineering (Control), National University of Singapore** — **Singapore**
  Advised by Asst. Prof. Guillaume Sartoretti, GPA: 4.5/5.0 — *2020 – 2021*
  - Thesis title: Reinforcement Learning for Multi-Agent Search and Rescue.
- **Bachelor in Mechatronics, Harbin Institute of Technology** — **Harbin & Sūzhou, China**
  Advised by Assoc. Prof. Ong Chong Jin — *2016 – 2020*
  - Thesis title: Development of mini-AGV for cooperative control.

Work Experience

- **National University of Singapore** — **Singapore**
  Research Engineer — *2021 – 2022*
  - Investigate advanced multi-agent planning/exploration methods, funded by Temasek Laboratories @ NUS.
- **Meet Hive Intelligence Co., Ltd.** — **Xi'an, China**
  Mechanical Development Intern — *Summer 2020*
  - Design a Garbage Automatic Recycling System for Household (GARSH). Six patents attained.

Publications

Conference / Journal / Workshop

- J. Chiun, S. Zhang, **Y. Wang**, Y. Cao, and G. Sartoretti. MARVEL: Multi-Agent Reinforcement Learning for constrained field-of-View multi-robot Exploration in Large-scale environments. In *IEEE International Conference on Robotics and Automation*, Atlanta, USA. **ICRA 2025**
- **Y. Wang**, Y. Cao, J. Chiun, S. Koley, M. Pham, G. Sartoretti. ViPER: Visibility-based Pursuit-Evasion via Reinforcement Learning. In *Conference on Robot Learning*, Munich, Germany. **CoRL 2024**
- Y. Cao, R. Zhao, **Y. Wang**, B. Xiang, G. Sartoretti. Deep Reinforcement Learning-based Large-scale Robot Exploration. In *IEEE Robotics and Automation Letters* (vol. 9, no. 5, pp. 4631-4638). **RA-L 2024**
- **Y. Wang**, Y. Wang, Y. Cao, G. Sartoretti. Spatio-Temporal Attention Network for Persistent Monitoring of Multiple Mobile Targets. In *IEEE/RSJ International Conference on Intelligent Robots and Systems* (pp. 3903-3910), Detroit, USA. **IROS 2023**
- Y. Wang, **Y. Wang**, G. Sartoretti. Full Communication Memory Networks for Team-Level Cooperation Learning. In Springer's *Autonomous Agents and Multi-Agent Systems*, 37, 33. **J-AAMAS 2023**
- **Y. Wang**, G. Sartoretti. Learning Simultaneous Motion Planning and Active Gaze Control for Persistent Monitoring of Dynamic Targets. In *Workshop on Active Methods in Autonomous Navigation*. **ICRA 2023**

- Y. Cao, T. Hou, **Y. Wang**, X. Yi, and G. Sartoretti. ARiADNE: A Reinforcement learning approach using Attention-based Deep Networks for Exploration. In *IEEE International Conference on Robotics and Automation* (pp. 10219-10225), London, UK. **ICRA 2023**
- Y. Cao, **Y. Wang**, A. Vashisth, H. Fan, and G. Sartoretti. CAtNIPP: Context-Aware Attention-based Network for Informative Path Planning. In *Conference on Robot Learning* (pp. 1928-1937), Auckland, New Zealand. PMLR. **CoRL 2022**

Selected Patent

- Z. Luo, **Y. Wang**, Y. Fu, J. Lu, and H. Zhang, A Rotating Structure for Garbage Sorting. *Utility Model Patent (Chinese)*, CN213474287U. **2021**
- Z. Luo, **Y. Wang**, Y. Fu, J. Lu, and H. Zhang, A Garbage Pushing and Delivery Structure. *Utility Model Patent (Chinese)*, CN213325514U. **2021**
- **Y. Wang**, Y. Fu, Z. Luo, H. Zhang, and J. Lu. Intelligent Recycling Bin (Dys-1). *Design Patent (Chinese)*, CN306247881S. **2020**

Profession Activities

Teaching

- **Teaching Assistant** — **Singapore**
  NUS ME3103 Mechanical Systems Design — *Spring 2021*

Competition

- **Singapore Amazing Flying Machine Competition 2023** — **Singapore**
  Judge Commendation Award & Championship Award – 5th place — *2023*
- **6th China Intl. College Students 'Internet+' Innov. & Entrep. Competition** — **Guangzhou, China**
  Gold Prize (Red Tour Track), Nationwide — *2020*

Paper Review

- IEEE Robotics and Automation Letters (RA-L) 2023/2024/2025
- IEEE International Conference on Robotics and Automation 2025
- Robotics: Science and Systems (RSS) 2024
- Association for the Advancement of Artificial Intelligence (AAAI) 2023/2024/2025
- Conference on Robot Learning (CoRL) 2023/2024
- European Conference on Artificial Intelligence (ECAI) 2023
- IEEE Transactions on Automation Science and Engineering (T-ASE) 2023
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2023/2024/2025
- International Symposium on Experimental Robotics (ISER) 2023
- International Joint Conference on Artificial Intelligence (IJCAI) 2022/2023