Yubin Wang

✉ ywang575@connect.hkust-gz.edu.cn   📇 https://yubinwang11.github.io

Education

King Abdullah University of Science and Technology   **Sep. 2022 – Present**
Co-advised student in ECE, advised by Yehia Massoud   *Thuwal, Saudi Arabia*

The Hong Kong University of Science and Technology (Guangzhou)   **Sep. 2022 – Present**
MPhil student in Robotics, advised by Jun Ma   *Guangzhou, China*

King Abdullah University of Science and Technology   **Jun. 2021 – Sep. 2022**
Visiting student in ECE, advised by Yehia Massoud and Meriem T. Laleg   *Thuwal, Saudi Arabia*

Publications

- **Yubin Wang**, Yulin Li, Hakim Ghazzai, Yehia Massoud and Jun Ma. "Chance-Aware Lane Change with High-Level Model Predictive Control Through Curriculum Reinforcement Learning." *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**)*. **Submitted**.

- **Yubin Wang**, Karnika Biswas, Liwen Zhang, Hakim Ghazzai and Yehia Massoud. "3D Autonomous Navigation of UAVs: An Energy-Efficient and Collision-Free Deep Reinforcement Learning Approach." *2022 IEEE Asia Pacific Conference on Circuits and Systems (**APCCAS**)*. **Accepted**.

- **Yubin Wang**, Yasmine Marani and Taous Meriem Laleg Kirati. "A Deep-Learning-Based Observer for State Estimation of Direct Contact Membrane Distillation System Modeled by Differential Algebraic Equations." *2022 IEEE Conference on Control Technology and Applications (**CCTA**)*. **Accepted**.

Experience

Jun Ma's Lab, HKUST(GZ)   **Guangzhou, China**
MPhil student, advised by Jun Ma   *Sep. 2022 – Present*

- CRL-MPC was submitted to **IROS'23**

Innovative Technologies Laboratories, KAUST   **Thuwal, Saudi Arabia**
Visiting student (co-advised), advised by Yehia Massoud   *Mar. 2022 – Present*

- CRL-MPC was submitted to **IROS'23**
- 3D-Auto-Navi was accepted to **APCCAS'22**

Estimation, Modeling and Analysis Group, KAUST / Paris-Saclay   **Thuwal, Saudi Arabia**
Visiting student, advised by Meriem T. Laleg   *Jul. 2021 – Feb. 2022*

- Deep-DCMD was accepted to **CCTA'22**

Multi-Agent Robotic Motion Lab, National University of Singapore   **Singapore**
Research intern, advised by Guillaume Sartoretti   *Mar. 2021 – Jul. 2021*

- Implemented the multi-agent informative path planning with self-attention mechanism through deep reinforcement learning
- Developed a decentralized multi-agent reinforcement learning approach for multi-evader-multi-pursuer game

Selected Projects

The Next-Generation of Electric Vehicle | *HKUST(GZ)*   **Present**
- Developing risk-aware motion planning and control methods of self-driving for electric vehicles

Multi-Agent Informative Path Planning | *NUS*   **Jul. 2021**
- The information uncertainty was decreased incredibly with designed multi-agent informative path planning method based on deep reinforcement learning with self-attention mechanism

Multi-Agent Pursuit Game | *NUS*   **Mar. 2021**
- Formed dynamic cage with pursuers to capture learning-trained evader with multi-actor-attention-critic via global communication

Honors, Awards and Service

- KAUST Visting Student Fellowship

- Reviewer for *RAL, PLOSONE, CCC*

- Undergraduate Scholarships (Year 1, 2, 3)

- Honorable Mention, MCM/ICM, 2021