

SHEN'AO(SHAW) WANG

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EDUCATION

National University of Singapore(NUS), Singapore

Jan 2026 – Now

Ph.D. student in Electronic and Computer Engineering

Xi'an Jiao Tong University (XJTU), Shaanxi, China

Sep 2022 – May 2025

M.S. in Control Science and Engineering

- GPA: 3.63 / 4.0, Rank: **5th/60**
- IELTS Academic - 6.5
- First-class academic scholarships, Outstanding graduate of Xi'an Jiaotong University, etc.

Shandong University (SDU), Shandong, China

Sep 2018 – Jun 2022

B.S. in Control Science and Engineering

- GPA: 4.18 / 5.0, Rank: **3rd / 208**
- CET6 - 533, CET4 - 581
- Outstanding graduate of Shandong Province, First-class academic scholarships, etc.

PUBLICATIONS

- Yan Zichen, Hou Yuchen, **Wang Shen'ao**, Gao Yichao, Huang Rui, Zhao lin*. "**AION: Aerial Indoor Object-Goal Navigation Using Dual-Policy Reinforcement Learning**". arXiv preprint arXiv:2601.15614, 2026. (Accepted by IROS 2026)
- **Shen'ao Wang**[†], Weihuang Chen[†], Fanjie Kong, Liming Chen, Hui Duan, Junjie He, and Hongbin Sun*, "**TM Planner: Efficient Path Planner based on Incremental Patch Map in Unknown Environment**", *IEEE Transactions on Instrumentation and Measurement* [Online]
- Weihuang Chen, Yuwei Chen, **Shen'ao Wang**, Fanjie Kong, Xuchong Zhang, and Hongbin Sun*, "**Motion Planning using Feasible and Smooth Tree for Autonomous Driving**", *IEEE Transactions on Vehicular Technology* [Online]
- **Shen'ao Wang**[†], Song Guo[†], Junjie He, Liming Chen, Hang Wang*, and Hongbin Sun, "**Mars Planner: Improved Batch Spatio-Temporal Trajectory Planning for Multi-Ackermann Robotic Systems**", *IEEE Intelligent Transportation Systems Conference* [Online]
- Weihuang Chen[†], Fanjie Kong[†], Liming Chen, **Shen'ao Wang**, Zhiping Wang, and Hongbin Sun*, "**EAT-Net: Efficient Axial Transformer Network for End-to-End Autonomous Driving**", *IEEE Intelligent Transportation Systems Conference* [Online]

EXPERIENCES

Research Engineer in National University of Singapore

Jul. 2025 – Dec. 2025

- Responsible for algorithms developing in the indoor image/object navigation of drones.

Research Intern in Baidu Autonomous Driving PNC Technology Group

Apr. 2024 – Aug. 2024

- Responsible for the algorithm research of Turning around on large curvature roads in **the L4 autonomous driving business of Robo Express**.
- Realizing fast path decision-making and planning under limited resources.
- Obtaining **SSP offer!!!** of Motion Planning Engineer.

Research Intern in Robotics Research Center of Shandong University Oct. 2021 – Jun. 2022

- Conducted research work on simultaneous localization and mapping algorithms for LiDAR in indoor environments containing transmissive surfaces
- The algorithm was applied to a cleaning robot platform of a shopping mall.

COMPETITIONS

Singapore Amazing Flying Machine Competition (SAMFC) April. 2025

- Responsible for the development and maintenance of High Speed Drone Flock Racing Control algorithms.
- Win **CHAMPION** Award with 15000 Singapore Dollars. [Aero Intelligence]

China Intelligent Vehicle Future Challenge (IVFC) Nov. 2023

- Responsible for the development and maintenance of self-driving trajectory planning algorithms in unstructured environments
- Safely completed the “Traffic Control Zone Passing”, “Narrow Road U-turn” and “Autonomous Parking” competitions. **Won third prize at the national level** [XJTU Discovery]

China Robotics Competition & RoboCup China UAV-Swarm Oct. 2023

- Responsible for the development and maintenance of multi-UAV motion planning algorithms for unknown area exploration
- Completion of a UAV cluster cooperative search simulation race to realize path planning and target tracking in unknown environments. **Won first prize at the national level** [NanYang No.1]

IEEE ITSC 2022 Trajectory Planning Competition for Automated Parking (TPCAP) Oct. 2022

- Completed the competition, realizing the trajectory planning of 20 Cases in the preliminary round and 8 Cases in the final round . Attend TPCAP Webinar and provide an online technical presentation
- Ranked 20th out of 60 teams in the preliminary round and **16th** out of 23 teams in the final round

HONORS & AWARDS

- Prizes
 - **2nd Prize** of National Undergraduate Electronics Design Contest Sep. 2021
 - **1st Prize** of National Undergraduate Energy Saving and Emission Reduction Contest Aug. 2021
 - **3rd Prize** of National Undergraduate Mathematics Contest Sep. 2020
 - **1st Prize** of Robotics Competition for Undergraduate in Shandong Province Oct. 2019
 - **1st Prize** of Physics Competition for Undergraduate in Shandong Province Oct. 2019
- Distinctions
 - Outstanding Student of XJTU Oct. 2024
 - Outstanding Student Cadre of XJTU Oct. 2023
 - **Outstanding Graduate Student of Shandong Province** Jun. 2022
 - Outstanding Graduate Student of SDU Jun. 2022
 - **Merit Student of Shandong Province** Dec. 2018
- Scholarships
 - **1st Prize Academic Scholarship** in XJTU (**Three Times**) Oct. 2022
 - **1st Prize Academic Scholarship** in SDU (**Three Times**) Oct. 2019
 - National Encouragement Scholarship (**Three Times**) Oct. 2019
 - Tang Zhongying Moral Scholarship (**30 students per year in SDU, Successive**) Dec. 2018
 - Jiang Zhen Heze Education Scholarship (**40 students per year in SDU, Successive**) Sep. 2018

SKILLS

- Skills: C++ == Python > C, Linux , ROS, Carla, Gazebo, Isaacsim
- Knowledge: Reinforcement Learning & Numerical Optimization in Robotics, Proficient in Optimal Control and CBF Technologies.