







DINGHAN WANG

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Education

Northwestern Polytechnical University, Shaanxi, China

Sep 2022 - Present

M.Eng. Control Science and Engineering

90.61/100 CGPA, 1/16 RANK

- IELTS Score: 6.5 (L: 6.0 R: 6.5 W: 6.5 S: 6.0)
- Thesis: Formation Coordination Control and Confrontation Based on Reinforcement Learning
- Research interests: Deep Reinforcement Learning, Computer Vision, Intelligent Systems, UAV, Control Systems, Game Theory

Northwestern Polytechnical University, Shaanxi, China

Sep 2018 - Jun 2022

B.Eng. Detection, Guidance and Control Technology

3.46/4 GPA, 10/65 RANK

- Thesis: Research on UAV Air Combat Decision-making Based on Hierarchical Reinforcement Learning
- Full marks in Theoretical Mechanics, Principle of Automatic Control I and Computational Methods courses.

Selected Publications

- **Dinghan Wang**, Jiandong Zhang, Qiming Yang, et al. An Autonomous Attack Decision-Making Method Based on Hierarchical Virtual Bayesian Reinforcement Learning[J]. *IEEE Transactions on Aerospace and Electronic Systems*. DOI: 10.1109/TAES.2024.3410249 **Supervisor: Jiandong Zhang**
- **Dinghan Wang**, Longmeng Ji, Jingbo Wang, et al. Dogfight Advantage Occupancy Method Based on Imperfect Information Self-play[C]. *IEEE ICCA 2024*. DOI: 10.1109/ICCA62789.2024.10591896 **Supervisor: Jiandong Zhang**
- Jiandong Zhang, **Dinghan Wang**, Qiming Yang, et al. Loyal wingman task execution for future aerial combat: A hierarchical prior-based reinforcement learning approach[J]. *Chinese Journal of Aeronautics*. DOI: 10.1016/j.cja.2024.03.009 (**Co-first Author**) **Supervisor: Jiandong Zhang**
- Xiaoyang Li, Teng Wang, **Dinghan Wang**, et al. Intelligent Decision-Making Algorithm for Airborne Phased Array Radar Search Tasks Based on a Hierarchical Strategy Framework[J]. *Chinese Journal of Aeronautics*. DOI: 10.1016/j.cja.2024.09.006 (**Spotlight Article**) **Supervisor: Xiaoyang Li**

Patents & Software Copyright

- Jiandong Zhang, **Dinghan Wang**, Longmeng Ji, et al. A method for executing target search and locking tasks of loyal wingman. *Chinese Patent*. **Supervisor: Jiandong Zhang**
- Qiming Yang, **Dinghan Wang**, Jiandong Zhang, et al. Formation collaborative cognition, decision-making and control software. *Software Copyright*. **Supervisor: Qiming Yang**
- Anli Zhang, Zhuoyong Shi, **Dinghan Wang**, et al. A Method for Aircraft Atmospheric Data Safety Monitoring and Evaluation. *Chinese Patent*. **Supervisor: Anli Zhang**

Projects

The Key R&D Projects in Shaanxi Province

Sep 2022 - Present

Multimodal Recognition, Situational Awareness (Student Leader)

The Natural Science Basic Research Program of Shaanxi

Jun 2022 - Jan 2024

Reinforcement learning: Intelligent Decision Making (Student Leader)

Aeronautical Science Foundation of China

Jun 2022 - May 2024

Reinforcement learning: Intelligent Decision Making (Student Leader)

National College Student Innovation Training Program

Sep 2020 - Nov 2021

Intelligent Air Combat Electronic Exercise Sandbox (Student Leader)

Chengdu Aircraft Design and Research Institute (611)

Apr 2023 - Aug 2023

Formation intelligent tactical decision-making model and interoperability design (Student Leader)

Shenyang Aircraft Design and Research Institute (601)

Jan 2023 - Jun 2023

Air-to-air accuracy assessment (Sub-system Student Leader)

Shenyang Aircraft Design and Research Institute (601)

Aug 2022 - Dec 2022

Data Fusion (Sub-system Student Leader)

Open Source Projects (Github)

Technical Skills

Languages: Python, C, C++, Matlab

Frontend: HTML, CSS, JavaScript

Clouds & Databases: MySQL, Tencent Cloud, Ali Cloud, Azure Cloud

Web Technologies: Docker, NAT(v4&v6), Nginx, HTTP, SSL

Operating Systems: Windows, Debian, Ubuntu, MacOS, OpenWRT, Proxmox VE

Tools: PyTorch, OpenCV, OpenDDS, Git, Vim, LATEX, Ps, Pr ...

Competitions

National Graduate Student Electronic Design Competition Aug 2024

Northwestern Regional Second Prize, Team Award (Team Leader)

MathorCup University Mathematical Modeling Challenge (Big Data Competition) Dec 2023

Third Prize, Team Award (Team Leader)

National Graduate Student Electronic Design Competition Aug 2023

Northwestern Regional First Prize, Team Award (Team Leader)

National Graduate Student Electronic Design Competition (Business Track) Aug 2023

Northwestern Regional Third Prize, Team Award

Honours & Awards

National Scholarship 2024

First-class academic scholarship 2023 & 2024

First Prize Scholarship 2024

Second Prize Scholarship 2023

Outstanding Graduates 2022

Outstanding Graduation Project 2022

College Outstanding Students 2021

Outstanding Communist Youth League Member 2021

Scholarship from the School of Electronic Information 2019 & 2020

Student Work & Experience

Academic Expeditions

- IEEE Transactions on Aerospace and Electronic Systems Reviewer
- IEEE Sensors Journal Reviewer
- IJCNN 2025 Reviewer
- 2023 Future AI Masters and Global IT Training Camp
- Member of the Mathematics Modeling Association

Community Involvement

- Served as a distinguished undergraduate representative, sharing academic and graduate application experiences with fellow undergraduates.
- Shared experiences as a senior student in university career planning courses.
- Acted as a mental health committee member during both undergraduate and master's studies, organizing psychological counseling activities during the pandemic.
- Volunteered as a material transporter during the pandemic.
- Participate in intramural sports (tug of war, marathon) activities.
- Class comprehensive assessment team member.