# Tingyu Zhang

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## EDUCATION

**2022.08-2025.06** **Nankai University** 985 **Master in Electronic Information**

**GPA :** 89.21/100 (Top30%)

Major in control engineering, linear systems theory, reinforcement learning；

**2018.08-2022.06** **Chang'an University** 211 **Bachelor in Automation**

**GPA :** 3.97/5 (Top 2% with Rank 2/114) (recommended for graduate studies without entrance exam)

Major in automatic control principle, modern control theory, digital electronic technology

## AWARDS

2023.08 The third prize of "Huawei Cup" 5th China Graduate Student Artificial Intelligence Innovation Competition

2023.09 First-class public scholarship of Nankai University(10%) **Nankai University**

2022.05 **Excellent undergraduate thesis of Shaanxi Province** **Shaanxi Provincial Association of Automation**

2019 and 2020 **National scholarship** (For **two consecutive** years) **Ministry of Education of China**

## RESEARCH

**Intelligent maneuver decision of air combat UCAV based on deep reinforcement learning** 2021.12 - 2023.06

- The research discussed using deep reinforcement learning with an auxiliary reward function to improve the decision-making abilities of unmanned combat aerial vehicles (UCAVs) in close air combat scenarios.
- Published Paper

  [1] **Zhang Tingyu**, Zheng Chen, Sun Mingwei, et al. Research on Intelligent Maneuvering Decision in Close Air Combat Based on Deep Q Network[C]//2023 IEEE 12th Data Driven Control and Learning Systems Conference (DDCLS). IEEE, 2023: 1044-1049. **(EI conference, Indexed by web of science)**

  [2] **Zhang T**, Wang Y, Sun M, et al. Air combat maneuver decision based on deep reinforcement learning with auxiliary reward[J]. Neural Computing and Applications, 2024: 1-16. **(JCR Q2 journal)**

**Research on gain scheduling control of wide-envelope fight vehicle** 2023.01 - 2024.06

- This research proposed an adaptive gain scheduling algorithm for flight vehicles with wide envelopes. The active disturbance rejection control (ADRC) was used to cope with disturbances and uncertainties, and the control gain was scheduled using the guardian maps (GM) method to adapt to the wide envelope of velocity and altitude.

  [1] **Zhang T**, Wang Y, Sun M, et al. Active Disturbance Rejection Gain Scheduling Control of Hypersonic Vehicle Based on Guardian Maps[C]//2024 IEEE 13th Data Driven Control and Learning Systems Conference (DDCLS). IEEE. **(EI conference)**
- **Paper submitted to [Chinese Journal of Aeronautics]:** Active Gain Scheduling Control for Wide-Envelope Flight Vehicle Based on Guardian Map **(JCR Q1 under review)**

## WORK EXPERIENCE

**2023.08-2024.06** **Beijing Institute of Mechanical and Electrical Engineering**

- Position: Industry Research Intern
- Key responsibilities: Research on autonomous maneuvering decision algorithm of aircraft based on DRL

## SKILLS

- MATLAB、Python/PyTorch、KEIL、C
- The principle and application of DDQN, DDPG,TD3 and other deep reinforcement learning algorithms

## Language: **IELTS 6.5**

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