Zhuoyong Shi

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EDUCATION

Northwestern Polytechnical University Sep. 2022 – Present
Major& GPA& RANK: Electronic Science and Technology (MPhil) 3.82 1/54
Thesis: Research on Multi-UAV Task Allocation and Path Planning for System Clusters.

Xian Jiao tong University City College Sep. 2018 – Jun. 2022
Major& GPA& RANK: Electronic Information (Bachelor) 3.31 3/108
Thesis: Design of quadcopter UAV trajectory prediction system based on neural network.

RESEARCH INTEREST

Machine Learning, UAV, Pattern Recognition, Mathematical Modeling, Deep Learning, Signal Processing.

HONORS & PRIZE

ITU Generation Connect Youth Envoy (4 individuals in China)	Mar. 2024
China National Scholarship for Graduate Students (<2%)	Dec. 2023
Academic First Class Scholarship (<5%)	Oct. 2023
School First Class Scholarship (<5%)	Oct. 2023
Outstanding Graduate Student (<10%)	Sept. 2023
Outstanding Thesis (<5%)	Jun. 2022
Academic Second Class Scholarship (Twice)	Sept. 2020 & 2021

PUBLICATIONS

[1] Jiandong Zhang, **Zhuoyong Shi***, Anli Zhang, et al. UAV Trajectory Prediction Based on Flight State Recognition [J], IEEE Transactions on Aerospace and Electronic Systems. (SCI JCR Q1 IF=4.4)
DOI: 10.1109/TAES.2023.3303854

[2] **Zhuoyong Shi**, Yetao Jia, Guoqing Shi*, et al. Design of motor skill recognition and hierarchical evaluation system for table tennis players [J], IEEE Sensors Journal. (SCI JCR Q1 IF=4.3)
DOI: 10.1109/JSEN.2023.3346880

[3] **Zhuoyong Shi***, et al. Design of motion pattern recognition system based on artificial intelligence methods [C], 2023 International Conference on Cyber-Physical Social Intelligence.
DOI: 10.1109/ICCSI58851.2023.10303805

[4] **Zhuoyong Shi***, et al. Autonomous Security Evaluation Model for UAV Based on Airborne Information [C], 2023 6th International Conference on Information Communication and Signal Processing.
DOI: 10.1109/ICICSP59554.2023.10390620

[5] Anli Zhang, **Zhuoyong Shi**, et al. Design of Wireless Motion Sensor Node Monitoring System Based on LabVIEW [J], Foreign Electronic Measurement Technology. (PKU IF=1.74)
DOI: 10.19652/j.cnki.femt.2103232

[6] Anli Zhang, **Zhuoyong Shi**, et al. An Evaluation Method for Aircraft Atmospheric Data Security Monitoring System [P], Invention Patent in China.
Patent No: CN202310946630.7

[7] Anli Zhang, **Zhuoyong Shi**, et al. Unmanned aerial vehicle track prediction method based on flight mode identification [P], Invention Patent in China.
Patent No: CN202311576511.3

[8] Anli Zhang, Meng Xie, **Zhuoyong Shi**, et al. Design of Intelligent Elevator Control System Based on Space Occupancy Determination [J], Application of Electronic Technique. (PKU IF=1.11)
DOI: 10.16157/j.issn.0258-7998.201037

[9] Jiandong Zhang, Dinghan Wang, Qiming Yang, **Zhuoyong Shi**, et al. Loyal wingman task execution for future aerial combat: A hierarchical prior-based reinforcement learning approach [J], Chinese Journal of Aeronautics. (SCI JCR Q1 IF=5.7)
DOI: 10.1016/j.cja.2024.03.009

[10] Meng Xie, Zehui Zeng, Anli Zhang, **Zhuoyong Shi**. Design of Intelligent WIFI Car Control System Based on LabVIEW [J]. Automation & Instrumentation. (PKU IF=1.03)
DOI: 10.19557/j.cnki.1001-9944.2020.12.005

PREPRINT

[1] **Zhuoyong Shi**, Guoqing Shi*, et al. Design of UAV trajectory prediction system based on multi-flight modes [J], IEEE Transactions on Signal Processing. (Peer Review)
[2] **Zhuoyong Shi**, Guoqing Shi*, et al. Design of UAV Flight State Recognition System for Multi-sensor Data Fusion [J], IEEE Sensors Journal. (Minor Revision)
[3] Anli Zhang, **Zhuoyong Shi***, et al. Design of motion pattern recognition system based on feature construction [J], Chinese Journal of Sensors and Actuators. **(Accepted)**
[4] **Zhuoyong Shi**, Guoqing Shi*, et al. Design of UAV Safety Monitoring System Based on LABVIEW [J], Scientific Reports. (Peer Review)

COMPETITIONS

"Electrical Cup" China Undergraduate Mathematical Contest in Modeling — Aug. 2021
National **Top Prize**, Team Award (**team leader**)
The National Undergraduate Mathematics Competitions — Nov. 2021 & 2020
National **First Prize**, Individual Award (**twice**)
Interdisciplinary Contest In Modeling(ICM) — May 2021
Honorable Mention, Team Award (**team leader**)
National Student Statistical Analysis of Data Competition — Jul. 2023
National Second Prize, Team Award (**team leader**)
China Undergraduate Mathematical Contest in Modeling(CUMCM) — Sep. 2019
Shaanxi Province First Prize, Team Award (**team leader**)
National Graduate Student Electronic Design Competition — Jul. 2023
Northwestern Regional First Prize, Team Award
Shaanxi Higher Mathematics Competition for College Students — Oct. 2019
Shaanxi Province First Prize, Individual Award

PROJECT EXPERIENCE

The Key R&D Projects in Shaanxi Province (No. 2022GY-089) — Sep. 2022 – Present
- Multimodal Recognition; Situational Awareness (Student Leader)

The Natural Science Basic Research Program of Shaanxi (No. 2022JQ-593) — Jun. 2022 – Jan. 2024
- Reinforcement Learning; Intelligent Decision Making (Project participants)

The Shaanxi Provincial Sports Scientific Research Project (No. 2021382) — Sep. 2021 – Sep. 2022
- Monitoring Systems; Big Data Analysis (Student Leader)

Postgraduate Innovation and Practice Fund Programme — Jan. 2021 – Sep. 2021
- Pattern Recognition; Effectiveness Evaluation (Project leader)

Innovation and Entrepreneurship Project — Apr. 2024 – Present
- Embedded Systems; Control Systems (Project leader)

CAMPUS EXPERIENCE

Academic Expeditions:
- 2023 Future AI Masters and Global IT Training Camp (Achieved first place in course grades)
- Northwest University of Technology Summer Camp (Excellent Camper)

Programming Skills:
- Served as a teaching assistant in "MATLAB programming and application" courses
- Participated in writing the textbook "MATLAB Programming and Application" ISBN:9787121449376

Planning Capability:
- Leadership in multiple competitions and projects leading teams to achieve assignments
- Division of research tasks into sub-tasks in scientific research according to systems engineering thinking.