

# Zhuoyong Shi

Location: Shaanxi, China; Birthday: February 16, 2001;

Tel: +8617899198361; Homepage: <https://zyshi0216.github.io>; E-mail: [shizy@mail.nwpu.edu.cn](mailto:shizy@mail.nwpu.edu.cn)

## EDUCATION

<b>Northwestern Polytechnical University</b>	Sep. 2022 – Present
<b>Major&amp; GPA&amp; RANK:</b> Electronic Science and Technology (MPhil)	3.82 1/54
<b>Scholarship:</b> National Scholarship for Graduate Students, Academic First Class Scholarship, School First Class Scholarship, Outstanding Graduate Student	
<b>Dissertation:</b> Research on Multi-UAV Task Allocation and Path Planning for System Clusters.	
<b>Xian Jiao tong University City College</b>	Sep. 2018 – Jun. 2022
<b>Major&amp; GPA&amp; RANK:</b> Electronic Information (Bachelor)	3.31 3/108
<b>Scholarship:</b> Scholarship from the School of Electronic Information (Twice)	
<b>Dissertation:</b> Design of quadcopter UAV trajectory prediction system based on neural network (Outstanding Graduation Thesis)	

## RESEARCH INTEREST

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

## 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. (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. (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. (Authorized)  
Patent No: CN202310946630.7
- [7] 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
- [8] Meng Xie, Ze Hui, 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\***, et al. UAV flight states recognition and trajectory prediction based on trajectory feature construction [J], IEEE Transactions on Signal Processing. (Peer Review)
- [2] Anli Zhang, **Zhuoyong Shi\***, et al. Design of motion pattern recognition system based on feature construction [J], Chinese Journal of Sensors and Actuators. (Accepted)
- [3] **Zhuoyong Shi**, Guoqing Shi, et al. Design of UAV Flight State Recognition System for Multi-sensor Data Fusion [J], IEEE Sensors Journal. (Peer Review)
- [4] **Zhuoyong Shi**, Guoqing Shi, et al. Design of UAV Safety Monitoring System Based on LABVIEW [J], Scientific Reports. (Revision submit)
- [5] Anli Zhang, **Zhuoyong Shi\***, Yafei Song. An Intelligent Decision System for Airport Taxi Based on LabVIEW [J], Chinese Journal of Engineering Mathematics. (Peer Review)

## SCIENTIFIC COMPETITIONS

---

“Electrical Cup” China Undergraduate Mathematical Contest in Modeling National <b>Top Prize</b> , Team Award ( <b>team leader</b> )	2021.8
The National Undergraduate Mathematics Competitions National <b>First Prize</b> , Individual Award ( <b>twice</b> )	2021.11&2020.11
Interdisciplinary Contest In Modeling(ICM) Honorable Mention, Team Award ( <b>team leader</b> )	2021.5
National Student Statistical Analysis of Data Competition National Second Prize, Team Award ( <b>team leader</b> )	2023.7
China Undergraduate Mathematical Contest in Modeling(CUMCM) Shaanxi Province First Prize, Team Award ( <b>team leader</b> )	2019.9
National Graduate Student Electronic Design Competition Northwestern Regional First Prize, Team Award	2023.7
Shaanxi Higher Mathematics Competition for College Students Shaanxi Province First Prize, Individual Award	2019.10

## PROJECT EXPERIENCE

---

<b>The Key R&amp;D Projects in Shaanxi Province (No. 2022GY-089)</b> <ul style="list-style-type: none"><li>Acting as a student leader in the project and published one paper</li></ul>	Sep. 2022 – Present
<b>The Natural Science Basic Research Program of Shaanxi (No. 2022JQ-593)</b> <ul style="list-style-type: none"><li>Participated in the project and published one paper</li></ul>	Jun. 2022 – Present
<b>The Shaanxi Provincial Sports Scientific Research Project (No. 2021382)</b> <ul style="list-style-type: none"><li>Acting as a student leader in the project and published one paper</li></ul>	Sep. 2021 – Sep. 2022
<b>Intelligent Elevator System Design (Innovation and Entrepreneurship Project)</b> <ul style="list-style-type: none"><li>Led the project and published a paper with the mentor</li><li>Led the projects to participate in Maker China and Innovation Competition respectively</li></ul>	Jan. 2021 – Sep. 2021

## 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)

### Skills Certificate:

- Artificial Intelligence Development Certification from Huawei
- Big Data Analysis Technology Certification from the Ministry of Industry and Information Technology in China
- Mathematical Modeling Skills Certification from the Ministry of Industry and Information Technology in China
- Computer Technology and Software Professional Technical Qualification Certification from the Ministry of Industry and Information Technology in China

### **Passion for Sports:**

After class, I enjoy the joy of sports and enjoy sports such as table tennis, long-distance running, badminton, etc. Won twice male singles championships in table tennis during college; During my graduate studies, I won a runner up in table tennis men's singles and a championship in men's doubles, and finished in the 2023 Shaanxi University Marathon.

## **SKILLS AND SELF-EVALUATION**

---

### **Strong Programming Skills:**

- Proficient in mainstream programming languages such as MATLAB and Python
- Participated in writing the textbook “*MATLAB Programming and Application*” ISBN:9787121449376
- Served as a teaching assistant in “*MATLAB programming and application*” courses
- Achieved the highest performance in the 2023 AI summer camp based on the Python programming

### **Abundant Experience in Machine Learning and AI:**

- Achieved the highest performance in the 2023 AI summer camp
- Published papers in machine learning
- Participant several Scientific Research Program in Shannxi
- Implementation of a machine vision-based hazardous materials sorting project using yolov5 in the postgraduate electronic design competition

### **Good at Mathematic:**

- Participated the First prize in National Undergraduate Mathematics Competitions in 2020&2021
- Participated several mathematical modelling competitions and achieved excellent results, including the national first prize.
- Achieved distinction in all mathematics courses.

### **Good English Ability for Reading and Speaking:**

- Participated in two conferences and made oral presentations
- Read hundreds of original papers in the field
- Reviewed more than 40 manuscripts in the field as a reviewer

### **Strong Ability in Teamwork, and Strong Ability in Execution and Planning:**

- To serve as team leader, led teams in more than ten competitions
- To serve as student leader, implementation of scientific research projects