

# GUOWEI LIU

Artificial Intelligence for Education; Data Mining; Deep Learning

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## OVERVIEW

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As a highly motivated and collaborative student majoring in computer science, I have a strong interest in artificial intelligence and data mining, especially in the field of education. During my studies, I gained valuable experience in machine learning, mathematical modeling and educational teaching. This entails completing a six-month educational internship, publishing two high-level papers, and receiving multiple scholarships including two national scholarships.

## 🎓 EDUCATION

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**School of Computer Science, Shaanxi Normal University** Sep. 2023 – Jul. 2026

*Master student* in Modern Educational Technology

**School of Computer Science, Shaanxi Normal University** Sep. 2018 – Jul. 2022

*Bachelor student* in Computer Science & Technology, GPA: 4.13/4.3 (1/72)

## 👥 RESEARCH EXPERIENCE

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**Informatics Technology Teacher & Electronic Education Administrator, Shandong Shouguang Modern High School, Weifang, China** Oct. 2022 – Present

- Responsible for information technology courses for high school freshmen and sophomores, mainly focusing on algorithm design and analysis, information systems and society, data and computing.
- Led 4 students to participate in the National Youth Drone Competition, won the second prize, and I was personally honored as an excellent counselor.

**Research Assistant, Engineering Laboratory of Teaching Information Technology of Shaanxi Province, Xi'an, China. Mentor: Prof. Longjiang Guo** Sep. 2020 – Present

- Led a group of 15 students to collect a mobile learning situational education dataset within Xi'an city and annotate it in real-time (over 30GB).
- Established Xi'an Aipinke Information Technology Company as a legal entity and settled in the university's innovation and entrepreneurship incubation base, securing a research grant ¥4000.
- Conducted a mathematical model for crowdsourcing courseware collection to maximize type diversity under limited budget in MOOCs environment, and write a paper to be published as a co first author in *Information Sciences*.
- Research on exercise recommendation based on a multi-objective parallel allied genetic algorithm, and the initial draft of the paper has been completed.

**Intern Informatics Technology Teacher, The Middle School Attached to Northwestern Polytechnical University, Xi'an, China** Sep. 2021 – Dec. 2021

- Responsible for information technology courses for the seventh grade of junior high school, mainly focusing on Photoshop, Information Systems and Society, Data Structures and Algorithms.
- Developed an algorithm design and analysis teaching method guided by the cultivation of computational thinking ability, and conducted case studies in 8 classes. The research results were published in *Computer Education*.

**Intern OI Teacher, Jisuanke, Beijing, China (Remote)** May. 2021 – Oct. 2021

- Responsible for teaching and researching on Olympiad in Informatics course, with a focus on basic algorithms such as STL(C++), search, recursive, and prefixes sum algorithms. Obtained internship funding ¥15000.

## PUBLICATIONS

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1. (Manuscript) Longjiang Guo, **Guowei Liu**, Yuxin Jin, Meirui Ren, Fei Hao, Vincenzo Loia: PQAGA4ER A Multi-Objective Priority-Queue Allied-based Genetic Algorithm for Exercise Recommendation. Preprint submitted to Information Sciences
2. Longjiang Guo, Yuxin Jin, **Guowei Liu**, Fei Hao, Meirui Ren, Vincenzo Loia: Type diversity maximization aware coursewares crowdcollection with limited budget in MOOCs. Information Science. 649: 119663, 2023. (Co-First Author)
3. **Guowei Liu**, Meirui Ren, Yuxin Jin, Longjiang Guo. Exploration of Algorithm Design and Analysis Teaching Methods Guided by Cultivating Computational Thinking Ability. Computer Education, 2022, (05): 189-195. (Recommended T2 Chinese Journal by CCF)

## HONORS & AWARDS

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### Scholarships

- National Scholarship (top scholarship in China; 0.2% domestically), Ministry of Education Dec. 2021
- Gratitude to Chinese Modern and Contemporary Scientists Scholarship (top scholarship for undergraduates in western China, 12 every university per year), Southwest Jiaotong University Dec. 2020
- Guangzheng Education Scholarship (30 students per year), ShaanXi Normal University Nov. 2020
- The First Prize Scholarship (awared three times), ShaanXi Normal University 2019-2021
- National Scholarship (top scholarship in China; 0.2% domestically), Ministry of Education Dec. 2019

### Awards

- Outstanding Graduates of Shaanxi Province's Ordinary Higher Education Institutions (2 students per school), ShaanXi Normal University Jun. 2022
- Excellent Undergraduate Graduation Project (3% in school), ShaanXi Normal University Jun. 2022
- Bronze Award in 8th Programming Contest in Shaanxi Province Jun. 2021
- Provincial First Prize in National College Student Mathematical Modeling Competition Dec. 2020
- A Computer software copyright named *mathematical model of computer systems* Dec. 2020
- The First Prize in National College Student Mathematics Competition (Non Mathematics, Preliminary)(awared twice) Dec. 2019&2020

## SKILLS

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**Language:** English (CET6:485, CET4:543, struggling for IELTS), Mandarin (Native).

**Programming:** C/C++, Python, Markdown, LaTeX.

**Teaching:** Mandarin Level 1 Grade B, Senior High School Teacher Qualification Certificate for *Mathematics* and *Information Technology*.