Yukai Zhou | Curriculum Vitae

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EDUCATION

Northwestern Polytechnical University (NWPU) ("Double First-Class" Initiative) Xi'an, Shaanxi, China
Bachelor of Science in Information and Computing Science Sept 2022 – present
(MathPlan for Strengthening Basic Academic Disciplines)

- **GPA:** 3.86/4.1 (Rank: 1/15)
- **Course:** Mathematical Analysis I (95), Mathematical Analysis II (94), Mathematical Analysis III (98), Higher Algebra I (87), Higher Algebra II (86), Abstract Algebra (97), Oridinary Differential Equation (95), Real Analysis (88), Probability Theory (95), Complex Analysis (99), Numerical Analysis (90), Partial Differential Equation (100), Numeric Algebra (95), Stochastic Process (98), Mathematical statistics (87).

MAJOR AWARDS

- **Honorable Mentions** in the **2024 COMAP's Mathematical Contest in Modeling (Top 30%)** 2024
- **Honorable Mentions** in the **2023 COMAP's Mathematical Contest in Modeling (Top 30%)** 2023
- **National Scholarship (Top 0.2%)** 2024
- **National Second Prize** in the **2024 National College Students' Mathematical Modeling Competition (Top 2.5%)** 2024
- **National Scholarship (Top 0.2%)** 2023
- **National First Prize** in the **2023 National College Students' Mathematical Modeling Competition (Top 0.55%)** 2023
- **Outstanding Students First Class Scholarship (Top 5%)** 2023
- **Outstanding Students First Class Scholarship (Top 5%)** 2024

RESEARCH EXPERIENCE

Group influence recognition based on causal inference and graph neural network *8/2024 - 6/2026*

- Supported by **the National Undergraduate Training Program on Innovation and Entrepreneurship (Second PI)**.
- Developed a novel framework combining causal learning theory and graph neural networks to evaluate group influence in social networks, enhancing robustness and interpretability.
- Reproduced five research papers, completed Stanford's CS224W course, and studied Causal Inference in Statistics: A Primer. Currently optimizing feature extraction methods and ranking tasks.

Identification of hazardous targets in submarine pipeline areas. *8/2022 – 6/2024*

- Supported by **Shaanxi Province Undergraduate Training Program on Innovation and Entrepreneurship(2/4)**
- Built a lightweight detection model using the YOLOv5 algorithm to identify hazardous objects in degraded underwater images, applying denoising and enhancement techniques..
- Deployed the model on NVIDIA edge computing boards after completing Stanford's CS231N course as a core team member.

SKILLS

Programming Python, PyTorch, C, Matlab
Languages Chinese Madarine (Native), English (IELTS 7.0)

EXTRACURRICULUM ACTIVITY

- **School Model Class Selection, NWPU** 10/2024
  Description: As the **class monitor**, I led my class to achieve **first place in the field defense**, earning the title of **School Model Class**, one of only ten classes selected at NWPU.
- **PolyU "Journey of Mathematics" International Study Program, NWPU** 07/2024
  Description: The Program focused on ML, LLM and etc. As a participant, I **ranked first (1/44) at the**

project oral defense.

- **The 22nd "San Hang Cup" Undergraduate Extracurricular Academic Science and Technology Competition Finals, NWPU** 04/2024
  Description:As the **project leader**, I led my team to extend an existing research paper(written during mathematical modeling competition) . The project received **the only Special Prize in the Natural Science Paper Track** and was selected for NWPU's **"Challenge Cup" Provincial Competition Seed Pool**.
- **Summer Social Practice, NWPU** 08/2023
  Description: As the **deputy leader of the project**, I am primarily responsible for developing a mathematical model based on fuzzy evaluation Analytic Hierarchy Process. The project was awared **the Special Prize**,one of only 6 projects selected at NWPU.

REFERENCES

Dr.Yong Xu
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Dr. Kuang Zhou
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