

# Haoxiang Lu

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🌐 haoxiang.lu

## Education

- 2024 – 2027

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University of Chinese Academy of Sciences (U.S. News Ranking: 69<sup>th</sup>)

M.S. in Environmental Engineering, GPA – 3.8/4.0

Core Courses: **Data Analysis** in Environmental Engineering Practice, **Mathematical Models** of Environmental Engineering and MATLAB Application, Pattern Recognition and **Machine Learning**

Advisor: Prof. Zhi Qian
- 2020 – 2024

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East China University of Science and Technology (U.S. News Ranking: 577<sup>th</sup>)

B.S. in Environmental Engineering, GPA – 3.4/4.0

Outstanding Engineer Education and Training Program

Thesis: *Preparation of Ti<sub>3</sub>C<sub>2</sub> MXene-based Composites for Photocatalytic CO<sub>2</sub> Reduction*

Advisor: Prof. Juying Lei

## Research Publications

## Research Experience

## Conferences & Presentations

- Jul. 2025

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The 6<sup>th</sup> National Forum

Oral Presentation: *Optimizing*

Beijing, China
- Jul. 2026

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The 6<sup>th</sup> National Forum

Poster Presentation: *Optimizing*

Beijing, China

## Work Experience

### Research

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Tongji Architecture Design (Group) Co., Ltd.

Research Intern

Jul. 2023 - Sep. 2023

Advisor: Yuting Zhu

- Conducted comprehensive literature review on activated carbon regeneration in water treatment using bibliometric software (*VOSviewer* and *CiteSpace*)
  - Analyzed research trends, collaboration networks, and emerging technologies in the field
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Weiqliao National Higher Technology Research Institute

Research Assistant

Aug. 2024 - present

- Designed and implemented advanced fuzzy predictive control systems for hypergravity desulfurization reactors
  - Developed improved Adaptive Neuro-Fuzzy Inference Systems (ANFIS) to address multivariable coupling challenges
  - Applied particle swarm optimization techniques to enhance multi-objective reactor performance

# Work Experience (continued)

## Industry

- Shandong Weiqiao Pioneering Group Co., Ltd.

Aug. 2024 - Dec. 2024
- Process Engineer
- Led implementation of innovative hypergravity desulfurization reactors at Zouping Alumina Plant No.3
  - Designed optimized pipeline configurations and instrumentation layout for experimental apparatus with 3000 m<sup>3</sup>/h gas processing capacity
  - Achieved 99% H<sub>2</sub>S absorption efficiency through process optimization and parameter tuning
  - Developed monitoring protocols that ensured stable system operation for over one year

## Teaching Assistant

- University of Chinese Academy of Sciences

Sep. 2025 - present
- Teaching Assistant in *Mathematical Models of Environmental Engineering and MATLAB Application*

# Skills

Coding	■ Python, R, MATLAB, Mathematica, SQL, L <sup>A</sup> T <sub>E</sub> X
AI & ML	■ PyTorch, Scikit-Learn, LLMs, XGBoost, CatBoost, Scikit-Fuzzy, Hyperopt
Software	■ SPSS, Jade, Adobe Illustrator, Fluent, Aspen Plus, VOSviewer, OpenLCA
Instruments	■ XRD, SEM, TEM, FTIR, Raman, XPS, UV-vis, EIS, EBS, TPC, EDS
Professional Skills	■ Research Design, Technical Writing, Data Analysis, Teaching, Presentation

# Honors and Recognition

## Awards and Honors

- 2024

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Gold Medal, 49<sup>th</sup> International Exhibition of Inventions Geneva, for “*High Gravity Selective Desulfurization Technology*”

## Scholarships

- 2024 – 2026

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Graduate Academic Scholarship, University of Chinese Academy of Sciences
- 2023

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Outstanding Undergraduate Scholarship, University of Chinese Academy of Sciences
- 2020 – 2023

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Merit-based Scholarship (Third Class), East China University of Science and Technology