

Haoxiang Lu

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🌐 haoxiang.lu

Education

- 2024 – 2027
Beijing, China

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University of Chinese Academy of Sciences (U.S. News Ranking: 54th)

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**, **Optimization** for Data Science, Introduction to **LLMs**

Advisor: Prof. Zhi Qian
- 2020 – 2024
Shanghai, China

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East China University of Science and Technology (U.S. News Ranking: 533th)

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

Outstanding Engineer Education and Training Program

Thesis: *Preparation of Ti₃C₂ MXene-based Composites for Photocatalytic CO₂ Reduction*

Advisor: Prof. Juying Lei

Research Publications

Research Experience

Conferences & Presentations

- Jul. 2026

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The 6th National Forum

Poster Presentation: *Optimizing*

Beijing, China
- Jul. 2025

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The 6th National Forum

Oral Presentation: *Optimizing*

Beijing, China

Work Experience

Research

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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
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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

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 $3000\text{ m}^3/h$ gas processing capacity
 - Achieved 99% H_2S 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, \LaTeX
AI & ML	■ PyTorch, Scikit-Learn, LLMs, XGBoost, CatBoost, Scikit-Fuzzy, Optuna
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

■ Gold Medal (Team Member), 49th International Exhibition of Inventions Geneva, for “*High Gravity Selective Desulfurization Technology*”

Scholarships

- 2024 – 2026

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

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

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