

Haoxiang Lu

✉ luhaoxiang24@mailsucas.ac.cn

🆔 0009-0003-9688-9261

🌐 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 – 3.3/4.0

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

Teaching Assistant

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University of Chinese Academy of Sciences

Sep. 2025 - Present

◦ Teaching Assistant in *Mathematical Models of Environmental Engineering and MATLAB Application*

Research

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Weiqiao National Higher Technology Research Institute

Aug. 2024 - Present


Research Assistant

◦ 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)

-  **Tongji Architecture Design 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

Industry

-  **Shandong Weiqiao Pioneering Co., Ltd. (*Fortune Global 500*)**
Process Engineer

Aug. 2024 - Dec. 2024
- 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^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


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