

Haoxiang Lu

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Education

2024 – 2027 Beijing, China	📖 University of Chinese Academy of Sciences (<i>U.S. News Ranking: 54th</i>) M.S. in Environmental Engineering, <i>GPA – 3.8/4.0</i> <i>Advisor: Prof. Zhi Qian</i> 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 Large Language Model
2020 – 2024 Shanghai, China	📖 East China University of Science and Technology (<i>U.S. News Ranking: 533th</i>) B.S. in Environmental Engineering, <i>GPA – 3.4/4.0</i> <i>Advisor: Prof. Juying Lei</i> Outstanding Engineer Education and Training Program Thesis: <i>Preparation of Ti₃C₂ MXene-based Composites for Photocatalytic CO₂ Reduction</i>

Research Publications

Research Experience

Conferences & Presentations

Jul. 2026	📖 The 6th National Forum Poster Presentation: <i>Optimizing</i>	Beijing, China
Jul. 2025	📖 The 6th National Forum Oral Presentation: <i>Optimizing</i>	Beijing, China

Work Experience

Research

- 📖 **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
- 📖 **Tongji Architecture Design (Group) Co., Ltd.** Jul. 2023 – Sep. 2023
Research Intern *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