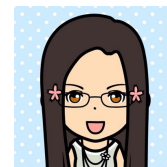


Haoxiang Lu

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Research Interests

AI/ML in Environmental Engineering.

Education

- 2024 – 2027 **University of Chinese Academy of Sciences** (*U.S. News Ranking: 69th*)
M.S. in Environmental Engineering, *GPA – 3.8/4.0* *Advisor: Prof. Zhi Qian*
Core Courses: **Data Analysis** in Environmental Engineering Practice, **Mathematical Models** of Environmental Engineering and MATLAB Application, Pattern Recognition and **Machine Learning**
- 2020 – 2024 **East China University of Science and Technology** (*U.S. News Ranking: 577th*)
B.S. in Environmental Engineering, *GPA – 3.4/4.0* *Advisor: Prof. Juying Lei*
Outstanding Engineer Education and Training Program
Thesis: *Preparation of Ti₃C₂ MXene-based Composites for Photocatalytic CO₂ Reduction*

Research Publications

Research Experience

Conferences & Presentations

- Jul. 2025 **The 6th National Forum** Beijing, China
Oral Presentation: *Optimizing*
- Jul. 2026 **The 6th National Forum** Beijing, China
Poster Presentation: *Optimizing*

Professional Experience

Research

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

Professional Experience (continued)

- 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
 - Currently working on integrating machine learning approaches to optimize control parameters

Industry

- Shandong WeiQiao Pioneering Group Company Limited

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

Languages	Mandarin (native), English (conversational)
Coding	Python, MATLAB, SQL, \LaTeX
AI & ML	Pytorch, Scikit-Learn, Scikit-Fuzzy, LLMs, XGBoost, CatBoost, Hyperopt, ...
Experiment	XRD, SEM, TEM, FTIR, Raman, XPS, UV-vis, EIS, EBS, TPC, EDS
Auxiliary	Research, Teaching, Presentation, Technical Writing

Honors and Recognition

Awards and Honors

- 2024

Gold Medal, 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