Haoxiang Lu

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Education

2024 – 2027 Beijing, China	**University of Chinese Academy of Sciences** (*U.S. News Ranking: 54th*)

M.S. in Environmental Engineering, *GPA – 3.8/4.0*   *Advisor: Prof. Zhi Qian* iD

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**

2020 – 2024 Shanghai, China	**East China University of Science and Technology** (*U.S. News Ranking: 533th*)

B.S. in Environmental Engineering, *GPA – 3.3/4.0*   *Advisor: Prof. Juying Lei*

Outstanding Engineer Education and Training Program

Thesis: *Preparation of* Ti_3C_2 *MXene-based Composites for Photocatalytic* CO_2 *Reduction*

Research Publications

Research Experience

Conferences & Presentations

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

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

Work Experience

Teaching

University of Chinese Academy of Sciences   Sep. 2025 - Present

Teaching Assistant

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

Research

Weiqiao National Higher Technology Research Institute   Aug. 2024 - Present

Research Assistant   *Advisor: Prof. Zhi Qian* iD

○ 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.   Jul. 2023 - Sep. 2023
Research Intern   *Advisor: Yuting Zhu* in
○ 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*)   Aug. 2024 - Dec. 2024
Process Engineer
○ Led implementation of innovative high-gravity 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