

# Haoxiang Lu

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🌐 haoxiang.lu

## Education

2024 – 2027 Beijing, China	📖 <b>University of Chinese Academy of Sciences</b> ( <i>U.S. News Ranking: 54<sup>th</sup></i> ) M.S. in Environmental Engineering, <i>GPA – 3.8/4.0</i> <i>Advisor: Prof. Zhi Qian</i> Core Courses: <b>Data Analysis</b> in Environmental Engineering Practice, <b>Mathematical Models</b> of Environmental Engineering and MATLAB Application, Pattern Recognition and <b>Machine Learning</b>
2020 – 2024 Shanghai, China	📖 <b>East China University of Science and Technology</b> ( <i>U.S. News Ranking: 533<sup>th</sup></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 Ti<sub>3</sub>C<sub>2</sub> MXene-based Composites for Photocatalytic CO<sub>2</sub> Reduction</i>

## Research Publications

## Research Experience

## Conferences & Presentations

Jul. 2026	📖 <b>The 6<sup>th</sup> National Forum</b> Poster Presentation: <i>Optimizing</i>	Beijing, China
Jul. 2025	📖 <b>The 6<sup>th</sup> National Forum</b> 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  $m^3/h$  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), 49<sup>th</sup> 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