Haoxiang Lu

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lukeecust.github.io

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* Ti_3C_2 *MXene-based Composites for Photocatalytic* CO_2 *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*

Work Experience

Research

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

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

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, Hyperopt
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**, 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