

# Xiaohan WU

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## EDUCATION

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<b>Purdue University</b> <i>Environmental &amp; Ecological Engineering</i>	West Lafayette, Indiana, USA 01/2024-now
<b>Carnegie Mellon University</b> <i>M.S. in Engineering and Public Policy</i>	Pittsburgh, Pennsylvania, USA 09/2022-12/2023
<b>Northeastern University (CN)</b> <i>B.E. in Energy and Power Engineering, School of Metallurgy</i>	Shenyang, China 09/2018-06/2022

## RESEARCH EXPERIENCE (LCA&TEA)

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<b>University of Kentucky &amp; Purdue University</b> <b><i>TEA &amp; LCA of Carbon-negative Copper Communication and Extraction Process</i></b>	01/2024-now
<ul style="list-style-type: none"><li>Developing a new framework combining TEA and LCA information.</li><li>Provide insights on decarbonization through evaluating the environmental performance in the early stage of technology.</li></ul>	
<b>Purdue University</b> <b><i>TEA of Gallium recycling technologies</i></b>	08/2024-now
<ul style="list-style-type: none"><li>Complete the preliminary techno-economic analysis of bioleaching of Ga from E-waste.</li><li>Compare the cost of bioleaching of Ga with primary Ga production.</li></ul>	
<b>Purdue University &amp; University of Utah</b> <b><i>LCA of rare earth metal mining</i></b>	10/2024-now
<ul style="list-style-type: none"><li>Research on life cycle assessment of rare earth metal extraction using bioleaching</li></ul>	
<b>Master's Project, Carnegie Mellon University</b> <b><i>Life Cycle Assessment of Blue Hydrogen Production</i></b>	08/2022-05/2023
<ul style="list-style-type: none"><li>Assessed the life cycle greenhouse gas emissions and water usage of blue hydrogen.</li><li>Incorporated IECM (Integrated Environmental Control Model) analysis.</li></ul>	
<b>Summer &amp; Winter GEARS Program, the University of North Carolina at Chapel Hill</b> <b><i>TEA &amp; LCA of Vanadium Redox Flow Battery</i></b>	05/2021-09/2021
<ul style="list-style-type: none"><li>Predicted the price and cost of VRB (Vanadium Redox Flow Battery) with a learning curve; Obtained the trade-off between the economic and environmental performance of VRB; Analyzed the feasibility of large-scale production volume of VRB.</li><li>Completed a scientific research poster and digital presentation.</li></ul>	
<b><i>Life cycle assessment of molten salt energy storage</i></b>	01/2022-02/2021
<ul style="list-style-type: none"><li>Assessed the potential of CO<sub>2</sub>, NO<sub>x</sub>, and SO<sub>2</sub> emissions of molten salt energy storage installed at the natural gas power plant in the U.S.</li></ul>	
<b>SEP Key Laboratory of Eco-Industry, Northeastern University</b> <b><i>Forecast of China's Power Structure Adjustment: 2020-2060</i></b>	07/2021-09/2021
<ul style="list-style-type: none"><li>Conducted a comprehensive literature review and academic writing.</li></ul>	

## PUBLICATIONS

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[https://scholar.google.com/citations?hl=en&view\\_op=list\\_works&gmla=AC6lMd9EfBSdsZX-3EdB3anQEnmnbBoEzc6fGE4k3QV1ibPhjFNhPt4EUFIJ78FHtU2F\\_XD8hBcHIZUkBnMVfW&user=65X2JTEAAAAJ](https://scholar.google.com/citations?hl=en&view_op=list_works&gmla=AC6lMd9EfBSdsZX-3EdB3anQEnmnbBoEzc6fGE4k3QV1ibPhjFNhPt4EUFIJ78FHtU2F_XD8hBcHIZUkBnMVfW&user=65X2JTEAAAAJ)

## *LEADERSHIP*

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### **Carnegie Mellon University Team**

10/2022-06/2023

#### ***NASA's Clean Aviation Energy Competition***

- Model scenarios to minimize cost and emissions with hydrogen applied in aviation, focusing on hydrogen production, transportation, and storage.
- Gained insights into hydrogen from various industrial experts.
- Won the "Best Presentation Award". <https://www.cmu.edu/epp/news/2023/cmu-team-wins-best-presentation-award-at-nasa-competition.html>

### **American Center for Life Cycle Assessment (ACLCA) conference volunteer**

09/2024

- Led the sustainable assessment team to conduct LCA of the conference.
- Calculated the carbon footprint of each conference attendee from transport and logging.

## *WORK EXPERIENCE*

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### **World Resources Institute**

Beijing, China

#### ***Energy data analyst (remote)***

03/2022-06/2022

- Research on energy consumption and carbon emissions data from China's transport industry in the last decade.
- Drafted a report on considerations affecting carbon emissions of China's transport industry.

## *Presentations*

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### **Carnegie Mellon University Team**

10/2022-06/2023

#### ***NASA's Clean Aviation Energy Competition***

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## *ACTIVITIES*

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- Starring, 1st Prize of "English Drama Competition", NEU, 11/2018
- Contestant, 2nd Prize of "Energy Conservation and Emission Reduction Technology Competition", NEU, 11/2018
- Player, 3rd Prize of "National English Contest for College Students, NEU Division", NEU, 10/2018~11/2018
- Contestant, 2nd Prize of "NEU United Nations Knowledge Contest", NEU, 11/2018
- Team member, men's rugby team in UIC, 09/2021

## *SKILLS & CERTIFICATES*

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- Computer Skills: Python & MATLAB for optimization
- Professional Skills: GIS for pollution distribution; CAD for mechanical design; ANSYS for fluent dynamics
- Other: Basketball, Rugby, Chinese Calligraphy, Violin