Jiahui Chen

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EDUCATION

University of Michigan, Ann Arbor	Ann Arbor, MI
Ph.D. student at School for Environment and Sustainability	Aug 2022-Present
Carnegie Mellon University	Pittsburgh, PA
Master of Engineering and Public Policy	May 2022
Tsinghua University	Beijing, China
Bachelor of Environmental Engineering	July 2020

SKILLS

Language: English (Fluent), Chinese Mandarin (Native Speaker)

Application software: GREET, MATLAB, FASTSIM   Programming language: Python

RESEARCH EXPERIENCE AND PROJECTS

Private and climate benefits of vehicle building integration under power sector decarbonization

Prof. Parth Vaishnav's Research Group	School for Environment and Sustainability, University of Michigan, Ann Arbor	Sept 2022 – Present

- Established high-resolution individual vehicle usage behavior model based on real-world driving data
- Established electric vehicle charging simulation model that captures regional, lifecycle, and vehicle type differences
- Assessed lifetime private costs, and greenhouse gas emissions of different electric vehicles types

Impacts of vehicle-to-grid technologies on renewable energy integration

Prof. Jeremy Michalek's Research Group	Department of Engineering and Public Policy, Carnegie Mellon University	Oct 2021 – Jun 2022

- Assessed the suitability of current power dispatch model for the study of interest.
- Established technical pathway alternatives for adaption of current power dispatch model PHORUM.
- Analyzed renewable energy integration benefits brought by vehicle to grid technologies
- Paper has been accepted by Transportation Research Board Annual Meeting 2024 for presentation

Emission mitigation potential of coordinated charging for future electric vehicle fleets

Prof. Ye Wu's Research Group	School of Environment, Tsinghua University	Sep 2019 – July 2021

- Characterized travel patterns of individual cars from the travel data generated by nearly 500 drivers in over 17000 days.
- Established a highly-resolved vehicle usage and charging behavior model for Beijing's private electric vehicle fleet.
- Evaluated the system impact of smart charging designed for various optimization objectives.
- Revealed simultaneously improved performances in cost-saving and emission mitigation can be achieved via smart charging.
- Revealed the deficiency of traditional operation paradigm and a need for advanced strategies.
- **The article has been accepted by Applied Energy.**

Article title: Emission mitigation potential from coordinated charging schemes for future private electric vehicles

Renewable Energy System Modelling and Policy Research

Prof. Xi Lu's Research Group	School of Environment, Tsinghua University	2017 – Feb 2019

- Assessed economic and technical potential of photovoltaic projects in China
- Examined the challenges as well as opportunities for China's transition to a high renewable penetration energy system
- **Published a cover article on WIREs Energy and Environment as co-first author**

PROFESSIONAL EXPERIENCE

School of Environment, Tsinghua University	Beijing, China
Research assistant	Aug 2020 – Aug 2021

- Provided support to research projects and research work of colleagues in the same research group
- Led the joint effort with colleagues from Department of Electric Engineering to investigate the emission mitigation impact of vehicle-to-grid technologies

Schneider Electric (China)	Beijing, China
Business Development Intern	Sep 2019 – Jan 2020

- Supported Schneider's Smart Manufacturing Transformation strategy development with desktop research
- Compiled a project database of business models and market intelligence for utility scale energy storage

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	Beijing, China

Research Assistant Intern   June 2018 – Sep 2018

- Assisted researchers and experts from different countries with coordination of work in a multicultural environment, receiving positive feedback from coworkers and leadership
- Maintained a policy database covering mainly China's renewable energy
- Drafted reports on the chronical development of renewable energy incentive policies

Energy Research Institute (China)   Beijing, China

Research Assistant Intern   June 2018 – Dec 2018

- Participated fully in the drafting of China Renewable Energy Outlook 2018
- Drafted reports covering the future trends in the power system and their policy implications based on modeling results