

# Xinyang Che

+86-18292173579(mobile) ◇ [car0325jason@gmail.com](mailto:car0325jason@gmail.com) ◇ [\[Personal Page\]](#)

## RESEARCH FOCUS

---

Energy System Modeling, Climate Policy, Emerging Low-carbon Technologies

## EDUCATION

---

*The City University of New York*, New York, US 2025.6 -  
**Research Assistant** in [Deep Policy Lab](#), Baruch College, supervised by [Gang He](#)  
**Direction: Climate policy, power system decarbonization**

*King's College London*, London, UK 2024.3 - 2025.4  
**Visiting student** in Engineering, Faculty of Natural, Mathematical & Engineering Sciences  
**Research Assistant** in [STAR Lab](#), Dept. of Engineering, supervised by [Wei He](#)  
**Direction: Energy system modeling**

*Xi'an Jiaotong University*, Xi'an, China 2022 - 2025  
M.Sc. in Electronic Information, supervised by [Hong Gao](#) and [Bo Liu](#)  
**Graduated with Distinction**, GPA: 90.60/100

*Xi'an Jiaotong University*, Xi'an, China 2018 - 2022  
B.Eng. in Electrical Engineering, supervised by [Zhengchun Du](#)  
GPA: 83.73/100  
Core Courses: Signals and Systems (90), Electronics Practice (89), Advanced Mathematics (88), Complex Analysis & Integral Transformation (94), Linear Algebra (91), University Physics (90)

## RESEARCH OUTPUTS

---

### Energy and Power Systems

#### Climate Change Impacts on European Energy Systems

**Advisor: Dr. Gang He**, *The City University of New York* Ongoing

- Quantified Europe-wide wind and solar resource potentials for "current" (2020s) and "future" (2050s) climates using multi-model CMIP6.
- Projected national electricity, heating, and cooling demands by coupling historical load data with demographic trajectories and bias-corrected air-temperature projections.
- Integrated supply, demand, and techno-economic assumptions into PyPSA-Eur model and optimized different strategies for mitigating energy drought events.

#### Assess Space-Based Solar Power for European-Scale Power System Decarbonization

**Advisor: Dr. Wei He**, *King's College London* [Paper link](#) (Under review at *Joule*) 2024.4 - 2025.4

- Modelled 2 advanced Space-Based Solar Power (SBSP) designs and 2050's European power system (PyPSA), combined them for optimization.
- Demonstrated future feasibility of SBSP, achieving a 7-15% reduction in total system costs, an 83% decrease in terrestrial wind and solar installed capacity, and a 78% reduction in battery storage usage.
- Pinpointed the capital cost benchmarks at which SBSP transitions from a cost-prohibitive, to supplementary, further to a dominant baseload technology through extensive sensitivity analyses.
- Completed paper (first author).

#### Normal Form Approximation for Nonlinear Power Systems

**Advisor: Prof. Zhengchun Du**, *Xi'an Jiaotong University* 2021.11 - 2022.6

- Performed power flow calculations and transient stability analysis of a single-machine infinite bus system on PSASP, and concluded that the generator power angles are gradually diminishing.

- Conducted a normal form approximation analysis on a generator model, selecting different orders for polynomial approximation modeling.
- Reduced the error from 0.99 percent to 0.07 percent by innovatively using normalized approximation compared to the conventional method, validating the method’s effectiveness under different orders.

### Linear Optical Simulation in Physics

#### Experimental Investigation of the Uncertainty Relation in Pre- and Postselected Systems

**Advisor: Prof. Bo Liu, Xi'an Jiaotong University**      *Paper link (PRA2025) 2023.11 - 2024.12*

- Innovatively simulated a linear optical system on an experimental platform, and successfully verified the uncertainty relations in pre- and postselected systems (PPS) by introducing weak measurements.
- Designed an experimental plan and optical path, achieved 4 steps of initial state preparation, weak coupling, post-selection, and pointer measurement through different combinations of experimental instruments such as half-wave plates, beam displacers (BD), polarizing beam splitters (PBS).
- Completed paper (co-first author).

### PROFESSIONAL EXPERIENCES

#### Ankang Hydropower Station

Operations Department 2021.7 - 2021.8

- Operated critical equipment, including switchyards, circuit breakers, and main transformer rooms.
- Conducted equipment inspections and monitored load flow, transformer temperatures, and efficiency.
- Analyzed voltage stability and supported troubleshooting to ensure smooth operation.

### SELECTED AWARDS

- 2024**    Master’s Academic Scholarship from Xi’an Jiaotong University
- 2023**    Master’s Academic Scholarship from Xi’an Jiaotong University
- 2022**    Excellent Award in the “Tengfei Cup” Innovation and Entrepreneurship Competition
- 2022**    Master’s Freshman Scholarship from Xi’an Jiaotong University
- 2019**    Xi’an Jiaotong University Scholarship

### EXTRACURRICULAR EXPERIENCE

**Volleyball Association of XJTU**, President 2020.9 - 2021.6

Primarily responsible for organizing the volleyball league, conducting daily volleyball training sessions, teaching volleyball skills, etc., with more than 300 participants involved.

**Xi’an Radio and Television Station FM106.1 Program**, Guest Speaker 2021.3

**Global Governance and Innovation Talents Camp**, Program Delegate 2022.12

### SKILLS

<b>Programming Languages and Skills</b>	C, Python, Matlab, PSCAD, LaTeX, SolidWorks
<b>Languages</b>	Mandarin (Native), English (IELTS 7.0)