Weijie Pan, Ph.D.

Washington, DC, USA • **Personal Website:** weijiepan.com

PROFESSIONAL SUMMARY

Solution-driven systems engineer and analyst with expertise in integrated energy systems modeling, applied optimization for industrial electrification, and data-driven energy policy analysis. Skilled in addressing grid and electrification challenges through simulation, optimization, and integrated assessment. Experienced in translating technical insights for stakeholders and supporting industrial decarbonization strategies. **Certified FE in Industrial and Systems Engineering.**

EDUCATION

Ph.D. in Systems Engineering. (GPA: 3.95/4.00) — Aug. 2021 – May. 2025
The George Washington University — Washington, DC, USA
M.Sc. in Electrical and Computer Engineering. (GPA: 3.88/4.00) — Aug. 2015 – May. 2017
University of Florida — Gainesville, FL, USA
B.E. in Building Electricity and Intelligence. (Grade: 89.3/100) — Sep. 2011 – June. 2015
Nanjing Tech University — Nanjing, Jiangsu, China

PROFESSIONAL EXPERIENCE

Postdoctoral Research Fellow — Aug. 2025 – Present
Dartmouth College — Hanover, NH, USA

- Conducted research on energy efficiency in marine vessels and life-cycle assessment for radiology cancer screening.
- Contributed to research proposal writing and interdisciplinary collaboration across multiple fields.

Graduate Research Assistant — Aug. 2021 – June. 2025
The George Washington University — Washington, DC, USA

- Supported NSF-funded research on resilient energy infrastructure, electricity markets, clean energy policies, and electric vehicle adoption, contributing to 3 high-quality, peer-reviewed journal publications.
- Performed data collection and cleaning, model programming and coding, results analysis and verification, and contributed to research paper writing and proofreading, with presentations at 9 prestigious conferences.
- Served as adjunct faculty for the graduate-level course *Uncertainty Analysis in Cost Engineering* and as a teaching assistant for the undergraduate-level courses *Engineering Economics* and *Applied Optimization Modeling*.

International Academic Affairs Coordinator — Jun. 2018 – Jul. 2021
NUIST-University of Reading Academy — Nanjing, Jiangsu, China

- Partnered with the Deputy Dean and the NUIST Academic Affairs Department to develop comprehensive 4-year course plans for 8 undergraduate majors, overseeing academic schedules, faculty workloads, financial processes, and researching innovative online teaching methods to support transnational education initiatives.
- Coordinated with the University of Reading's Quality Support Center to manage course structures, facilitate academic services for 1,000 students and 60 faculty members, and lead faculty onboarding, including training on institutional policies and course logistics, ensuring seamless international collaboration and program delivery.

RELEVANT RESEARCH AND PROJECT EXPERIENCE

- Designed electrical systems for a commercial-residential mixed-use building, including the layout of transmission cables for electricity distribution, indoor lighting systems, lightning protection systems, and fire alarm designs, all in compliance with local codes and using AutoCAD.
- Utilized the Global Change Assessment Model (GCAM) to assess the impact of varying state-level EV purchase incentives and low-carbon policies in the U.S., and proposed a strategy for interstate grid collaboration in the Midwestern states to support decarbonized EV charging infrastructure planning.
- Applied a data-driven stochastic optimization model to facilitate economical decisions on the energy storage plan for global offshore wind farm technologies, standardizing the optimal battery size at 13% of the full-load generation capacity.
- Participated in the 2024 cohort of the NSF Regional I-Corps program, conducting 21 customer discovery interviews and surveys with homeowners, engineers, consultants, and economists to identify potential commercialization gaps for solar energy and batteries, advocating for more flexible and favorable market mechanisms to support regional decarbonization.
- Investigated and simulated electricity price redesign considering the growing presence of prosumer technologies, and proposed an optimal utility-scale capacity threshold at which real-time markets are preferable under current conditions, while day-ahead markets become more favorable with higher renewable energy penetration.
- Modeled the technical feasibility of integrating renewable energy with battery storage systems to support the daily operations of high-speed electrified railway systems, facilitating the design of modern urban transportation systems.

SKILLS AND CERTIFICATIONS

Technical Skills: Data analysis, statistical modeling (regression analysis, time series forecasting, hypothesis testing, predictive modeling), system simulation and optimization (game theory, stochastic optimization, bi-level optimization, dynamic optimization, Monte Carlo simulation, uncertainty analysis).

Certifications: Certified FE Exam (Industrial and Systems Discipline) (2024), Shanghai Intermediate-level English-Chinese Interpretation Certification (2022), National Computer Rank Examination (NCRE) Level Two (C++) (2013).

Software: MATLAB, R, AMPL, GAMS, GCAM, AutoCAD, Dymola (Modelica), @Risk, TreePlan Decision Tree, Python.

Languages: Mandarin (Native), English (Fluent).

HONORS AND AWARDS RECEIVED

Research Showcase Prize, GW OIE (05/2024) • Best Research Poster, CESUN (11/2023) • Best Student Paper, IISE (05/2023) • Outstanding Undergraduate Student, NJTU (06/2015) • 3rd place in 2nd National Building Electricity Joint Design Competition (06/2015) • Ashland Elite Student Scholarship, Ashland Group (03/2013) • First-class Scholarship, NJTU (3 times).