

Ziqi Wei

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EDUCATION

Massachusetts Institute of Technology September 2025 – 2030 (Expected)
Ph.D. Student in Civil and Environmental Engineering GPA: 5.0/5.0
Advisor: Prof. Michael Howland
CSE Coursework: 15.C57 Optimization Methods; 6.7900 Machine Learning; 6.7220 Nonlinear Optimization; 18.337 Parallel Computing and Scientific Machine Learning

Tsinghua University, Weiyang College September 2021 – June 2025
B.S. in Mathematics and Physics; B.Eng. in Environmental Engineering GPA: 3.88/4.00
Undergraduate Thesis: *Climate Uncertainty Propagation through Statistical Downscaling and Building Energy Models*

Cornell University, College of Engineering August 2023 – December 2023
Exchange Student GPA: 4.13/4.30

RESEARCH EXPERIENCE

Comprehensive Evaluation of Statistical Climate Downscaling for Renewable Power Systems
Graduate Researcher, Massachusetts Institute of Technology September 2025 – Present
Advisor: Prof. Michael Howland

- Developing a decision-relevant framework to evaluate statistical climate downscaling methods, assessing statistical accuracy, physical and multivariable consistency, and extreme-event representation, and quantifying their effects on renewable generations and power-system planning and operations.

Climate Uncertainty Propagation through Statistical Downscaling and Building Energy Models
Undergraduate Thesis Research January 2025 – August 2025
Advisors: Prof. Michael Craig, University of Michigan; Prof. Xi Lu, Tsinghua University

- Integrated random-forest climate downscaling with neural-network surrogates of NREL ResStock, generated county-level weather and energy-demand projections, and quantified how climate uncertainty propagates into residential heating and cooling demand across the United States through 2100.

Gaussian Process Modeling of Nonstationary Precipitation Variability
Undergraduate Visiting Research Program, Stanford University July 2024 – August 2024
Advisor: Prof. Sarah Fletcher

- Developed climate-informed Gaussian process models for CMIP6 precipitation projections over Ethiopia's Awash Basin, representing long-term trends and variability associated with the El Niño–Southern Oscillation and Pacific Decadal Oscillation.

Renewable Resource Droughts and Power System Implications
Undergraduate Researcher, Cornell University October 2023 – November 2024
Advisor: Prof. K. Max Zhang

- Characterized compound wind-solar resource droughts in New York State, developed supply–demand adequacy indices, and quantified their duration, severity, spatial patterns, and power-system implications.

MANUSCRIPTS AND PRESENTATIONS

Manuscript: Mai Shi, **Ziqi Wei**, Flavio Lehner, and Michael T. Craig. “Disentangling the Evolving Effects of Climate Change and Technology Diffusion on Building Electricity Demand.” Under review at *Proceedings of the National Academy of Sciences*.

Oral Presentation: Ziqi Wei. “Design and Operation of Decarbonized Power Systems under Climate Uncertainty.” University Mohammed VI Polytechnic – MIT Research Program (UMRP) Workshop, June 2026. Advised by Prof. Michael Howland.

SELECTED HONORS & AWARDS

• MIT Presidential Graduate Fellowship	2025 – 2026
• Outstanding Graduate, Tsinghua University	2025
• Environmental Green Innovation Award, Tsinghua University Awarded to the top 1.5% of Environmental Engineering students.	2023, 2024
• First-Class Scholarship, Tsinghua University Awarded to the top 4% of undergraduates.	2023, 2024
• National Scholarship, Ministry of Education of China Awarded to the top 0.2% of undergraduates.	2022
• Second Prize, National College Student Mathematics Competition	2022

LEADERSHIP & COMMUNITY INVOLVEMENT

President, College Science and Technology Association	July 2024 – November 2024
· Hosted workshops and Q&A sessions for professors and students and promoted events such as the Sustainable Development Interest Competition.	
Student Leader, 2024 UGVR Program at Stanford University	July 2024 – August 2024
· Coordinated weekly academic seminars and organized visits to laboratories, companies, and local sites.	
Chairman, College Science and Innovation Talent Training Program	April 2023 – November 2024
· Led a group of twenty students on visits to three Bay Area companies and thirteen universities, including Stanford, UC Berkeley, UCLA, and Caltech.	
Teaching Assistant, Outline of Modern History	February 2023 – July 2023
· Led group discussions on assigned readings and helped students develop their analytical reading and communication skills.	

INTERESTS AND SKILLS

Technical	Familiarity with machine learning & optimization algorithms and implementations Proficiency in programming with Python, C++, and Julia Basic knowledge of ArcGIS, SolidWorks, Adobe Photoshop, and LaTeX
Languages	Mandarin (Native), English (Fluent)