

# Yifan Liu (she/her/hers)

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## Research Interest

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I am a public policy scholar with interests in energy and environmental policy. I use machine learning and AI for causal inference and prediction in policy analysis. My work investigates how market competition and policy design can incentivize the quality of energy infrastructure and the provision of public services.

## Education

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**Georgia Institute of Technology**, Atlanta, GA

Ph.D. in Public Policy (concentration: Energy and Environmental Policy) Expected 2026

M.S. in Computer Science (concentration: Machine Learning) Expected 2026

Dissertation: *Decoding the Reliability Puzzle in Electric Vehicle Charging Infrastructure*

Committee: Omar Asensio (chair), Marilyn Brown, Michael Toffel (Harvard Business School), Valerie Thomas, John Walsh, Chao Zhang

**Cornell University**, Ithaca, NY

M.P.A. in Public Administration (concentration: Environmental Economics & Policy) 2021

**Beijing Foreign Studies University**, Beijing, China

B.A. in European Studies & B.Econ. in Economics 2018

## Publications

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### Job Market Paper

- **Liu, Y.** Why is electric vehicle charging so unreliable? The effects of competition on supplementary service quality.

### Peer-reviewed Journal Articles

1. **Liu, Y.**, Francis, A., Hollauer, C., Lawson, M.C., Li, M., Shaikh, O., Cotsman, A., Bhardwaj, K., Banboukian, A., Webb, A., Asensio, O.I. (2023). Reliability of electric vehicle charging infrastructure: A cross-lingual deep learning approach. *Communications in Transportation Research*, 3, 100095. [impact factor: 14.5]

### Peer-reviewed Conference Papers with Proceedings

2. Viswa, A., Md Gulam, K., **Liu, Y.**, Asensio, O. I., Peeta, S. (2025). Effectiveness of health and environmental information provision in promoting sustainable travel modes. In *Proceedings of the Transportation Research Board 104th Annual Meeting (TRBAM-25-02656)*. Washington, DC. [**Best Paper Award**, AEP35 Committee on Effects of Information and Communication Technologies (ICT) on Travel Choices]
3. Wang, L., **Liu, Y.**, Goel, A. (2025). “Good” XAI design: For what? In which ways? In *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* (pp. 1–13). ACM.
4. **Liu, Y.**, Snyder L., Asensio, O.I. (2025). Machine learning discovery of regional and social disparities in electric vehicle charging reliability. In *NeurIPS 2025 Workshop on Tackling Climate Change with Machine Learning*. Paper 82. NeurIPS.

5. Wang, L., Anyi, C. L., Xu, K., **Liu, Y.**, Arriaga, R. I., Goel, A. (2025). Explainable AI for daily scenarios from end-users' perspective: Non-use, concerns, and ideal design. In *Proceedings of the 2025 ACM Designing Interactive Systems Conference*. Paper 3915. ACM.
6. **Liu, Y.** & Asensio, O. I. (2024). Generative AI and electric vehicle service operations in urban and remote areas. In *Data for Policy 2024: Generative AI for Sound Decision-Making*. Imperial College London, London, UK.
7. **Liu, Y.**, Lawson, M. C., Hollauer, C., Asensio, O. I. (2022). Citizen-generated intelligence for transport electrification policies. In *Data for Policy 2022: Data, Emerging Technologies and Citizens*. Hong Kong University of Science and Technology, Hong Kong.

### Working Papers and Manuscripts Under Review

- Viswa, A., **Liu, Y.**, Md Gulam, K., Peeta, S., Asensio, O. I. Promoting sustainable travel modes through health and active lifestyle messaging. [under review at Nature Sustainability]
- **Liu, Y.** & Asensio, O. I. Ranking charger reliability in cities.
- **Liu, Y.** Clean energy infrastructure growth under policy uncertainty: The role of non-targeted policies.
- Viswa, A., Md Gulam, K., **Liu, Y.**, Asensio, O. I., Peeta, S. Gamification and sustainable travel modes.

### Fellowships, Awards & Funding

Best Paper Award (Presentation), Transportation Research Board, AEP35 Committee	2025
Outstanding Ph.D. Student Award, Jimmy and Rosalyn Carter School of Public Policy	2025
2025 Cohort of Rising Stars in Data Science, Stanford Data Science	2025
Summer Research Fellowship, Energy Policy and Innovation Center	2025
Transportation Economics Scholarship, Academic Abundance Network	2025
Conference Scholarship, International Transportation Economics Association (ITEA)	2025
3-year Research Assistantship funded by National Science Foundation, Georgia Tech	2021 - 2024
Graduate Student Travel Support, Georgia Tech Ivan Allen College of Liberal Arts	2021 - 2024
Travel Grant, Georgia Tech Strategic Energy Institute	2024
Graduate Student Travel Awards, Georgia Tech School of Public Policy	2021 - 2024
Travel Fellowship in Environmental and Energy Economics, UC Berkeley/Sloan Foundation	2022
Future Leaders Climate Summit Fellowship, Aspen Institute	2022
SMART Research Fellowship, Cornell University	2021
Horizon Program Research Fellowship, Tsinghua University	2019 - 2020
China National Scholarship, Ministry of Education	2019
Outstanding Graduate of Beijing, Beijing Municipal Commission of Education	2018
Undergraduate Dissertation Distinction Award, Beijing Foreign Studies University	2018

## Research Positions

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**Georgia Institute of Technology**, Atlanta, GA  
Student Affiliate, Energy Policy and Innovation Center (EPIcenter) 2025 - present  
Doctoral Researcher, Data Science and Policy Lab 2021 - present

**Harvard University**, Boston, MA  
Visiting Doctoral Researcher, Climate and Sustainability Impact Lab 2023 - 2024

**Cornell University**, Ithaca, NY  
Research Assistant, Dyson School of Applied Economics and Management 2020 - 2021

## Invited Talks & Conference Presentations

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**2025:** Alliance for Research on Corporate Sustainability (ARCS) Annual Conference, HEC Paris; ITEA Annual Conference and School on Transportation Economics, Northwestern University; Atlanta Conference on Science and Innovation Policy, Georgia Tech; Interdisciplinary PhD Workshop in Sustainable Development, Columbia University; Annual MPSA Conference, Chicago, IL; APPAM Fall Research Conference, Seattle, WA; Workshop on the Economics and Policy of Electric Transportation Charging Infrastructure, Harvard University; Rising Stars in Data Science, Stanford University; INFORMS Annual Meeting, Atlanta, GA

**2024:** HBS Climate Seminar, Harvard Business School; Interdisciplinary PhD Workshop in Sustainable Development, Columbia University; EPIcenter Lightning Talk, Georgia Tech; Annual MPSA Conference, Chicago, IL; Workshop for Original Policy Research, Georgia Tech; Data for Policy, Imperial College London

**2023:** APPAM Fall Research Conference, Atlanta, GA; Annual Meeting of the Academy of Management, Boston, MA

**2022:** APPAM Fall Research Conference, Washington, DC; UC Berkeley/Sloan Summer School in Environmental and Energy Economics, Berkeley, CA; Data for Policy, Hong Kong University of Science and Technology (HKUST)

**2021:** APPAM Fall Research Conference, Austin, TX

## Panels and Conferences Organized

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**2025:** Association for Public Policy Analysis & Management (APPAM) 2025 *panel organizer* for “Innovation, competition, and tariffs: insights from EV value chains across batteries, vehicles, and charging infrastructure” (Natural Resource, Energy, and Environmental Policy), Seattle, WA

**2024:** APPAM 2024 *panel chair* for “Green industrial policies: from global to local policies and effects” (Natural Resource, Energy, and Environmental Policy), National Harbor, MD

**2023:** APPAM 2023 *panel organizer* for “Targeting policies for climate resilience and equity in disadvantaged communities” (Natural Resource, Energy, and Environmental Policy), Atlanta, GA; Annual Midwest Political Science Association (MPSA) Conference *panel chair* for “Interrogating Climate Justice in Concept and Practice” (Environmental Politics and Policy), Chicago, IL

## Teaching Experience & Certification

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### Courses Taught under a lead faculty

- PUBP 3020 Applied Political Economy, Georgia Tech, Spring 2026

- PUBP 3042 Data Science for Public Policy (undergraduate), Georgia Tech, Spring 2025
- PUBP 3042 Data Science for Public Policy (undergraduate), Georgia Tech, Fall 2024

### Teaching Cases/Demos Developed

- Spatial data visualizations in Python and Tableau regarding big data and electric vehicle charging infrastructure
- Using machine learning pipelines to analyze electricity demand using Microsoft Azure
- Using machine learning pipelines to predict air quality using Microsoft Azure

### Guest Lectures

- PUBP 6112 Research Design in Policy Science (graduate), Georgia Tech, Fall 2025
- MGT 445 Strategic Management, University of Rhode Island, Spring 2025
- PUBP 8751 Big Data and Policy (graduate), Georgia Tech, Spring 2023

### Certification

- Tech to Teaching Certificate, Georgia Tech Center for Teaching and Learning (foundation and capstone including mentored co-teaching and feedback from CTL), Spring 2025
- Evidence-Based STEM Teaching Certificate with Distinction, Fall 2022

## Professional Service

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**Journal Referee** for *Nature Communications*; *Energy Policy*; *Transportation Research*; *Energy & Buildings*; *Energies*; *Analytics*; *Journal of Infrastructure, Policy and Development*

**Conference Submission Reviewer** for *APPAM Fall Research Conference 2025*; *Transportation Research Board Annual Meeting 2025*; *ARCS Annual Conference 2025*; *Academy of Management Annual Conference 2024 & 2023*; *Annual AAAI Conference on Artificial Intelligence 2025*; *Atlanta Conference on Science and Innovation Policy 2025*

**Visiting Editor** for *Princeton's Journal of Public and International Affairs*, 2024; *Cornell Policy Review*, 2019 - 2021

### Graduate School Service:

Graduate Student Advisory Board Member, Ivan Allen College of Liberal Arts      2023 - Present  
 Women in Public Policy Board Member, Cornell University      2019 - 2021

**Short-term Consulting** for World Bank; HSBC Pollination Climate Asset Management; New York State Energy Research & Development Authority; Paulson Institute

## Media Coverage

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Bloomberg. One in five public EV chargers in the US don't work, study finds.      2024  
 Harvard Business School. The state of EV charging in America.      2024  
 Drawdown Georgia. Could electric vehicles drive more equitable mobility in Georgia?      2023

## Technical Skills

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Python, R, STATA, MATLAB, SQL, ArcGIS, Microsoft Azure, Tableau, Power BI, EViews, C++  
 English (fluent), Chinese (native), Romanian (intermediate), French (intermediate)