SayedMorteza Malaekeh

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Education

University of Texas at Austin (UT Austin)
PhD Candidate in Sustainable Systems Engineering — *Jan. 2023 – Exp. Dec. 2026*
Joint M.Sc. in Economics (GPA: 3.9/4)

California Institute of Technology
Visiting PhD Researcher (Special Student) in Economics and Computer Science Groups — *May–Aug. 2024; May–Dec. 2025*

Sharif University of Technology
M.Sc. in Water Resources Engineering (Thesis A+; GPA: (4/4), Ranked First) — *Sep. 2019 – Feb 2022*

Sharif University of Technology
B.Sc. in Civil Engineering with Minor in Economics (GPA: 3.93/4) — *Sep. 2015 – Aug. 2019*

Selected Work/Research Experience

Visiting PhD Researcher | California Institute of Technology May-Aug. 2024; May-Dec. 2025
- Built a multimodal causal framework by integrating advances in deep learning and causal inference
- Integrated Vision Transformers, CNNs, and Autoencoders with R-Learner and Causal Forest
- Developed a new method for estimating conditional average treatment effects with image-based treatments, applied to large-scale multimodal datasets to answer economics questions in environmental policy and decision making

Graduate Researcher | Lawrence Berkeley National Laboratory Jun. 2024 – Present
- Designed a nationwide sampling strategy with propensity score matching to balance solar PV adopters and non-adopters
- Led acquisition of a $180K Experian credit report dataset covering 10M households from 2010 to 2023
- Engineered scalable pipelines to clean and analyze 13+ TB of monthly household-level credit data
- Applied synthetic control and staggered DiD to estimate household-level financial impacts of solar PV adoption

Graduate Researcher | Rapid, Equitable, and Sustainable Energy Transition Lab Jan. 2023 – Present
- Conducted network-based econometric modeling of peer effects using event studies and difference-in-differences methods
- Developed a multidimensional risk–resilience framework to optimize utility investment decisions under uncertainty

TA Experience
- Causal Inference Machine Learning; GIS & Remote Sensing Applications for Economists; Spatial Econometrics;
- Introduction to Programming with MATLAB; Engineering Probability and Statistics;

Fellowships, & Awards

2025 **Robert Abbasi & Shahnaz Hemmati Graduate Fellowship** ($3,900), UT Austin
2024 **Grad Camp Fellowship**, UC Berkeley ($750) & **Travel Grant**, Princeton University ($505)
2020 **Exchange Program Scholarship** ($2,000), Sharif Univ. of Technology
2019 **Exceptional Talented Student Title** (M.Sc. entrance exam exempted)
2019 **Ranked 9th/10,000 (top 0.1%)** — Iranian National Economics Olympiad
2015 **Ranked top 0.1%** — National University Entrance Exam (Konkur)

Publications

Selected Published Papers (Link to Google Scholar Profile)
- Malaekeh, S., Castellanos, S. (2025) Residential solar photovoltaic seeding effects and their unequal impact on diffusion across racial and ethnic groups in the U.S., *Energy Policy*, 206, pp. 114782.
- Malaekeh, S., Shiva, L., Safaie, A. (2024) Investigation of the economic impact of climatechange on agriculture in Iran: spatial spillovers matter, *Agricultural Economics*, 55 (6), pp. 433-453.
- Malaekeh, S., Safaie, A., Shiva, L., Tabari, H. (2022). Spatio-temporal variation of hydro-climatic variables and extreme indices over Iran based on reanalysis data, *Stochastic Environmental Research and Risk Assessment*, 36, pp. 3725–3752.

Conferences & Workshops Presentations
USAEE 2025 (Oral), NeurIPS 2024 (Workshop paper), AGU 2024 (Oral) & 2023, Macro Energy Systems (MES) 2024, The Workshop in Environmental Economics and Data Science (TWEEDS) 2025 (Causal AI Panel), EGU 2022 (Oral) & 2021

Quant Skills

Python (PyTorch, Scikit-Learn, Pandas, NumPy), Causal Inference & Machine Learning (EconML, DoWhy), R, SQL, Econometrics, CUDA, MATLAB, Git, Docker, Slurm, HPC, Linux/Bash, Cloud & MLOps (AWS, Google Cloud)
Test Scores: *TOEFL iBT* 113/120 (R:28, L:28, W:29, S:28); *GRE* Q:170, V:155, W:4.5