

SayedMorteza Malaekheh

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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;

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

PUBLICATIONS

Selected Published Papers (Link to Google Scholar Profile)

- Malaekheh, 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.
- Malaekheh, 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.
- Malaekheh, 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

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)