

Milad Hoseinpour

📍 Ann Arbor, MI

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🌐 miladpour.github.io

🔍 Google Scholar

RESEARCH INTERESTS

Diffusion Models, Differential Privacy, Trustworthy Machine Learning, Information Theory

EDUCATION

- University of Michigan** Ann Arbor, Michigan
Ph.D., Electrical Engineering and Computer Science Sep. 2024 – present
 Advisor: Prof. Vladimir Dvorkin
- Tarbiat Modares University** Tehran, Iran
M.Sc., Electrical and Computer Engineering Sep. 2013 – Jan. 2016
 Thesis: Probabilistic Decision Making for Flexibility Management in Distribution Systems
 Advisor: Prof. Mahmoud-Reza Haghifam
- Babol Noshirvani University of Technology** Babol, Iran
B.Sc., Electrical and Computer Engineering Sep. 2009 – Sep. 2013

RESEARCH EXPERIENCE

- University of Michigan** Ann Arbor, Michigan
Graduate Student Research Assistant Sep. 2024 – present
 OptiML Group, Supervisor: Prof. Vladimir Dvorkin
- Tarbiat Modares University** Tehran, Iran
Research Assistant Sep. 2017 – Sep. 2023
 Electric Transmission and Distribution Lab., Supervisor: Prof. Mahmoud-Reza Haghifam

SUBMITTED PUBLICATIONS

- DiffOPF: Diffusion Solver for Optimal Power Flow
Milad Hoseinpour, Vladimir Dvorkin, Submitted to **2026 Power Systems Computation Conference**, 2025. Link [↗](#)
- Constrained Diffusion Models for Synthesizing Representative Power Flow Datasets
Milad Hoseinpour, Vladimir Dvorkin, Submitted to **IEEE Transactions on Power Systems**, 2025. Link [↗](#)

JOURNAL PUBLICATIONS

- Prosumers' Cost Recovery in Peer-to-Peer Electricity Markets
Milad Hoseinpour, Mahmoud-Reza Haghifam, **Electric Power Systems Research**, 2024. Link [↗](#)
- Privacy-Preserving and Approximately Truthful Local Electricity Markets: A Differentially Private VCG Mechanism
Milad Hoseinpour, Mohammad Hoseinpour, Mahdi Haghifam, Mahmoud-Reza Haghifam, **IEEE Transactions on Smart Grid**, 2023. Link [↗](#)
- Differentially Private Electricity Markets
Milad Hoseinpour, Mahmoud-Reza Haghifam, **Iranian Journal of Energy**, 2023. Link [↗](#)

CONFERENCE PUBLICATIONS

- Domain-constrained Diffusion Models to Synthesize Tabular Data: A Case Study in Power Systems
Milad Hoseinpour, Vladimir Dvorkin, **ICML Workshop on DataWorld: Unifying Data Curation Frameworks Across Domains**, 2025. Link [↗](#)
- Privacy by Design in Local Electricity Markets: A Differentially Private Gradient Method
Milad Hoseinpour, Mahmoud-Reza Haghifam, 27th International Conference on Electricity Distribution, **CIREN**, 2023.
- Accuracy Improvement in Differentially Private Logistic Regression: A Pre-Training Approach
Mohammad Hoseinpour, **Milad Hoseinpour**, Ali Aghagolzadeh, 1st Conference on Artificial Intelligence and Future Technologies, **ICAIFT**, 2023.
- Role of Microgrids in Distribution Networks Congestion Management
Milad Hoseinpour, Mahmoud-Reza Haghifam, 25th International Conference on Electricity Distribution, **CIREN**, 2019.
- Simultaneous Optimization of Tie Switches Placement and Reserve Capacity Margin of Sub-Transmission Substations with Considering the Conflict Between Short-Term and Long-Term Planning
Milad Hoseinpour, Mahmoud-Reza Haghifam, 24th International Conference on Electricity Distribution, **CIREN**, 2017.
- Flexible Scheduling of Active Distribution Networks for Market Participation with Considering DGs Availability
Milad Hoseinpour, Mahmoud-Reza Haghifam, Electrical Power Distribution Networks Conference, **EPDC**, 2017.
- Trade-Off Between Flexible and Economic Operation of a Microgrid Under Risk Assessment
Milad Hoseinpour, Mahmoud-Reza Haghifam, Electrical Power Distribution Networks Conference, **EPDC**, 2017.

TEACHING ASSISTANTSHIP EXPERIENCE

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| • Tarbiat Modares University
Course: Reliability Evaluation of Power Systems
Instructor: Prof. Mahmoud-Reza Haghifam | Fall 2018 - Spring 2020 |
| • Tarbiat Modares University
Course: Reliability Evaluation of Power Systems
Instructor: Prof. Mahmoud-Reza Haghifam | Fall 2014 - Fall 2015 |
| • Babol Noshirvani University of Technology
Course: Principles of Electric Machines
Instructor: Prof. Meysam Jafari | Spring 2013 |
| • Babol Noshirvani University of Technology
Course: Circuit Theory
Instructor: Prof. Meysam Jafari | Spring 2012 |

SKILLS

- **Programming Languages:** Python, Julia, MATLAB, C
- **Tools:** GIT, \LaTeX

INDUSTRY EXPERIENCE

- **Internship**, Sari Regional Power Distribution Company Jul. 2013 – Sep. 2013
Load forecasting in distribution systems

HONORS AND AWARDS

- Award Winner for the Student Poster Competition, Institute for Energy Solutions' 2025 Energy Symposium, 2025.
- Ranked 2nd out of 15 M.Sc. graduating class students in Power Systems, 2016.
- National Scholarship for the Master's degree, Iran Ministry of Education, 2013.
- Award Winner as Outstanding B.Sc. Student, Babol Noshirvani University of Technology, 2013.
- Ranked 88th out of about 35,000 participants in the nationwide entrance exams for a Master's degree in Electrical Engineering, 2013.
- National Scholarship for the Bachelor's degree, Iran Ministry of Education, 2009.

SERVICE

- **Mentorship** Sept. 2025 – Present
EECS Department, University of Michigan
Mentoring a new Ph.D. student in the EECS department.
- **Organizer for Michigan Student Symposium for Interdisciplinary Statistical Sciences** Sept. 2025 – Present
Collaborating in organizing the symposium.
- **Leading Committee of the Future Faculty Group** Aug. 2025 – Present
EECS Department, University of Michigan
Supporting Ph.D. students' academic career preparation through workshops and mentoring.
- **Student Organizer for 2025 Energy Symposium** May 2025
Institute for Energy Solutions
Collaborating in advertising the symposium.
- **Iran Renewable Energy Association** Apr. 2018 – Sept. 2020
Collaborating in organizing seminars, webinars, and workshops on renewable energy topics.

SELECTED TALKS

- Synthesizing Representative Power Flow Datasets via Constrained Diffusion Models Oct. 2025
2025 INFORMS Annual Meeting, Atlanta, GA, USA.
- Differentially Private Logistic Regression Dec. 2022
Babol Noshirvani University of Technology, Babol, Iran.
- Platform Provider Distribution Utilities Jun. 2020
Tarbiat Modares University, Tehran, Iran.
- Distribution Networks Cost Allocation and Tariff Design Mar. 2019
Tarbiat Modares University, Tehran, Iran.
- European Electricity Grid Expansion Planning Strategies Dec. 2018
Tarbiat Modares University, Tehran, Iran.