

# Elnaz Kabir

## Curriculum Vitae

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### Appointments

- 2023–Present **Assistant Professor**, Engineering Technology & Industrial Distribution Department, Texas A&M University, College Station, TX
- 2025–Present **Faculty Affiliate**, Multidisciplinary Engineering Department, Texas A&M University, College Station, TX
- 2023–Present **Faculty Affiliate**, Energy Institute, Texas A&M University, College Station, TX
- 2023–Present **Faculty Affiliate**, Institute of Data Science, Texas A&M University, College Station, TX
- 2021–2023 **Postdoctoral Fellow**, Biological & Environmental Engineering, Cornell University, Ithaca, NY

### Education

- 2021 **Ph.D.**, Industrial & Operation Engineering, University of Michigan, Ann Arbor, MI
- 2017 **M.Sc.**, Statistics, University of Michigan, Ann Arbor, MI
- 2011 **B.Sc.**, Industrial Engineering, K. N. Toosi University of Technology, Tehran, Iran

### Research Interests and Expertise

#### Methodology

Machine Learning, Artificial intelligence (AI), Deep Learning and Large Language Models, Data-driven and Applied Optimization, Robust and Stochastic Optimization.

#### Application Area

Sustainability, Resilient Energy Systems; Energy Transition; Electric Grid Planning; Supply Chain–Energy Nexus; Power-Outage Management; Disaster Operations Management; Renewable Energy Integration; Battery Energy Storage; Hydrogen Energy Planning.

### Academic Publications

#### Accepted and Published Journal Papers

- 2025 S.E. Ahmadi, **E. Kabir**, M. Marzband, M. Fattahi, D. Li, Techno-Economic Planning of Spatially-Resolved Battery Storage Systems in Renewable-Dominant Grids Under Weather Variability, *Applied Energy*
- 2025 V. Liu, V. Srikrishnan, K. Doering, **E. Kabir**, S. Steinschneider, L. Anderson, Energy System Vulnerabilities in a Zero-Emission Grid: The Role of Climate Variability and Technology Uncertainty, *Energy*
- 2024 **E. Kabir**, V. Srikrishnan, V. Liu, S. Steinschneider, L. Anderson, Quantifying the impact of multi-scale climate variability on electricity prices in a renewable-dominated power grid, *Renewable Energy*
- 2024 **E. Kabir**, S. Guikema, and S. Quiring, Power Outage Prediction Using Data Streams: An Adaptive Ensemble Learning Approach with a Feature- and Performance-based Weighting Mechanism, *Risk Analysis*

- 2019 **E. Kabir**, S. Guikema, and S. Quiring, Predicting Thunderstorm-induced Power Outages to Support Utility Restoration, *IEEE Transactions on Power Systems*
- 2018 **E. Kabir**, S. Guikema, and B. Kane, Statistical Modeling of Tree Failures During Storms, *Reliability Engineering and System Safety*
- 2016 E. Keyvanshokoo, S.M. Ryan, and **E. Kabir**, Hybrid Robust and Stochastic Optimization Approach for Closed-loop Supply Chain Design Network using an Accelerated Benders Decomposition, *European Journal of Operational Research*
- Accepted and Published Conference Proceeding Papers**
- 2025 S.E. Ahmadi, **E. Kabir**, M. Fattahi, M. Marzband, Generator Retirement Optimization for New York State Energy Transition: Balancing Cost, Reliability, and Emissions, *2025 IEEE Texas Power and Energy Conference (TPEC)*
- 2013 **E. Kabir**, R. Shafaei, E. Keyvanshokoo, A Novel Scenario Generation Technique for a Stochastic Supply Chain Network, *6th International Conference of Iranian Operations Research Society*

## Teaching

- 2023-Present **Analytics for Distribution Operations** (IDIS 450), Texas A&M University
- Fall 2018 **Decision Analysis** (IOE 460), University of Michigan

## Service

### Reviewer, Grant Proposal Review Panel

- Jun 2024 National Science Foundation

### Elected Positions at Professional Societies

- 2018-2020 Treasurer, Engineering and Infrastructure Specialty Group, the International Society for Risk Analysis

### Award Committees

- 2019 Judge, Best Paper competition, SRA Engineering and Infrastructure Specialty Group

### Memberships

- 2016-Present INFORMS: Institute for Operations Research and Management Science
- 2016-Present SRA: Society for Risk Analysis
- 2023-Present PSERC: Power Systems Engineering Research Center

### Conference Session Chair

- 2020 INFORMS Annual Meeting, Power System cluster
- 2019,2023 SRA Annual Meeting, Engineering and Infrastructure Specialty Group

### Journal Referee

- 2015–Present Served as a reviewer for the journals of Risk Analysis, Reliability Engineering and System Safety, IEEE Access, IEEE Transactions on Power Systems, IEEE Transactions on Power Delivery, European Journal of Operational Research, Transaction Research Part E, Decision Sciences, Operations Research perspectives, and Climate Change

### Service to the Texas A&M University

- 2025-Present Admission Committee Chair for Entry to A Major (ETAM), IDIS Group, ETID Department.
- 2024-Present Curriculum Committee Member for the IDIS group, ETID Department.
- 2025-Present Ph.D. Committee Member (Melvin Stevens (ECEN), Digvijaysinh Barad (MEEN))
- 2024-Present M.Sc. Committee Member (Ramon Hinojosa (ECEN))
- 2023-2024 IDIS representative on the Facilities and Laboratories Committee, ETID Department.

### Service to the University of Michigan

- 2018-2020 Graduate Student Coordinator, IOE Department.
- 2019-2020 Secretary for the INFORMS Student Chapter, IOE Department

## Graduate Students

### Ph.D. Students

- 2025-Present Rawand Badawi, Electrical and Computer Engineering, Texas A&M University  
Role: Committee Member
- 2025-Present Seyedmahdi Kazemirazi, Electrical and Computer Engineering, Texas A&M University  
Role: **Advisor**
- 2024-Present Leila Talebi, Interdisciplinary Engineering, Texas A&M University  
Role: **Advisor**
- 2025-Present Melvin Stevens, Electrical and Computer Engineering, Texas A&M University  
Role: Committee Member
- 2025-Present Digvijaysinh Barad, Mechanical Engineering, Texas A&M University  
Role: Committee Member
- 2023-Present Seyed Ehsan Ahmadi, Newcastle Business School, Northumbria University, UK  
Role: Committee Member
- M.Sc. Students**
- 2025-Present Dev Shah, Electrical and Computer Engineering, Texas A&M University  
Role: Committee Member
- 2024-Present Ramon Hinojosa, Electrical and Computer Engineering, Texas A&M University  
Role: Committee Member

## --- **Honors and Awards**

- 2019 **Winner of the Best Student Paper Award**, Society for Risk Analysis (SRA), SRA Annual Meeting, Arlington, VA
- 2019 **Finalist for the Best Poster Competition**, The Second Conference on Risk Analysis, Decision Analysis and Security, Buffalo, NY
- 2019 **Selected to Attend the INFORMS Doctoral Student Colloquium** at the INFORMS Annual Meeting in Seattle, IOE Departmental nomination, University of Michigan, Ann Arbor, MI.
- 2018, 2019 **Being Awarded the Engineering Graduate Fellowship Award** for Providing Outstanding Service, IOE Department, University of Michigan, Ann Arbor, MI.
- 2016 **Winner of the Best Poster Competition**, SRA Annual Meeting, San Diego, CA
- 2018,2019 **Travel Awards**, Rackham Graduate School, University of Michigan, Ann Arbor, MI.
- 2017,2019 **Travel Awards**, SRA Annual Meetings

## --- **Presentations**

### **Invited Seminar Presentations**

- Apr 2024 Towards Zero-Carbon Power Grids: Navigating Renewables' Complexities and Constraints, Texas A&M Energy Institute.
- Mar 2024 Towards Zero-Carbon Power Grids: Navigating Renewables' Complexities and Constraints, Energy & Power Research Group (EPG), Department of Electrical & Computer Engineering, Texas A&M University.
- Oct 2023 Towards Zero-Carbon Power Grids: Navigating Renewables' Complexities and Constraints, Department of Industrial & Systems Engineering, Texas A&M University.
- Jan 2023 Predictive & Prescriptive Analytics for Power System Resiliency, Department of Engineering Technology and Industrial Distribution, Texas A&M University.
- Jun 2020 Predictive and Risk Analytics for Weather-Induced Power Outage Management, Graduate Student Research Summer Series, School of Industrial and Systems Engineering, University of Oklahoma.

### **Invited Conference Presentations**

- Dec. 2023 E. Kabir, V. Srikrishnan, V. Liu, S. Steinschneider, L. Anderson, "A Spatiotemporal Analysis of Large-scale Adoption of Renewable Energy Sources", SRA Annual Meeting, Washington DC, USA.

- Dec. 2023 J. Mayes, J. Campos do Prado, E. Kabir, “Enhancing Resource Adequacy Accreditation and Operational Incentives for Energy-Limited Resources”, PSERC IAB Meeting, Atlanta, GA, USA.
- Oct. 2023 E. Kabir, V. Srikrishnan, V. Liu, S. Steinschneider, L. Anderson, “Multi-scale And Multi-resource Analysis Of Increased Adoption Of Renewable Energy Sources”, INFORMS Annual Meeting, Phoenix, AZ, USA.
- Dec. 2021 E. Kabir and S. Guikema, “A Repair Crew Coordination Model Under Uncertainty for Power Outage Restoration”, Virtual SRA Annual Meeting.
- Nov. 2016 E. Kabir and S. Guikema, “Learning of Imbalanced Data for Predicting the Power-Outages”, INFORMS Annual Meeting, Nashville, PA, USA.

### Contributed Conference Presentations

- Nov 2020 E. Kabir, S. Guikema, and S. Quiring, “Adaptive Two-stage Bayesian Model Averaging for Estimating the Impact of Hazards on Power System Service”, Virtual INFORMS Annual Meeting.
- Dec. 2019 E. Kabir, S. Guikema, and S. Quiring, “Predicting Daily Power Outages Using a Bayesian Model Averaging”, SRA Annual Meeting, Arlington, VA, USA.
- Oct. 2019 E. Kabir, S. Guikema, and S. Quiring, “Predicting Daily Power Outages Using a Bayesian Model Averaging Approach”, INFORMS Annual Meeting, Seattle, WA, USA.
- Dec. 2018 E. Kabir, S. Guikema, and S. Quiring, “Developing Probabilistic Models for Predicting Zero-inflated Power-Outages”, SRA Annual Meeting, New Orleans, LA, USA.
- Nov. 2018 E. Kabir, S. Guikema, and S. Quiring, “Probabilistic Mixture Models for Predicting Unbalanced Thunderstorm-Induced Power-Outages”, INFORMS Annual Meeting, Phoenix, AZ, USA.
- Dec. 2017 E. Kabir and S. Guikema, “Learning from Imbalanced Data Sets for Estimating Power-Outages”, SRA Annual Meeting, Arlington, VA, USA.
- Jul. 2016 E. Kabir, S. Guikema, and B. Kane, “Statistical Modeling of Tree Failures During Storms”, Joint Statistical Meeting, Baltimore, MD, USA.

### Poster Presentations

- Dec. 2020 E. Kabir and S. Guikema, “Resource allocation optimization problem for power outage restoration under uncertainty”, Virtual SRA Annual Meeting.
- Dec. 2020 E. Kabir, S. Guikema, and S. Quiring, “Studying Power System Damages Using Bayesian Belief Network Analysis”, Virtual SRA Annual Meeting.
- Dec. 2019 E. Kabir and S. Guikema, “Assessing ISA Tree Risk Assessment Approach Using Econometrics Analysis”, SRA Annual Meeting, Arlington, VA, USA.
- Jul. 2019 E. Kabir and S. Guikema, “Predicting Daily Power Outages Using the Bayesian Model Averaging”, The Second Conference on Risk Analysis, Decision Analysis and Security, Buffalo/Niagara Falls, NY, USA.  
(The work was awarded for being a finalist in the poster competition.)
- Feb. 2019 E. Kabir, S. Guikema, and S. Quiring, “Predicting Thunderstorm-Induced Power Outages to Support Utility Restoration”, Michigan University-Wide Sustainability and Environment (MUSE) Conference, University of Michigan, Ann Arbor, MI, USA.
- Dec. 2016 E. Kabir and S. Guikema, “Comparison and validation of statistical methods for predicting the failure probability of trees”, SRA Annual Meeting, San Diego, CA, USA.  
(This work was awarded the best poster award.)
- Sep. 2016 Elnaz Kabir, S. Guikema, and Brian Kane, “Ensemble Model of Boosting and Random Forest for Predicting the Failure Probability of Trees”, Engineering Graduate Symposium (EGS), University of Michigan, Ann Arbor, MI, USA.