

Yinan Wang, Ph.D.

Assistant Professor

Department of Industrial and Systems Engineering, Rensselaer Polytechnic Institute

Center for Industrial Innovation, Suite 5213, Troy, NY 12180

Phone: (518)276-6837 ◊ Email: wangy88@rpi.edu

Website: yinanw-rpi.com

EDUCATION

Virginia Tech Ph.D. in Industrial and Systems Engineering	Blacksburg, VA 05/2022
Columbia University M.S. in Electrical Engineering.	New York, NY 01/2019
Xi'an Jiaotong University B.S. in Electrical Engineering and Automation.	Xi'an, CN 06/2017

EMPLOYMENT

Rensselaer Polytechnic Institute <i>Assistant Professor, Department of Industrial and Systems Engineering</i>	08/2022 - Present
Virginia Tech <i>Graduate Teaching/Research Assistant</i> Advisor: Dr. Xiaowei Yue	01/2019 - 05/2022
Lawrence Livermore National Laboratory <i>Research Intern and Official External Collaborator</i> Mentors: Dr. M. Giselle Fernandez-Godino, Dr. Nipun Gunawardena, Dr. Donald M. Lucas	05/2021 - 08/2022
Los Alamos National Laboratory <i>Research Intern and Awardee of Applied Machine Learning Summer Research Fellowship</i> Mentor: Dr. Diane Oyen	06/2019 - 08/2019

RESEARCH INTERESTS

-
- Develop systematic engineering-driven surrogates to achieve accurate prediction, uncertainty quantification, system automation, and intelligent decision-making.
 - Propose physics-informed machine learning methodologies to realize real-time monitoring of complex system, accurate detection of system faults, and quick diagnosis of root causes.

HONORS, AWARDS, RECOGNITIONS

Research Related Awards

- Scialog Fellow, Research Corporation for Science Advancement (RCSA)	2024-2027
- Trustee Celebration of Faculty Achievement Award, Rensselaer Polytechnic Institute	2022-2024
- DAIS Mobile App Competition (Winner), IISE	2023
- Pritsker Doctoral Dissertation Award (2nd Place), IISE	2023
- Panel Fellow, NSF CMMI Game Changer Academies for Advancing Research Innovation	2022-2023
- FTC Early Career Grant Award, American Society for Quality (ASQ)	2022
- Computers & Information in Engineering (CIE) Best Ph.D. Dissertation Award, ASME	2022
- Paul E. Torgersen Graduate Student Research Excellence Award (Finalist), Virginia Tech	2022
- Mary G. and Joseph Natrella Scholarship, American Statistical Association (ASA)	2022
- Selected to join the IISE Future Faculty Fellows (3F) program	2021
- Educational Foundation Scholarship, International Society of Automation (ISA)	2021
- Analysis Division Scholarship, International Society of Automation (ISA)	2021
- 2021 IISE Manufacturing and Design Student Sponsorship Award	2021

- Gilbreth Memorial Fellowship, IISE 2021
- Qualcomm Innovation Fellowship (Finalist), Qualcomm 2020
- SDSS Student Award, American Statistical Association (ASA) 2020
- FTC Student Scholarship, American Society for Quality (ASQ) 2019
- Applied Machine Learning Summer Research Fellowship, Los Alamos National Laboratory 2019
- Tesla Scholarship, Columbia University 2017
- Cyrus Tang Scholarship, Xi'an Jiaotong University 2017
- Yuan Dong Scholarship, Xi'an Jiaotong University 2016
- Meritorious winner of Interdisciplinary Contest in Modeling, INFORMS, SIAM, ASA 2016
- First Prize of Shaanxi Division, China Undergraduate Mathematical Contest in Modeling 2015
- National Inspirational Scholarship 2014

Paper Related Awards (10 best paper/poster/featured article awards as the leading author)

- IISE Transactions Best Paper Award (Focus Issue on Data Science, Quality and Reliability) 2023
- IISE Transactions Best Paper Award (Focus Issue on Design and Manufacturing) 2023
- Robert J. Lyman Award, PCI 2022
- Data Analytics and Information System (DAIS) Best Track Paper, IISE 2022
- Featured article in ISE Magazine, IISE 2022
- 2022 SPES + Q&P Best Student Paper Award (Winner), American Statistical Association (ASA) 2022
- INFORMS Data Mining & Decision Analytics (DMDA) Best Theoretical Paper Award (Winner) 2021
- INFORMS QSR Best Student Paper Award (Finalist) 2021
- MSEC 2021 Best Poster Award, ASME and SME 2021
- 3rd place of INFORMS & HFES Student Poster Competition, ISE, Virginia Tech 2019

Travel Awards

- Travel Award to NSF Workshop on Data-driven Modeling and Prediction of Rare and Extreme Events 2024
- Scialog AUT Travel Fellowship, Research Corporation for Science Advancement (RCSA) 2024
- Graduate School Student Travel Awards, Virginia Tech, 2022
- Department Travel Award, ISE, Virginia Tech 2021, 2022
- NSF Student Travel Award to NAMRC 49 / MSEC 2021, National Science Foundation (NSF) 2021
- NSF Student Travel Award to QPRC, National Science Foundation (NSF) 2021, 2022

PUBLICATIONS

*Current or former advisee is indicated by name, corresponding author is indicated in †, equal contribution as first author is indicated in **

Journal Publications (accepted and published)

- [J1] **Yinan Wang**, Diane Oyen, Weihong “Grace” Guo, Anish Mehta, Cory Scott, Nishant Panda, Giselle Fernandez-Godino, Gowri Srinivasan, Xiaowei Yue, 2021, “StressNet: Deep Learning to Predict Stress With Fracture Propagation in Brittle Materials”, *NPJ Materials Degradation* (in press) [open-sourced software package available].
- [J2] Rongxuan Wang*, **Yinan Wang***, Sonam Devadiga, Isaac Perkins, Zhenyu (James) Kong, Xiaowei Yue, 2021, “Structured Light Scanning Based 3D Scanning for Process Monitoring and Quality Control in Pre-cast/Prestressed Concrete Production”, *PCI Journal* (accepted).
 - *Supported under the PCI Daniel P. Jenny Fellowship program.*
 - *Robert J. Lyman Award in 2022.*
 - *Winner of DAIS Mobile App Competition in 2023.*
- [J3] Kaiwen Wang, **Yinan Wang**, Xiaowei Yue, Wenjun Cai, 2021, “Multiphysics Modeling and Uncertainty Quantification of Tribocorrosion in Aluminum Alloys”, *Corrosion Science* (in press).
- [J4] **Yinan Wang**, Kaiwen Wang, Wenjun Cai, Xiaowei Yue, 2022, “NP-ODE: Neural Process Aided Ordinary Differential Equations for Uncertainty Quantification of Finite Element Analysis”, *IISE Transactions* (in press) [open-sourced software package available].

- 2021 INFORMS Quality, Statistics and Reliability (QSR) Best Student Paper Award Finalist.
 - MSEC Best Poster Award in 2021.
 - Best Paper Award in the 2022 IISE Transactions Focus Issue on Design and Manufacturing.
- [J5] **Yinan Wang**, Weihong “Grace” Guo, Xiaowei Yue, 2022, “Tensor Decomposition to Compress Convolutional Layers in Deep Learning”, *IISE Transactions* (accepted) [[open-sourced software package available](#)].
- Featured article in *ISE Magazine*.
 - Editor’s choice to the *IISE Transactions Session at INFORMS 2021*.
 - Best Paper Award in the 2022 IISE Transactions Focus Issue on Data Science, Quality and Reliability.
- [J6] Yihua Liu, Wenzheng Zhao, Hongpeng Liu, **Yinan Wang**, Xiaowei Yue, 2022, “Coverage Path Planning for Robotic Free-form Surface Inspection with Control on the Measurement Uncertainty”, *IEEE/ASME Transactions on Mechatronics* (accepted).
- [J7] **Yinan Wang**, Wenbo Sun, Jionghua “Judy” Jin, Zhenyu “James” Kong, Xiaowei Yue, 2023, “MVGCN: Multi-view Graph Convolutional Neural Network for Surface Defect Identification using 3D Point Cloud”, *ASME Transactions Journal of Manufacturing Science and Engineering* (accepted).
- [J8] Yanzheng Li*, **Yinan Wang***, Yinhua Liu, 2023, “3D Point Cloud Segmentation Based on Context Feature for Sheet Metal Part Boundary Recognition”, *IEEE Transactions on Instrumentation and Measurement* (accepted).
- [J9] Wenzheng Zhao, Yinhua Liu[†], **Yinan Wang**[†], Xiaowei Yue, 2023, “Distributed Spot Welding Task Allocation and Sequence Optimization for Multi-robot Multi-station Collaborative Assembly Processes”, *International Journal on Advanced Manufacturing Technology* (accepted).
- [J10] **Yinan Wang**, Wenbo Sun, Jionghua “Judy” Jin, Zhenyu “James” Kong, Xiaowei Yue, 2023, “WOOD: Wasserstein-based Out-of-Distribution Detection”, *IEEE Transactions on Pattern Analysis and Machine Intelligence* (accepted)[[open-sourced software package available](#)].
- Best Theoretical Paper Award in the *Data Mining and Decision Analytics Workshop at INFORMS 2021*.
 - 2022 ASA SPES + Q&P Best Student Paper Award.
 - 2022 IISE Data Analytics and Information System (DAIS) Best Track Paper.
- [J11] Yujing Yang, Zehao Ye, **Yinan Wang**, Chenang Liu, Kan Chen, 2024, “Recurrence Analysis of 3D Point Clouds for the Detection of Surface Anomalies in Advanced Manufacturing”, *Manufacturing Letters*
- [J12] Jin Yang, Guangxin Jiang, **Yinan Wang**, Ying Chen, 2024, “An Intelligent End-to-End Neural Architecture Search Framework for Electricity Forecasting Model Development”, *INFORMS Journal on Computing* (accepted).
- [J13] Wenzheng Zhao, **Yinan Wang**, Jiawei Zhang, Yinhua Liu, 2024, “Parameter identification and scanning posture optimization for Robot Vision Measurement System”, *IEEE Transactions on Mechatronics* (accepted)
- [J14] Xiaojian Wang, **Yinan Wang**, Jin Yang, Ying Chen, 2024, “Smartformer: An Intelligent Model Compression Framework for Transformer”, *IISE Transactions* (accepted).
- [J15] Chengwei Hu, Yinhua Liu, Wenzheng Zhao, **Yinan Wang**, 2024, “A hybrid sampling model based on BiRRT for industrial robots in complex spatial planning”, *Journal of Intelligent Manufacturing Systems* (accepted)
- [J16] Yanzheng Li, Yinhua Liu, **Yinan Wang**, Xiaowei Yue, 2024, “A Two-stage Online Robot Inspection Trajectory Planning Method for Unknown Object Based on Point Cloud”, *IEEE Sensors Journal* (accepted)
- [J17] **Yinan Wang**, Tim Lutz, Xiaowei Yue, Juan Du, 2024, “SmartFixture: A Physics-guided Reinforcement Learning Framework for Automatic Fixture Design in Manufacturing Process”, *IISE Transactions* (accepted)
- [J18] Tim Lutz, **Yinan Wang**, Xiaowei Yue, Jaime Camelio, 2024, “Reinforcement Learning for Fuselage Actuator Placement and Forces”, *IISE Transactions* (accepted)
- [J19] Jiayu Liu, Shancong Mou, Nathan Gaw, **Yinan Wang**[†], 2025, “Uni-3DAD: GAN-Inversion Aided Universal 3D Anomaly Detection on Model-free Products”, *Expert Systems with Applications* (accepted).

- [J20] Yue Zhao, Yuxuan Li, Chenang Liu, **Yinan Wang**[†], 2025, “ADs: Active Data-sharing for Data Quality Assurance in Advanced Manufacturing Systems”, *IEEE Transactions on Automation Science and Engineering* (accepted).

Book/Book Chapters

- [B1] **Yinan Wang**, Xiaowei Yue, 2024, “Multimodal Deep Learning for Manufacturing Systems: Recent Progress and Future Trends”, In: *Multimodal and Tensor Data Analytics for Industrial Systems Improvement*, edited by Gaw, N. and Reisi, M.

Conference Publications (accepted and published)

- [C1] Kent Slater, Yuxuan Li, **Yinan Wang**, Yongwei Shan, Chenang Liu, 2023, “A Generative Adversarial Network (GAN)-Assisted Data Quality Monitoring Approach for Out of Distribution Detection of High Dimensional Data”, *IIE Annual Conference & Expo 2023*
- [C2] Jiayu Liu, Tommy Bird, Aadit Nagori, Johnson Samuel, **Yinan Wang**[†], 2024, “Unsupervised Anomaly Detection using 3D Point Cloud Data for Model-free Products”, *Proceedings of Manufacturing Science and Engineering Conference*
- [C3] Y. Gao, K. Brown, V. Schoefer, J. Unger, **Yinan Wang**, A. Kasparian, L. Nguyen, K. Zeno, A. Edelen, G. H. Hoffstaetter, W. Lin, D. Sagan, M. Schram, 2024, “Optimization of AGS Bunch Merging with Reinforcement Learning”, *15th International Particle Accelerator Conference (IPAC'24)*
- [C4] W. Lin, K. A. Brown, K. Hock, G. H. Hoffstaetter, B. Huang, N. M. Isenberg, D. Sagan, V. Schoefer, N. Urban, **Yinan Wang**, 2024, “AGS Booster Model Calibration and Digital-twin Development”, *15th International Particle Accelerator Conference (IPAC'24)*

INVITED TALKS, CONFERENCE PRESENTATIONS, POSTER PRESENTATIONS

Invited Talks and Seminars

- Engineering-driven Machine Learning for System Intelligence
 - *ISE Departmental Seminar, Rensselaer Polytechnic Institute, March 2022.*
 - *InspirASIAN Seminar Series - Graduate Student Panel, Asian Cultural Engagement Center, Virginia Tech, March 2022.*
- Engineering-driven Statistical Learning Methods with Applications to Quality Improvement in Smart Manufacturing
 - *Invited talk as a recipient of the Mary G. and Joseph Natrella Scholarship Award in QPRC 2022.*
- Engineering-driven Machine Learning for System Intelligence in Advanced Manufacturing
 - *ME Departmental Seminar, Worcester Polytechnic Institute, Aug. 2022.*
 - *MANE Departmental Seminar, Rensselaer Polytechnic Institute, Nov. 2022.*
 - *MSE Departmental Seminar, Rensselaer Polytechnic Institute, Jan. 2023.*
 - *Invited Talk, Northeastern University, Oct. 2023.*
- Rise of Robots as Quality Control Specialists Post-Covid
 - *Connect Live Session, ISA Automation and Robotics Division, Mar. 2023.*
- Robotic-based Manufacturing and Inspection
 - *ISA ACARD OnPoint Session, ISA Automation and Robotics Division, May 2024.*

Conference Presentations (either invited or abstract reviewed)

- StressNet: Deep Learning to Predict Stress With Fracture Propagation in Brittle Materials
 - *Applied Machine Learning Summer Students Seminar Series, Los Alamos National Laboratory, Aug. 2019.*
 - *INFORMS Annual Meeting, Virtual, Nov. 2020.*
 - *INFORMS Annual Meeting, Anaheim, CA / Virtual, Oct. 2021.*
- Tensor Decomposition to Compress Convolutional Layers in Deep Learning
 - *IIE Transactions Featured Article Session, INFORMS Annual Meeting, Anaheim, CA / Virtual, Oct. 2021.*

- *IISE Transactions Best Paper Session, IISE Annual Conference & Expo, New Orleans, LA, May 2023*
- 8. NP-ODE: Neural Process Aided Ordinary Differential Equations for Uncertainty Quantification of Finite Element Analysis
 - *IISE Annual Conference & Expo 2021, Virtual, May 2021.*
 - *ASME MSEC 2021, Virtual, June 2021.*
 - *ASA Quality and Productivity Research Conference (QPRC), Virtual, July 2021.*
 - *1st QSR Workshop, INFORMS Annual Meeting, Anaheim, CA / Virtual, Oct. 2021.*
 - *Best Student Paper Award Session, INFORMS Annual Meeting, Anaheim, CA / Virtual, Oct. 2021.*
 - *IISE Transactions Best Paper Session, IISE Annual Conference & Expo, New Orleans, LA, May 2023*
- 9. Spatial-temporal Prediction of Evolving “Cloud” in the Air
 - *Summer Students Poster Symposium, Lawrence Livermore National Laboratory (Virtual), Aug. 2021.*
 - *AGU Fall Meeting, New Orleans, LA, Dec. 2021.*
 - *INFORMS Annual Meeting, Phoenix, AZ, Oct. 2023.*
- 10. WOOD: Wasserstein-based Out-of-Distribution Detection
 - *Best Theoretical Paper Award Session, 16th DMDA Workshop, INFORMS Annual Meeting, Anaheim, CA / Virtual, Oct. 2021.*
 - *INFORMS Annual Meeting, Anaheim, CA / Virtual, Oct. 2021.*
 - *IISE Annual Conference & Expo, Seattle, WA, May 2022.*
 - *Q&P and SPES Student Paper Award Session, Joint Statistical Meeting (JSM), Washington, DC, Aug. 2022.*
- 11. MVGCN: Multi-view Graph Convolutional Neural Network for Surface Defect Identification using 3D Point Cloud
 - *1st QSR Workshop, INFORMS Annual Meeting, Anaheim, CA / Virtual, Oct. 2021.*
 - *ASA Quality and Productivity Research Conference (QPRC), San Francisco, CA, June 2022.*
 - *ASME MSEC 2022, West Lafayette, Indiana, June 2022.*
 - *INFORMS Annual Meeting, Indianapolis, Indiana, Oct. 2022.*
 - *INFORMS Quality Statistics and Reliability Conference, Raleigh, NC, June 2023*
- 12. 3D Point Cloud Segmentation Based on Context Feature for Sheet Metal Part Boundary Recognition
 - *SIAM International Conference on Data Mining DS2-MH Workshop, Minneapolis, MN, April 2023*
- 13. SmartFixture: A Physics-guided Reinforcement Learning Framework for Automatic Fixture Design in Manufacturing Process
 - *IISE Annual Conference & Expo, New Orleans, LA, May 2023*
 - *INFORMS Annual Meeting, Seattle, WA, Oct. 2024*
 - *IEEE International Conference on Automation Science and Engineering (CASE), Los Angeles, CA, Aug. 2025*
- 14. Advanced Machine Learning for Anomaly Detection
 - *NSF Workshop on Data-driven Modeling and Prediction of Rare and Extreme Events, IMSI, Chicago, IL, Nov. 2024*

Conference Presentations by Advisees (either invited or abstract reviewed)

- 14. ADs: Active Data-sharing for Data Quality Assurance in Advanced Manufacturing Systems – Yue Zhao
 - *INFORMS Annual Meeting, Phoenix, AZ, Oct. 2023.*
 - *IISE Annual Conference & Expo, Montreal, QC, Canada, May 2024.*
 - *IISE Annual Conference & Expo, Atlanta, GA, June 2025.*
- 15. Active Multi-modal Data Fusion for Physiological Signals – Yue Zhao
 - *INFORMS Annual Meeting, Seattle, WA, Oct. 2024*
- 16. Industrial 3D Point Cloud Anomaly Detection – Jiayu Liu

- *SIAM International Conference on Data Mining DS2-MH Workshop, Houston, TX, April 2024.*
- *ASME MSEC 2024, Knoxville, TN, June 2024.*
- *INFORMS Annual Meeting, Seattle, WA, Oct. 2024*
- *IISE Annual Conference & Expo, Atlanta, GA, June 2025.*

17. Quantum Bayesian Optimization for Shape Control in Fuselage Assembly – Jiayu Liu

- *SIAM International Conference on Data Mining DS2-MH Workshop, Alexandria, VA, May 2025.*
- *INFORMS Annual Meeting, Atlanta, GA, Oct 2025*

18. SparseST: Exploiting data sparsity in spatiotemporal modeling and prediction – Junfeng Wu

- *INFORMS Annual Meeting, Seattle, WA, Oct. 2024*
- *ASME MSEC 2025, Clemson, SC, June 2025.*

TEACHING, ADVISING, MENTORING

Course Teaching

- **Instructor, Rensselaer Polytechnic Institute**

- ISYE 4210 Statistical Analysis 2024, 2025 Spring
- ISYE 4230 Quality Control 2022 – 2024 Fall
- ENGR 2600 Modeling and Uncertainty 2023 Spring

- **Guest Lecturer, Rensselaer Polytechnic Institute**

- “Engineering-driven Artificial Intelligence for Complex Physical Systems” - ISYE 1100 2023-2025 Spring
- “Engineering-driven Artificial Intelligence for Complex Physical Systems” - ISYE 6900 2023 Fall

- **Graduate Teaching Assistant, Virginia Tech**

- ISE 3414 Probabilistic Operation Research 2019 Fall
- ISE 2034 Data Management for ISE 2020 Spring
- ISE 5024 ISE Seminar 2021 Fall
- ISE/STAT 5474 Statistical Quality Control 2021 Fall

- **Guest Lecturer, Virginia Tech**

- “Data Cleaning” - ISE 2034 2020 Spring
- “Introduction to Statistical Quality Control Software” - ISE/STAT 5474 2021 Fall
- “Introduction to Deep Learning” - ISE 4984/5984 2022 Spring
- “Introduction to Machine Learning Platforms” - ISE 4984/5984 2022 Spring

Student Advising (Ph.D., M.S. Thesis, and Undergraduate)

- **Ph.D. Students (3 in process)**

- Yue Zhao Fall 2022 - Present
Thesis: Data quality assurance for knowledge sharing among distributed physical systems
 - △ RPI Graduate Student Travel Award 2024
 - △ Graduate Student Fellow, NSF CMMI Game Changer Academies 2024
 - △ NSF Student Travel Award to IISE Annual Conference 2024, 2025
- Jiayu Liu Fall 2022 - Present
Thesis: Engineering-driven geometric learning in complex physical systems
 - △ RPI Graduate Student Travel Award 2024
 - △ Student Board Member, IISE DAIS 2025
 - △ NSF Student Travel Award to IISE Annual Conference 2025
- Junfeng Wu Fall 2023 - Present
Thesis: Efficient machine learning with applications to edge devices in manufacturing systems
 - △ NSF Student Travel Award to IISE Annual Conference 2025

- **Master Students**

- David Zhang, Machine unlearning for complex physical systems Summer 2024
- Christian Donegan, Anomaly detection from high-dimensional data streams Spring 2023

- **Undergraduate Students**

- Marcus Chan, LLM-assisted reinforcement learning for advanced manufacturing Spring 2025 URP
- Aditya Dhodapkar, Intelligent fine-tuning for multimodal foundation models Fall 2024 URP
- Na'sir Miller, Intelligent fine-tuning for multimodal foundation models Summer 2024 URP
- Rohan R. Thumma, Multimodal data analytics for pilot behavior modeling Spring 2024 URP
- Aaryan Sonawane, Change point detection for better difficulty level classification in flight simulations Fall 2023 URP
- Aadit Nagori, High-resolution 3D scanning system and point cloud analysis Fall 2023 URP
- Tommy Bird, High-resolution 3D scanning system and point cloud analysis Fall 2023 URP

- **Senior Design Team**

- Fiber-reinforced Inclined Additive Manufacturing, University of Texas at Rio Grande Valley 2020 Fall
- Manufacturing Lab Session, Virginia Tech 2020 Spring
- Digital Manufacturing Project With AMT, Virginia Tech 2021 Fall
- Connected Robot in Intelligent Factory, Virginia Tech 2021 Fall
- Machine Learning for Advanced Manufacturing, Virginia Tech 2022 Spring

PROFESSIONAL ACTIVITIES

External Service

- Editorial Board:

- Guest Editor for the ASME Journal of Computing and Information Science and Engineering 2025 – 2026
 - △ Special Issue on Geometric Data Processing and Analysis for Advanced Manufacturing

- Panelist or Award Judge for:

- SIAM SDM Doctoral Forum Best Poster Competition 2025
- National Science Foundation, Panelist 2025
- INFORMS QSR Best Student Paper Competition, Reviewer 2023
- INFORMS Data Mining Best Paper Competition (Student Track), Reviewer 2023, 2024
- IISE DAIS Best Student Paper Competition, Reviewer 2023, 2024
- IISE Undergraduate Student Symposium, Panelist 2023
- IISE Future Faculty Fellow Workshop, Panelist 2023
- IISE Dissertation Pitch Competition, Judge 2023
- National Science Foundation, Panelist 2025
- National Science Foundation, Ad-hoc Reviewer 2023
- National Science Foundation, Panelist 2023
- National Science Foundation, Panelist 2022
- INFORMS DMDA Workshop Best Applied Paper Competition, Judge 2022

- Board Member for:

- Member of INFORMS QSR Fundraising Subcommittee 2024-2025
- Board Member of ISA/ACARD Division 2024-2025
- Board Member of IISE/DAIS Division 2023-2025
- Student Board Member of IISE/QCRE Division 2021-2022

- Track Chair for:

- Data Analytics and Information Systems, IISE Annual Conference & Expo 2025, Atlanta, GA, May 2025
- Session Chair for:
 - General Session “Data Science for Quality and Reliability (1)”, IISE Annual Conference & Expo 2022, Seattle, WA, May 2022
 - General Session “Anomaly Detection and Diagnosis”, IISE Annual Conference & Expo 2022, Seattle, WA, May 2022
 - General Session “Machine Learning for Quality Assurance and Decision-making in Advanced Manufacturing”, INFORMS 2022, Indianapolis, IN, Oct. 2022
 - General Session “Smart Manufacturing and Beyond I”, IISE Annual Conference & Expo 2023, New Orleans, LA, May 2023
 - Technical Session “Quality and Reliability”, MSEC 2023, New Brunswick, NY, June 2023
 - General Session “Advanced Machine Learning for Complex Physical Systems”, INFORMS 2023, Phoenix, AZ, Oct. 2023
 - General Session “Advanced Machine Learning for Complex Physical Systems”, INFORMS 2024, Seattle, WA, Oct. 2024
 - General Session “Learning and Optimization for Cyber-physical Systems”, INFORMS 2024, Seattle, WA, Oct. 2024
 - General Session “Advanced Machine Learning for Complex Physical Systems”, INFORMS 2025, Atlanta, GA, Oct. 2025
 - General Session “Geometric Data Analysis for Complex Physical Systems”, INFORMS 2025, Atlanta, GA, Oct. 2025
 - General Session “Advanced Machine Learning for the Future Power Grid”, INFORMS 2025, Atlanta, GA, Oct. 2025
- Symposium/Workshop/Data Challenge (Co-)Organizer for
 - NAMRC/MSEC/LEM&P Symposium “Advances in statistical learning for quality and reliability in smart manufacturing”, New Brunswick, New Jersey, 2023
 - SIAM International Conference on Data Mining (SDM) Workshop “Data Science for Smart Manufacturing and Healthcare”, Minneapolis, Minnesota, 2023
 - Data Challenge in 1st CVPR workshop on Vision-based Industrial Inspection (VISION), Vancouver, Canada, 2023
 - SIAM International Conference on Data Mining (SDM) Workshop “Data Science for Smart Manufacturing and Healthcare”, Houston, Texas, 2024
- Journal Reviewer for:
 - *Additive Manufacturing*
 - *Advances in Computational Science and Engineering (ACSE)*
 - *ASME Transactions, Journal of Computing and Information Science in Engineering*
 - *ASME Transactions, Journal of Manufacturing Science and Engineering*
 - *Engineering Applications of Artificial Intelligence*
 - *IEEE/ASME Transactions on Mechatronics*
 - *IEEE Transactions on Automation Science and Engineering*
 - *IEEE Transactions on Human-Machine Systems*
 - *IEEE Transactions on Neural Networks and Learning Systems*
 - *IEEE Transactions on Semiconductor Manufacturing*
 - *IISE Transactions*
 - *IISE Transactions on Healthcare Systems Engineering*
 - *Journal of Intelligent Manufacturing*
 - *Journal of Reliability Science and Engineering*
 - *Mathematical Biosciences and Engineering*
 - *Nature Partner Journal on Material Degradation*
 - *PNAS Nexus*

- *Robotics and Computer-Integrated Manufacturing*
- *Scientific Reports*
- *Technometrics*

- Conference Reviewer for:

- *Conference of IEEE Industrial Electronics Society (IECON)* 2022
- *IEEE International Conference on Automation Science and Engineering (CASE)* 2022, 2025
- *IEEE International Conference on Industrial Technology (ICIT)* 2022
- *IEEE Industrial Electronics Society Annual On-Line Conference (ONCON)* 2022
- *INFORMS Data Mining and Decision Analytics Workshop* 2022–2024
- *IISE Annual Conference* 2022–2025
- *North American Manufacturing Research Conference (NAMRC)* 2022–2024
- *Manufacturing Science and Engineering Conference (MSEC)* 2022–2024
- *Workshop on Vision-based Industrial InspectiON, CVPR* 2023, 2024

Internal Service

- Host, Keio University Visit, School of Engineering, Rensselaer Polytechnic Institute Fall 2024
- Host, Vollmer W. Fries Lecture Series and ISE Department Seminar Fall 2024
- ISE PhD Committee, Rensselaer Polytechnic Institute 2024–Present
- Academic Advisor, Rensselaer Polytechnic Institute 2023–Present
- Chair of the Award Committee for ISE department, Rensselaer Polytechnic Institute 2022–2023
- Member of the Hiring Committee for ISE faculty, Rensselaer Polytechnic Institute 2022–Present
- President-Elect of INFORMS Student Chapter, Virginia Tech 2021–2022
 - *INFORMS 2022 Student Chapter Annual Award as a Maga Cum Laude*
- Event VP of INFORMS Student Chapter, Virginia Tech 2019–2020
 - *INFORMS 2020 Student Chapter Annual Award as a Cum Laude*

MEDIA COVERAGE

-
- Award recipient spotlight in ISE Magazine, Issues Nov. 2022 and Jan. 2023 2022, 2023
 - Alumni spotlight by Virginia Tech Asian Cultural Engagement Center, Oct. 2022 Newsletter 2022
 - Featured article in ISE Magazine, Issue April 2022 2022

PROFESSIONAL MEMBERSHIPS

Member of American Statistical Association (ASA), American Society of Quality (ASQ), American Society of Mechanical Engineers (ASME), Institute of Electrical and Electronics Engineers (IEEE), Institute of Industrial and Systems Engineers (IISE), Institute for Operations Research and the Management Sciences (INFORMS), International Society of Automation (ISA), Society for Industrial and Applied Mathematics (SIAM), Society of Manufacturing Engineers (SME). Associate member of Sigma Xi.