Zihan Zhang *(She/Her)*

H. Milton Stewart School of Industrial and Systems Engineering
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Education

Georgia Institute of Technology — **Atlanta, USA**
Ph.D. Candidate, Industrial Engineering (Minor: Machine Learning) — *2021 – Exp. May 2026*
Advisors: Dr. Jianjun (Jan) Shi & Dr. Kamran Paynabar

M.Sc., Computational Science and Engineering — *2022 – 2024*

University of Toronto — **Toronto, Canada**
M.A.Sc., Mechanical and Industrial Engineering — *2019 – 2021*

Beihang University — **Beijing, China**
B.Eng., Safety Engineering — *2015 – 2019*

Research Interests

High-Dimensional Data Analytics; Machine Learning; Quality Improvement; Automatic Process Control; Prognostics and Health Management; Maintenance Optimization

Publications

Google Scholar: 431 citations (as of October 14, 2025)

Refereed Journal Papers (Published / Accepted)

[J12]: **Zihan Zhang**, Keunho Rhew, Yuchul Hwang, Ki Chul Chun, Jianjun Shi. Early Design-Stage Prognostics of Semiconductor Memory Using Finite Element Analysis, ***IISE Transactions***, Accepted.

[J11]: **Zihan Zhang**, Lingchao Mao, Jianjun Shi, Kamran Paynabar. Nonlinear Spatio-Temporal Run-to-Run Control: Leveraging Diffusion Models for Disturbance Management, tentatively accepted at ***Technometrics***.

- *Selected to present at the Natrella Award Session, 2025 Quality and Productivity Research Conference.*

[J10]: **Zihan Zhang**, Kamran Paynabar, Jianjun Shi. Tensor-Based Feedback Control for Local Structured High-dimensional Streaming Data under Limited Control Capability, ***IISE Transactions***, 2025, 57(12), 1483-1496.

- Here is a short presentation about the work.
- *ASA SPES + Q&P Student Paper Competition (Winner)*
- *INFORMS ORMS Tomorrow Mini-Poster Competition (Honorable Mention)*

[J9]: Hairong Wang, Lingchao Mao, **Zihan Zhang**, Jing Li. SmoothSegNet: A Global-Local Framework for Liver Tumor Segmentation with Clinical Knowledge-Informed Label Smoothing, ***IISE Transactions on Healthcare Systems Engineering***, 2025, 15(3), 212-223.

- *IISE DAIS Case Study Competition (Winner)*

[J8]: **Zihan Zhang**, Shancong Mou, Kamran Paynabar, Jianjun Shi. Temporal Control for Partially Observed High-Dimensional Streaming Data, ***Technometrics***, 2024, 66(2), 227-239.

- Here is a short presentation about the work.
- *INFORMS QSR Section Best Student Paper Award (Winner)*
- *ASA SPES + Q&P Student Paper Competition (Finalist)*

[J7]: **Zihan Zhang**, Alina Gorbunova, Keunho Rhew, Jianjun Shi. A Review of Prognostics Methods for Packaged Electronics: From a Structure-Aware System-Level Perspective, ***IEEE Transactions on Reliability***, 2025, 74(3), 4116-4130.

[J6]: **Zihan Zhang**, Shancong Mou, Mostafa Reisi-Gahrooei, Massimo Pacella, Jianjun Shi. Federated Multiple Tensor-on-Tensor Regression (FedMTOT) under Data-Sharing Constraints, ***Technometrics***, 2024, 66(4), 548-560.

- Here is a short presentation about the work.

[J5]: **Zihan Zhang**, Yeonjeong Jeon, Jongseong Jang, Chi-Guhn Lee. A Pattern-Driven Stochastic Degradation Model for the Prediction of Remaining Useful Life of Rechargeable Batteries, ***IEEE Transactions on Industrial Informatics***, 2022, 18(12), 8586-8594.

[J4]: **Zihan Zhang**, Li Yang. Postponed Maintenance Scheduling Integrating State Variation and Environmental Impact, ***Reliability Engineering and System Safety***, 2020, 202, 107065.

[J3]: **Zihan Zhang**, Li Yang. State-Based Opportunistic Maintenance with Multi-Functional Maintenance Windows, ***IEEE Transactions on Reliability***, 2021, 70(4), 1481-1494.

[J2]: Li Yang, Gaoyang Li, **Zihan Zhang**, Xiaobing Ma, Yu Zhao. Operations & Maintenance Management of Wind Turbines Integrating Wind and Aging Information, ***IEEE Transactions on Sustainable Energy***, 2021, 12(1), 211-221.

[J1]: Tianyi Wu, Li Yang, Xiaobing Ma, **Zihan Zhang**, Yu Zhao. Dynamic Maintenance Strategy with Iteratively Updated Grouping Information, ***Reliability Engineering and System Safety***, 2020, 197, 106820.

Refereed Journal Papers (In Preparation)

[J13]: **Zihan Zhang**, Haekwon Adrian Matias Chung Baek, Jianjun Shi. Tensor-Based Process Control of Semiconductor Heatsinks in Laser Powder Bed Fusion, working paper, target journal: ***IEEE Transactions on Automation Science and Engineering***.

[J14]: **Zihan Zhang**, Joshua Do, Jianjun Shi. Tensor-Driven Structure-Aware Lifetime Analysis of Semiconductor IGBTs, working paper, target journal: ***INFORMS Journal on Data Science***.

[J15]: Yifeng Wang, **Zihan Zhang**, Chuck Zhang, Jianjun Shi. Structure-Aware Physics-Informed Machine Learning, working paper, target journal: ***IEEE Transactions on Automation Science and Engineering***.

[J16]: Yifeng Wang, **Zihan Zhang**, Chuck Zhang, Jianjun Shi. Predictor Analysis for High-Dimensional Streaming Data, working paper, target journal: ***IISE Transactions***.

[J17]: Yang Yang, **Zihan Zhang**, Kamran Paynabar, Edwin Romeijn. Tensor-Based Predictive Modeling and Adaptive Treatment Scheduling from Electronic Health Records, working paper, target journal: ***IISE Transactions on Healthcare Systems Engineering***.

[J18]: Alina Gorbunova, **Zihan Zhang**, Elif Konyar, Kamran Paynabar. Federated Process Monitoring for Short Run Production, working paper, target journal: ***Journal of Quality Technology***.

[J19]: Weizhi Lin, **Zihan Zhang**. Generalized Domain-Informed Mixed Effect Model for Predicting

Functional Responses on Surface Manifold, working paper, target journal: ***INFORMS Journal on Data Science***.

Refereed Conference Papers (Published)

[C2]: **Zihan Zhang**, Chi-Guhn Lee. A Novel Pattern-Driven Stochastic Process for End-of-Life Forecasting, ***11th IMA International Conference on Modelling in Industrial Maintenance and Reliability***, Jun 2021.

[C1]: Fuchun Ren, Jian Jiao, **Zihan Zhang**, Tingdi Zhao. A Resilience Engineering-Based Analysis Framework for Network Systems, ***International Conference on Applied Mathematics, Modeling and Simulation***, Dec 2017.

Honors & Awards

Paper Awards

1. IISE DAIS Case Study Competition (Winner), *2024*
Data Analytics and Information Systems (DAIS) Division, Institute of Industrial and Systems Engineers (IISE)

2. ASA SPES + Q&P Student Paper Competition (Winner), *2024*
Physical and Engineering Sciences (SPES) and Quality & Productivity (Q&P) Sections, American Statistical Association (ASA)

3. INFORMS ORMS Tomorrow Mini-Poster Competition (Honorable Mention), *2023*
Institute for Operations Research and the Management Sciences (INFORMS)

4. ASA SPES + Q&P Student Paper Competition (Finalist), *2023*
Physical and Engineering Sciences (SPES) and Quality & Productivity (Q&P) Sections, American Statistical Association (ASA)

5. INFORMS QSR Section Best Student Paper Award (Winner), *2022*
Quality, Statistics, and Reliability (QSR) Section, Institute for Operations Research and the Management Sciences (INFORMS)

Funding Panel

1. NSF CMMI Panel Fellow, *2024*
Division of Civil, Mechanical and Manufacturing Innovation (CMMI), National Science Foundation (NSF)

Fellowships & Scholarships

1. Novelis Graduate Scholarship ($8,000), *2025*
Novelis Innovation Hub at Georgia Tech

- Recognized as one of eight award recipients university-wide.

2. Ellis R. Ott Scholarship ($7,500), *2025*
Statistics Division, American Society for Quality (ASQ)

3. Gilbert F. "Gil" Amelio Engineering Fellowship ($5,000), *2025*
College of Engineering, Georgia Institute of Technology

- Chosen as the only school-nominated recipient among 193 Ph.D. students.

4. Mary G. and Joseph Natrella Scholarship ($3,500), *2025*
American Statistical Association (ASA)

- Recognized for excellence in applying statistical methods to **quality improvement & productivity** research.
- Awarded annually to two recipients worldwide.

5. ***John L. Imhoff Scholarship*** ($2,000), *2025*
Institute of Industrial and Systems Engineers (IISE)

- Recognized for noteworthy contributions to **advancing the industrial engineering profession** through international engagement and achievement in academic, employment, or professional activities.
- Awarded annually to one recipient worldwide.

6. ***Richard A. Freund International Scholarship*** ($5,000), *2024*
American Society for Quality (ASQ)

- Awarded for excellence in graduate studies focused on the theory and application of **quality control, assurance, improvement, and total quality management**.
- Awarded annually to one recipient worldwide.

7. ***George Fellowship*** ($5,000), *2024*
George Family Foundation

- Honored as a George Fellow for leadership in **advancing healthcare systems**.

8. ***John S.W. Fargher Scholarship*** ($1,000), *2024*
Institute of Industrial and Systems Engineers (IISE)

- Awarded for academic excellence in industrial engineering.
- Awarded annually to one recipient from the U.S. or its territories.

9. ***Bonder Scholar Grant***, *2024*
Institute for Operations Research and the Management Sciences (INFORMS)

- Recognized as one of five award recipients among all INFORMS Student Members.

10. ***DS Student Scholarship***, *2024*
INFORMS Workshop on Data Science, Institute for Operations Research and the Management Sciences (INFORMS)

11. ***Gilbreth Memorial Scholarship*** ($3,500), *2023*
Institute of Industrial and Systems Engineers (IISE)

- Awarded annually as one of four recipients from the U.S. and its territories, Canada, or Mexico.

12. ***Huston Scholarship*** ($3,000), *2023*
International Society of Automation (ISA)

13. ***Aerospace and Test Measurement Division Scholarship*** ($2,000), *2023*
International Society of Automation (ISA)

14. ***Career Development Fund***, *2022, 2023*
Georgia Institute of Technology

15. ***Richard Iannacone ISyE Fellowship*** ($9,000), *2021, 2022*
H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology

16. ***Stewart Topper Fellowship*** ($5,000), *2021, 2022*
H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology

- Provided as additional support for a select group of incoming Ph.D. students.

17. ***Metcalfe Family Graduate Fellowship for Sustainable Energy Research*** ($5,500), *2021*
Centre for Global Engineering, University of Toronto

18. ***Bert Wasmund Graduate Fellowship in Sustainable Energy Research*** ($1,150), *2021*
Department of Mechanical and Industrial Engineering, University of Toronto

19. ***Faculty of Applied Science and Engineering Endowed Fellowship*** ($2,000), *2020*

Department of Mechanical and Industrial Engineering, University of Toronto

20. ***University of Toronto Fellowship*** ($35,376), *2019, 2020, 2021*
University of Toronto

21. ***National Scholarship***, *2018*

Teaching Awards

1. ***H. Milton Stewart Ph.D. Student Teaching Fellow***, *2025*
H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology

2. ***Tech to Teaching Certificate***, *2023*
Center for Teaching and Learning, Georgia Institute of Technology

3. ***Center for the Integration of Research, Teaching, and Learning Associate Level Certificate***, *2022*
Center for Teaching and Learning, Georgia Institute of Technology

4. ***Advanced University Teaching Preparation Certificate***, *2021*
Center for Teaching Support & Innovation, University of Toronto

5. ***Teaching Fundamentals Certificate***, *2019*
Center for Teaching Support & Innovation, University of Toronto

Leadership Awards

1. ***INFORMS Volunteer Service Award***, *2025*
Institute for Operations Research and the Management Sciences (INFORMS)

- Served as Co-Chair of the INFORMS Education Outreach Committee K-12 since 2022.
- Initiated the INFORMS K-12 Education Outreach and Networking Program in 2023 and launched Spark STEM: INFORMS K-12 Poster Competition in 2025.

2. ***Phillip J. and Delores A. Scott Graduate Student Health and Wellness Award***, *2024, 2025*
H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology

- Awarded for organizing activities and advocating for student physical and mental health, as well as engaging in challenging physical activities to promote mental well-being.
- Awarded for the 2023–2024 and 2024–2025 academic years.

3. ***INFORMS Judith Liebman Award***, *2024*
Institute for Operations Research and the Management Sciences (INFORMS)

- Recognized for outstanding student volunteerism and leadership as a "moving spirit" within the university, student chapter, and the institute.
- Honored as the first female student recipient of this award in the history of the institution.

4. ***INFORMS Student Chapter Annual Award – Summa Cum Laude***, *2024*
Institute for Operations Research and the Management Sciences (INFORMS)

- Presented to the INFORMS Georgia Tech Student Chapter for exceptional performance during the 2023–2024 academic year.
- Served as Chapter President during this period.

5. ***STARS AI Scholar***, *2024*
STARS AI Scholars Program supported by STARS Computing Corps, INVITE AI Institute, and EngageAI Institute

6. ***Graduate Leadership Development Fellow***, *2024*
Women in Engineering, Georgia Institute of Technology

Professional Development

1. ***Rising Star in Computational and Data Sciences***, *2025*
UT Austin's Oden Institute for Computational Engineering and Sciences, Los Alamos, Lawrence Livermore, and Sandia National Laboratories
2. ***Tandon Faculty First Look Fellow***, *2025*
Tandon School of Engineering, New York University
3. ***IISE Doctoral Colloquium***, *2025*
Institute of Industrial and Systems Engineers (IISE)
   - Nominated by the H. Milton Stewart School of Industrial and Systems Engineering at the Georgia Institute of Technology.
4. ***Future Faculty Career Exploration Fellow***, *2025*
Rochester Institute of Technology
5. ***IISE Future Faculty Fellow***, *2024*
Institute of Industrial and Systems Engineers (IISE)
6. ***INFORMS Doctoral Student Colloquium***, *2024*
Institute for Operations Research and the Management Sciences (INFORMS)
   - Received the Bonder Scholar Grant from INFORMS to attend.
7. ***New England Future Faculty Workshop***, *2024, 2025*
Northeastern University, Harvard Medical School, Boston University, and Bay Path University
8. ***INFORMS To My Younger Self (TMYS) Program***, *2024*
Institute for Operations Research and the Management Sciences (INFORMS)
9. ***Operations Research and Information Engineering (ORIE) Young Researchers Workshop***, *2023*
Cornell University

Travel Awards

1. ***SSPA Conference Grant***, *2025*
Section for Statistical Programmers and Analysts (SSPA), American Statistical Association (ASA)
2. ***ASA Travel Grant***, *2025*
Quality and Productivity (QP) Section, American Statistical Association (ASA)
3. ***Do-Bui International Travel Award***, *2024*
Caucus for Women in Statistics and Data Science (CWS), American Statistical Association (ASA)
   - Recognized for outstanding contributions to the mission of CWS and the broader statistical community through research, teaching, consulting, and service, as well as for efforts to enhance visibility and advance the research agenda of early career statisticians.
   - Presented annually to two female scholars worldwide.
4. ***SPES Student Award***, *2024*
Physical and Engineering Sciences (SPES) Section, American Statistical Association (ASA)
5. ***SIAM Student Travel Award***, *2024*
Society for Industrial and Applied Mathematics (SIAM)
6. ***SGA-CoE Conference Fund***, *2022, 2023, 2024, 2025*
Student Government Association (SGA) & College of Engineering (CoE), Georgia Institute of Technology
7. ***ISyE Third-Year Progress Travel Award***, *2023*
H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology

8. ***ISyE First-Year Fellows Travel Award***, *2021*
H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology

9. ***SGS Conference Grant***, *2021*
University of Toronto

Additional Awards

1. ***Beijing Outstanding Graduate***, *2019*
   - Awarded to the top 5% of undergraduate graduates across universities in Beijing.
2. ***1st Prize (Beijing) – Mechanical Innovation and Design Competition***, *2017*
   - Received a 1st Prize among 204 teams from 24 universities in Beijing.
3. ***1st Prize (Beijing) – Mathematical Modelling Contest***, *2017*
   - Sole 1st Prize recipient from the department.
4. ***3rd Prize – National Undergraduate Mathematical Contest***, *2016*

Grants & Funding

PI & Co-PI

Sustaining Momentum: INFORMS K-12 Education Outreach and Networking Program
Co-PI, January 2025 – December 2025

- Sponsor: Institute for Operations Research and the Management Sciences (INFORMS)
- Amount: $3,000
- Collaborators: Kenneth Murphy (University of California, Irvine) & Fenglian Pan (University of Arizona) & Yifeng Wang (Georgia Institute of Technology)
- Involvement: Co-chaired the committee; led proposal development and project execution; organized the event and streamlined operations.

INFORMS K-12 Education Outreach and Networking Program
Co-PI, January 2024 – December 2024

- Sponsor: Institute for Operations Research and the Management Sciences (INFORMS)
- Amount: $4,968
- Collaborators: Neil Desnoyers (Saint Joseph's University) & Fenglian Pan (University of Arizona)
- Involvement: Initiated the program; co-chaired the committee; led proposal development and project execution; organized the event and streamlined operations.

Significant Contributor

Reliability and Prognostics Study for Thermal-Mechanical Failures of Memory Product
March 2024 – October 2025

- Sponsor: Samsung Electronics
- Amount: $150,000
- PI: Dr. Jianjun Shi

- Involvement: Led the proposal writing and served as a project leader, managing finite element analysis simulations, methodology development, biweekly stakeholder meetings, and preparation of monthly, midterm, and annual reports. Delivered outcomes seamlessly integrated into downstream workflows and developed two research papers.

NSF Peer Review Experience

***DCC CAREER Mock-Up Panel**, 2025*
Dynamics, Control and Cognition (DCC) Cluster, National Science Foundation (NSF)

- Involvement: Participated in a simulated NSF panel review, evaluating 4 CAREER proposals during a live 4-hour session. Gained hands-on experience in proposal assessment, collaborative discussion, review writing, and ranking decisions.

***NSF CMMI Panel Fellow**, 2024*
Game Changer Academies for Advancing Research Innovation, Division of Civil, Mechanical and Manufacturing Innovation (CMMI), National Science Foundation (NSF)

- Involvement: Trained as a Panel Fellow in a program focused on enhancing peer review through effective communication, bias mitigation, and decision-making. Developed skills in facilitating fair, high-quality NSF panel deliberations using research-based strategies, peer interaction, and experiential learning.

Research Experience

H. Milton Stewart School of Industrial and Systems Engineering, Georgia Tech
Graduate Research Assistant, August 2021 – Present

- **National Science Foundation (NSF)**: EAGER: Real-D: Integrating Data-Driven Methods and Engineering Models in Manufacturing Systems
- **Samsung Electronics**: Reliability and Prognostics Study for Thermal-Mechanical Failures of Memory Product
- **Ulsan National Institute Of Science And Technology (UNIST)**: Physics-Informed AI for Multi-stage Process Quality Control in Metal Additive Manufacturing and Its Validation for Semiconductor Heat Sinks
- **Ford Motor Company**: Automated Claims Binning Using Active Learning

Centre for Maintenance Optimization and Reliability Engineering, University of Toronto
Graduate Research Assistant, September 2019 – August 2021

- **Natural Sciences and Engineering Research Council of Canada (NSERC)**: Data-Driven Condition-Based Maintenance Models
- **LG Electronics Canada**: Transfer Learning for Continual Learning in Non-Stationary Environments

Teaching Experience

Lecturer (Taught as Independent Instructor)

ISyE 3039: Methods for Quality Improvement — **Georgia Institute of Technology**
Undergraduate Level — *Summer 2025*

- Teaching Evaluation: **4.8/5.0** (response rate: 65%)
- My Duties: Designed syllabus, lecture slides, assignments, and exams; delivered all lectures and was fully responsible for course instruction and management.

Guest Lecturer

ISyE 7204: Informatics in Production & Service Systems — **Georgia Institute of Technology**
Graduate Level — *Spring 2024, 2025*

- Main Instructor: Dr. Jianjun Shi.
- My Duties: **Designed and delivered a graduate-level course module**, "**Tensor-Based Prognostics and Process Control with Applications in Semiconductor Manufacturing**," featuring 8 lectures, supporting slides, assignments, coding exercises, and a simulation demo. The module was successfully taught on two occasions.

ISyE 3039: Methods for Quality Improvement — **Georgia Institute of Technology**
Undergraduate Level — *Fall 2023, 2024, 2025*

- Main Instructor: Dr. Jianjun Shi.
- My Duties: Delivered modules on "Design of Experiments" and "Minitab," and conducted review sessions.

Teaching Assistant

ISyE 3039: Methods for Quality Improvement — **Georgia Institute of Technology**
Undergraduate Level — *Fall 2021, 2022, 2023, 2024; Spring 2022*

- Instructor: Dr. Jianjun Shi.
- My Duties: **Created a Minitab handbook and assignment question bank**, provided student support through office hours, graded assignments and exams, led review sessions, and delivered Minitab tutorials.

ISyE 8803: Topics on High-Dimensional Data Analytics — **Georgia Institute of Technology**
Graduate Level — *Spring 2024; Fall 2023; Summer 2023*

- Instructor: Dr. Kamran Paynabar.
- My Duties: Held office hours, contributed to assignment and exam development, and managed grading.

MIE 263: Stochastic Operations Research — **University of Toronto**
Undergraduate Level — *Winter 2021*

- Instructor: Dr. Janet Lam.
- My Duties: Led weekly tutorials, developed assignments, and graded submissions.

MIE 1615: Markov Decision Processes — **University of Toronto**
Ph.D. Level — *Winter 2021*

- Instructor: Dr. Chi-Guhn Lee.
- My Duties: Designed assignments and exams, evaluated presentations, and managed grading.

MIE 1723: Engineering Asset Management — **University of Toronto**
Graduate Level — *Fall 2020*

- Instructors: Dr. Andrew Jardine & Dr. Sharareh Taghipour.
- My Duties: Delivered exam tutorials, created and graded exams/quizzes, and provided online instructional support.

SCS 3531: Physical Asset Management — **University of Toronto**
Professional Program — *Fall 2020*

- Instructor: Dr. Andrew Jardine.

- My Duties: Managed the program schedule and supported online instructional delivery.

Pedagogical Development Experience

Course Design Studio, *2025*
Center for Teaching and Learning (CTL), Georgia Institute of Technology

- Involvement: Developed course goals, assessments, and learning activities using backward design, enhanced through guided exercises and collaborative feedback with CTL consultants and peers.

Tech to Teaching Certificate, *2023*
Center for Teaching and Learning, Georgia Institute of Technology

- Involvement: Completed two graduate-level courses on pedagogy and course design, culminating in a capstone teaching practicum.

Advanced University Teaching Preparation Certificate, *2021*
Center for Teaching Support & Innovation, University of Toronto

- Involvement: Strengthened advanced pedagogical skills through 10 workshops, a teaching practicum, and creation of a teaching dossier with reflective analysis.

Teaching Fundamentals Certificate, *2019*
Center for Teaching Support & Innovation, University of Toronto

- Involvement: Built foundational teaching competencies through 6 workshops and reflective practice, with a focus on educational technologies and inclusive, student-centered learning.

Mentoring Experience

Ph.D. Students

Ms. Alina Gorbunova — **Georgia Institute of Technology**
Industrial Engineering — *2025*

- Topic: Federated data analytics

Ms. Yang Yang — **Georgia Institute of Technology**
Machine learning — *2025*

- Topic: Tensor-based data analytics in healthcare

Mr. Yifeng Wang — **Georgia Institute of Technology**
Industrial Engineering — *2025*

- Topic: Physics-informed tensor analytics

Graduate Students

Mr. Dhavalkumar Patel — **University of Toronto**
Industrial Engineering — *2021*

- Topic: Physics-informed machine learning for lifetime analysis

Undergraduate Students

Mr. Joshua Do — **Georgia Institute of Technology**
Mechanical Engineering — *2025*

- Topic: Finite element analysis-assisted lifetime prediction

Ms. Yi Tong — **Georgia Institute of Technology**
Industrial Engineering — *2023*

- Topic: Tensor-based automatic process control

Ms. Jin Gong **University of Toronto**
Industrial Engineering *2020*

- Topic: Data-driven prognostics for rechargeable batteries
- Award: **Mitacs Research Training Award**

Service

Professional Service

Adhoc Journal Reviewer

Completed **51 peer reviews** as of September 2025

- IISE Transactions
- IEEE Transactions on Automation Science and Engineering
- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Transactions on Industrial Electronics
- IEEE Transactions on Reliability
- ASME Journal of Manufacturing Science and Engineering
- ASME Journal of Computing and Information Science in Engineering
- Journal of Intelligent Manufacturing
- Reliability Engineering and System Safety
- International Journal of Human-Computer Interaction

Adhoc Conference Reviewer

- IISE Annual Conference
- INFORMS Workshop on Data Science
- North American Manufacturing Research Conference
- DSI Annual Conference
- Vision-based Industrial Inspection (VISION) Workshop @ CVPR, ECCV, ICCV
- International Conference on Mechanical, Electric and Industrial Engineering

Board Member

- Vice-Chair, INFORMS Education Outreach Committee (2024–Present)
- Co-Chair, INFORMS Education Outreach Committee K-12 Subcommittee (2022–Present)
  - Received the **2025 INFORMS Volunteer Service Award** for contributions to K-12 outreach within the INFORMS community.
  - Initiated INFORMS K-12 Education Outreach and Networking Program in 2023.
  - Initiated STEM Spark: INFORMS K-12 Poster Competition in 2025.
  - Initiated and led the **K-12 Outreach Panel Series** at the INFORMS Annual Meeting (since 2023).
- Student Liaison, INFORMS Women in Operations Research & Management Science (2024–Present)
- Co-Lead Editor, INFORMS Student Magazine ORMS Tomorrow (2024)
- Social Media Coordinator, INFORMS Student Magazine ORMS Tomorrow (2023)

Co-Organizer

- Data Challenge, 2023 CVPR VISION workshop
- Program Coordinator Team (Student Liaison), INFORMS To My Younger Self (TMYS) Program

Program Committee Member

- 2025 INFORMS Workshop on Data Science

Session Chair

- "Tensor-Based Modeling and Control for Digital Manufacturing," 2025 INFORMS Annual Meeting
- "K-12 Outreach: Collaboration across INFORMS Societies," 2025 INFORMS Annual Meeting
  - Selected as a **Committee's Choice Panel Session**.
- "Trajectory, Object, and Position 2," 2025 IEEE International Conference on Automation Science and Engineering
- "Human-Robot and HCA 3," 2025 IEEE International Conference on Automation Science and Engineering
- "Classification and Regression," 2025 Quality and Productivity Research Conference
- "Advanced Data-Driven Methods in Smart Systems," 2025 IISE Annual Conference & Expo
- "K-12 Outreach Panel: Collaboration across Institutions," 2024 INFORMS Annual Meeting
  - Recap Article: *Fostering STEM Engagement: Insights from the K-12 Outreach Panel at INFORMS 2024*, LinkedIn, 2024.
- "K-12 Education Outreach in a Post-COVID World," 2023 INFORMS Annual Meeting
  - Recap Article: *A Panel Discussion Recap and Future Outlook from the INFORMS Education Outreach Committee (EOC) K-12*, INFORMS ORMS Tomorrow, 2023.
- "Advanced Machine Learning I," 2023 IISE Annual Conference & Expo
- "Data Analysis Leveraging Novel Machine Learning and Artificial Intelligence Methodologies IV," 2023 IISE Annual Conference & Expo

Ambassador

- IEEEXtreme 15.0 Toronto Section Ambassador (2021)

Judge & Reviewer *for Competition/Award*

- ASA Statistics Project Competition for Grades 7–12 (2024)

Session Coordinator

- Teaching Professor Conference (2022)

Institute Service

Board Member

- President, INFORMS Georgia Tech Student Chapter (2023–2024)
  - Chapter received the **Student Chapter Annual Award – Summa Cum Laude** at the 2024 INFORMS Annual Meeting.
  - Media Coverage: *Student Chapter Spotlight Interview – INFORMS Georgia Tech Student Chapter Board*, INFORMS ORMS Tomorrow, 2024.
  - Media Coverage: *ISyE Students Led INFORMS GT Chapter to Summa Cum Laude Distinction*, Georgia Tech ISyE News, 2024.
- Secretary, INFORMS Georgia Tech Student Chapter (2022–2023)

- Communication Coordinator, Graduate Super Women Engineers (GradSWE) University of Toronto (2021–2022)

Ambassador

- ISyE Bee Well Program (for Health and Wellness of Ph.D. students), Georgia Institute of Technology (2022–2024)
  - Led the department's logo competition for the *Bee Well* program.

Co-Organizer

- University of Toronto Engineering Research Conference (2021)

Panelist

- Graduate Student Panel for Focus Program Campus Visit, Georgia Institute of Technology (2024)

Judge & Reviewer *for Competition/Award*

- ISyE AP Statistics High School Competition (2022)
- President's Undergraduate Research Awards (2021–Present)

Presentations

Invited

Nonlinear Spatio-Temporal Run-to-Run Control
Quality and Productivity Research Conference, *Seattle, USA* *2025*

Tensor-based Predictive Modeling and Process Control
Rochester Institute of Technology, *New York, USA* *2025*

Tensor-based Predictive Modeling and Process Control
Oden Institute for Computational Engineering and Sciences, *Austin, USA* *2025*

Tensor-based Predictive Modeling and Process Control
New York University, *New York, USA* *2025*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints
INFORMS Annual Conference, *Seattle, USA* *2024*

Tensor-Based Feedback Control for Local Structured High-Dimensional Streaming Data under Limited Control Capability
Joint Statistical Meetings, *Portland, USA* *2024*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints
NSF Workshop on Urban Resilience, *Georgia, USA* *2024*

Tensor-Based Feedback Control for Local Structured High-Dimensional Streaming Data under Limited Control Capability
INFORMS Annual Conference, *Phoenix, USA* *2023*

Tensor-Based Feedback Control for Local Structured High-Dimensional Streaming Data under Limited Control Capability
INFORMS Data Mining and Decision Analytics Workshop, *Phoenix, USA* *2023*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints
INFORMS Data Mining and Decision Analytics Workshop, *Phoenix, USA* *2023*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints (Poster)
Cornell ORIE Young Researcher Workshop, *Ithaca, USA* *2023*

Tensor-Based Temporal Control for Partially Observed High-Dimensional Streaming Data
INFORMS Annual Conference, *Indianapolis, USA* *2022*

Exploration & Appreciation
Women in Engineering: Mentoring Discussion, *IEEE WIE Region 3, USA* *2022*

Contributed

Nonlinear Spatio-Temporal Run-to-Run Control
INFORMS Annual Conference, *Atlanta, USA* *2025*

Nonlinear Spatio-Temporal Run-to-Run Control
IEEE International Conference on Automation Science and Engineering, *Los Angeles, USA* *2025*

Nonlinear Spatio-Temporal Run-to-Run Control
IISE Annual Conference, *Atlanta, USA* *2025*

Early Design-Stage Prognostics of Memory Products Using Finite Element Analysis
IISE Annual Conference, *Atlanta, USA* *2025*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints (Poster)
INFORMS Annual Conference, *Seattle, USA* *2024*

Tensor-Based Feedback Control for Local Structured High-Dimensional Streaming Data under Limited Control Capability (Poster)
INFORMS Annual Conference, *Phoenix, USA* *2023*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints
IISE Annual Conference, *Louisiana, USA* *2023*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints (Poster)
IISE Annual Conference, *Louisiana, USA* *2023*

Federated Multiple Tensor-on-Tensor Regression for Multimodal Data under Data-Sharing Constraints
ISyE Ph.D. Student Seminar, *Georgia, USA* *2023*

Tensor-Based Temporal Control for Partially Observed High-Dimensional Streaming Data (Poster)
INFORMS Annual Conference, *Indianapolis, USA* *2022*

Tensor-Based Temporal Control for Partially Observed High-Dimensional Streaming Data
ISyE Ph.D. Student Seminar, *Georgia, USA* *2022*

A Pattern-Driven Stochastic Degradation Model for the Prediction of Remaining Useful Life of Rechargeable Batteries
University of Toronto Engineering Research Conference, *Toronto, Canada* *2021*

A Pattern-Driven Stochastic Degradation Model for the Prediction of Remaining Useful Life of Rechargeable Batteries
AMIGAS Student Seminar, *Toronto, Canada* *2021*

A Pattern-Driven Stochastic Degradation Model for the Prediction of Remaining Useful Life of Rechargeable Batteries
IMA International Conference on Modelling in Industrial Maintenance and Reliability *2021*

Postponed Maintenance Scheduling Integrating State Variation and Environmental Impact
University of Toronto Graduate Speaker Series, *Toronto, Canada* *2020*

Remaining Useful Life Prediction Based on Kalman Filter Updated Samples
Asia Pacific Conference of the Prognostics and Health Management Society, *Beijing, China* *2019*

Professional Memberships & Affiliations

Professional Organizations

- American Society for Quality (ASQ)
- American Statistical Association (ASA)
- American Society of Mechanical Engineers (ASME)
- Decision Sciences Institute (DSI)
- Institute for Operations Research and the Management Sciences (INFORMS)
- Institute of Industrial and Systems Engineers (IISE)
- Institute of Electrical and Electronics Engineers (IEEE)
- International Society of Automation (ISA)
- Society for Industrial and Applied Mathematics (SIAM)
- Society of Manufacturing Engineers (SME)

Honor Society

- Alpha Pi Mu (ΑΠΜ), Industrial Engineering Honor Society

Licensure

- Student Member, Professional Engineers Ontario (PEO)

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