

CURRICULUM VITAE

Yong Chen

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EDUCATION

- Ph.D.** August 2003, Industrial and Operations Engineering, University of Michigan, Ann Arbor, MI
M.A. April 2003, Statistics, University of Michigan, Ann Arbor, MI
B.E. July 1998, Computer Science & Engineering, Tsinghua University, Beijing, China

PROFESSIONAL EXPERIENCE

August 2023 – present, Professor and Department Chair, Department of Industrial and Systems Engineering, University of Iowa, Iowa City, IA

August 2016 – August 2023, Professor, Industrial and Systems Engineering, University of Iowa, Iowa City, IA.

August 2010 – August 2016, Associate Professor, Industrial Engineering, University of Iowa, Iowa City, IA.

August 2003 – August 2010, Assistant Professor, Industrial Engineering, University of Iowa, Iowa City, IA.

ACADEMIC AWARDS

- Best Paper Award, IISE Transactions, 2026
- IISE Transactions Service Award, 2025
- Faculty Career Impact Award, Pomerantz Career Center, 2024
- Best Paper Award Honorable Mention, IISE Transactions, 2017.
- College of Engineering Service Award, University of Iowa, 2013.
- Recognition of Excellence in Teaching and Dedication to Student Success, University of Iowa College of Engineering, 2013.
- Best Paper Award, IIE Transactions, 2010.
- The RSPS Faculty Award, Center for Computer-Aided Design, University of Iowa, 2005.
- Best Paper Award, IIE Transactions, 2004.
- Outstanding Educator Award, Institute of Industrial Engineers (IIE) Student Chapter, University of Iowa, 2004.

SERVICE AND PROFESSIONAL ACTIVITIES

1. IISE Service

Editorial Services

Department Editor, IISE Transactions, 2019 – present (received IISE Transactions Service Award in 2025).

Associate Editor, IISE Transactions, 2017 – present.

Co-Editor, IISE Transactions special issue on Data Analytics and Decision Making for Internet-of-Things (IoT) Enabled Systems, 2020.

Other Professional Activities

Member, Council of Industrial Engineering Academic Department Heads (CIEADH), 2023 – present.

Co-Chair, 2027 IISE Doctoral Colloquium.

Member, IISE Transactions Best Paper Review Committee, 2026.

Leading Chair, 2026 IISE Doctoral Colloquium – Led the organization of three panel discussions and a three-minute thesis pitch competition; 46 Ph.D. students were nominated and 38 participated.

Chair, 2026 IISE Transactions Best Reviewer Committee.

Member, CIEADH ISE Visibility Taskforce, 2024 – 2025 – contributed to the organization and judging of IE short-video competitions.

Judge, 2025 IISE QCRE Teaching Award.

Leading Chair, 2025 IISE Doctoral Colloquium – Led the organization of three panel discussions and a three-minute thesis pitch competition; 49 Ph.D. students were nominated and 44 participated, representing more than a 50% increase in participation from 2024.

Judge, IISE QCRE Poster Competition at 2024 IISE Annual Conference.

Co-Chair, 2024 IISE Doctoral Colloquium.

Chair, IISE Transactions Best Paper Review Committee, 2020.

Judge, IISE QCRE Best Student Paper Competition, 2020.

Chair, IISE Transactions Best Paper Review Committee, 2018.

Member, IISE Transactions Best Paper Review Committee, 2014.

Chair, IISE Transactions Best Paper Review Committee, 2011.

2. Service to Other ISE-Related Groups

Editorial Services

Associate Editor, Technometrics, 2016 – present.

Associate Editor, Naval Research Logistics, 2006 – 2022.

Associate Editor, Journal of Quality Technology, 2009 – 2017.

Co-Editor, Quality and Reliability Engineering International special issue on INFORMS 2015.

Editorial Board Member, Technometrics special issue on system informatics, 2013 – 2014.

Other Professional and Outreach Activities

Leading Chair, Inaugural Future Faculty Colloquium at 2026 INFORMS Conference on Quality, Statistics, and Reliability (ICQSR).

Judge, Data Challenge Competition, 2026 INFORMS Conference on Quality, Statistics, and Reliability (ICQSR).

Judge, 2025 INFORMS QSR Teaching Award.

Panelist, Leaders' Forum at 2025 INFORMS Conference on Quality, Statistics, and Reliability on leveraging AI for the next generation QSR education and innovation.

Judge, Data Challenge Competition, 2025 INFORMS Conference on Quality, Statistics, and Reliability (ICQSR).

Panelist, Panel on Starting an Academic Career for New and Prospective QSR Faculty at 2024 INFORMS Annual Meeting.

Instructor, Industry Workshop on Predictive Analytics with Rattle and R, University of Wisconsin–Madison IoT Systems Research Center, 2018: Delivered a five-hour workshop attended by more than 50 participants from approximately 20 companies.

Program Committee Member, Sensor Web Enablement (SWE), 2011.

Secretary and Treasurer, INFORMS Section on Quality, Statistics, and Reliability, 2006–2008.

Newsletter Editor, INFORMS Section on Quality, Statistics, and Reliability, 2001–2003.

3. External Review Activities

- External program reviewer, Department of Engineering Management and Systems Engineering, Missouri S&T, 2026.
- External reviewer for tenure and promotion cases for universities including Arizona State University, Auburn University, University of Arizona, University of Michigan, University of Massachusetts, Kansas State University, Mississippi State University, Stevens Institute of Technology, University of Houston, University of Washington, Wichita State University, and Hong Kong University of Science and Technology.
- Panelist on multiple National Science Foundation (NSF) proposal review panels.

4. Major Internal Services

- Department Chair, Industrial and Systems Engineering, University of Iowa (2023 – present): Led departmental growth and program development, including more than 30% growth in undergraduate ISE enrollment, revitalization of the IISE student chapter, establishment of the INFORMAT smart-manufacturing teaching laboratory, creation of two new minors in Industrial and Systems Engineering and Human Systems Engineering, and development of a new online professional Master of Science in Engineering Management (MSEM) program.

- Program Coordinator, Industrial Engineering Program, University of Iowa (2015 – 2018)
- ABET Coordinator, Industrial Engineering (2012 – 2024): Led ABET efforts of Industrial Engineering Program at University of Iowa for the successful 2014-2015 and 2020-21 ABET review cycles.
- Director of Undergraduate Studies, Industrial Engineering Program (2013 – 2023)
- Director of Graduate Studies, Industrial Engineering Program (2010 – 2013)

PROFESSIONAL SOCIETY MEMBERSHIPS

- Member, Institute of Industrial and Systems Engineers (IISE)
- Member, Institute for Operations Research and the Management Sciences (INFORMS)
- Past member, American Society for Quality (ASQ), American Statistical Association (ASA), and Institute of Mathematical Statistics (IMS)

RESEARCH INTERESTS

Data Science, Machine Learning, Industrial Data Analytics, Quality and Reliability Engineering, Manufacturing Systems Integration, Healthcare.

RESEARCH GRANTS

Contract/Grant Title	Sponsor	Start Date	End Date	Amount	Role
EPSCoR Graduate Fellowship Program (EGFP): Graduate Leaders in Engineering and Advanced Manufacturing (GLEAM): Enhancing Iowa's Manufacturing Capacity	NSF	July-25	June-28	\$1,272,000	PI
Collaborative Research: Fusion of Siloed Data for Multistage Manufacturing Systems: Integrative Product Quality and Machine Health Management	NSF	Jan-24	Dec-27	\$207,158	PI
Assuring medication safety in K-12 Schools: Implementing and evaluating school medication administration record (eSMAR) system.	AHRQ	April-23	March-27	\$1,018,972	Co-I
Temporal Associations between Caregiver Person-Centered and Task-Centered Mealtime Behaviors and Individual Outcomes using Sequential Analysis	UI	Dec-20	June-22	\$10,000	Co-PI

Contract/Grant Title	Sponsor	Start Date	End Date	Amount	Role
Smart Asthma Management: Statistical Modeling, Prognostics and Intervention Decision Making	NSF	Jan-14	Jan-19	\$200,521	PI
Progressive Fault Identification and Prognosis in Aircraft Structure Based on Dynamic Data Driven Adaptive Sensing and Simulation	AFOSR (sub through UW-Madison)	Sep-14	Mar-18	\$180,304	PI
Data-Driven Statistical Prognosis and Service Decision Making for Teleservice Systems	NSF	Sep-13	Aug-16	\$150,000	PI
Modeling, Monitoring, and Analysis of Spatial Point Patterns for Manufacturing Quality Control	NSF	July-12	June-15	\$187,469	PI
Iowa EPSCoR: Harnessing Energy in the Biosphere to Build Sustainable Energy Systems.	NSF	2011	2016	\$166,455 (net)	Co-I
GOALI/Collaborative Research: Event-Log-Based Failure Prediction and Maintenance Service for After-Sales Engineering Systems	NSF	Sep-08	Aug-13	\$166,716	PI
Collaborative Research: Fault Tolerance Analysis and Design of Clustered Sensor Networks	NSF	Sep-07	Aug-10	\$181,501	PI
Sensor: Reliability of Variation Source Sensor Systems	NSF	Sep-05	Aug-08	\$199,987	PI
Customer Behavior Modeling and Prediction for Credit Risk Analysis	Discover Financial Services	Nov-08	Aug-09	\$60,000	PI
Quality and Reliability Chain Modeling and Analysis for Multi-Station Sheet Metal Assembly Processes	UI Carver	Jan-04	Dec-04	\$11,452	PI

PUBLICATIONS

Book

Zhou, S., & Chen, Y. (2021). *Industrial Data Analytics for Diagnosis and Prognosis: A Random Effects Modelling Approach*. John Wiley & Sons.

Articles in Refereed Journals and Highly Selective Conferences

1. Bansal, V., Chen, Y., and Zhou, S. (2026) A rollout approach for condition-based maintenance of large multi-unit systems with economic dependence. *Journal of Risk and Reliability*, 240, 342-357.
2. Jiang, M., Huang, J., Chen, Y., & Zhang, C. (2026). DRL-STAF: A Deep Reinforcement Learning Framework for State-Aware Forecasting of Complex Multivariate Hidden Markov Processes. Proceedings of the 43rd *International Conference on Machine Learning (ICML 2026)*, acceptance rate: 26%.
3. Bansal, V., Chen, Y., and Zhou, S. (2025) Component-wise Markov decision process for solving condition-based maintenance of large multi-component systems with economic dependence, *IIEE Transactions*, 57, 158-171 (*IIEE Transactions Best Paper Award*).
4. Gao, Y., Chen, Y., and Zhang, C. (2025), FAME: Adaptive Functional Attention with Expert Routing for Function-on-Function Regression, The Thirty-Ninth Annual Conference on *Neural Information Processing Systems 2025 (NeurIPS 2025)*, acceptance rate: 24%.
5. Shao, Y., Si, W., Chen, Y. (2024) Spatial modeling and monitoring considering long-range dependence, *Journal of Quality Technology*, 56(2), 91-112.
6. Deep, A., Zhou, S., Veeramani, D., Chen, Y. (2023) Partially observable Markov decision process-based optimal maintenance planning with time-dependent observations. *European Journal of Operational Research*, 311, 533-544.
7. Liu, W. and Chen, Y. (2023) Sequential Relationships of Food Intake in Nursing Home Residents with Dementia: Behavioural Analyses of Videotaped Mealtime Observations. *Journal of Clinical Nursing*, 32, 3482-3495.
8. Zhou, S., Chen, Y., Kong, N., Kontar, RA (2023) Contributions to Internet of Things (IoT)-enabled systems, *IIEE Transactions*, 55(4), 329-330.
9. Deep, A., Zhou, S., Veeramani, D., and Chen, Y. (2022) HMM-Based Joint Modeling of Condition Monitoring Signals and Failure Event Data for Prognosis. *IEEE Transactions on Reliability*, 72(3), 878-888.
10. Huang, W., Samanta, A., Chen, Y., Baek, S., Shaw, S. K., & Ding, H. (2021). Machine learning model for understanding laser superhydrophobic surface functionalization. *Journal of Manufacturing Processes*, 69, 491-502.
11. Hou, Y., He, B., Zhang, X., Chen, Y., & Yang, Q. (2020). A new Bayesian scheme for self-starting process mean monitoring. *Quality Technology & Quantitative Management*, 17(6), 661-684.
12. Lee, J., Son, J., Zhou, S., & Chen, Y. (2020). Variation source identification in manufacturing processes using Bayesian approach with sparse variance components prior. *IEEE Transactions on Automation Science and Engineering*, 17(3), 1469-1485.

13. Liu, Y., Zhou, S., Chen, Y., and Tang, J. (2019) Measurements Selection for Bias Reduction in Structural Damage Identification, *Journal of Dynamic Systems, Measurement, and Control*, 141, 031003.
14. Si, W., Yang, Q., Monplaisir, L., and Chen, Y. (2018) Reliability Analysis of Repairable Systems With Incomplete Failure Time Data. *IEEE Transactions on Reliability*, 67(3), 1043-1059.
15. Sun, B., Krokmal, P. and Chen, Y. (2018) Risk-Averse Capacity Planning for Renewable Energy Production. *Energy Systems*, 9(2), 223-256.
16. Si, W., Yang, Q., Wu, X., and Chen, Y. (2018) Reliability analysis considering dynamic material local deformation, *Journal of Quality Technology*, 50(2), 183-197.
17. Hou, Y., Wu, J., and Chen, Y. (2016) Online Steady State Detection Based on Rao-Blackwellized Sequential Monte Carlo. *Quality and Reliability Engineering International*, 32(8), 2667-2683.
18. Wu, J., Chen, Y., and Zhou, S., (2016) On-line Steady-state Detection Using Multiple Change-point Models and Exact Bayesian Inference. *IIE Transactions*, 48, 599-613.
19. Das, D., Zhou, S., Chen, Y., Horst, J. (2016) Statistical monitoring of over-dispersed multivariate count data using approximate likelihood ratio tests. *International Journal of Production Research*, 54, 6579-6593.
20. Li, S. and Chen, Y. (2016) A Bayesian Variable Selection Method for Joint Diagnosis of Manufacturing Process and Sensor Faults, *IIE Transactions*, 48(4), 313-323. (*IIE Transactions Best Paper Award Honorable Mention*)
21. Das, D., Chen, Y., Zhou, S., and Sievenpiper, C. (2016) Monitoring of Multiple Binary Data Streams Using a Hierarchical Model Structure. *Quality and Reliability Engineering International*, 32(4), 1307-1319.
22. Wu, J., Chen, Y., Zhou, S., and Li, X. (2016) Online Steady State Detection for Process Control Using Multiple Change-point Models and Particle Filters. *IEEE Transactions on Automation Science and Engineering*, 13(2), 688-700.
23. Yang, Q., Hong Y., Chen, Y., and Shi, J. (2012) Failure Profile Analysis of Complex Repairable Systems with Multiple Failure Modes, *IEEE Transactions on Reliability*, vol. 61, 180-191.
24. Cannon, J., Krokmal, P., Chen, Y., and Murphey, R. (2012) Detection Of Temporal Changes In Psychophysiological Data Using Statistical Process Control Methods, *Computer Methods and Programs in Biomedicine*, vol. 107, 367-381.
25. Yang, Q. and Chen, Y. (2011) Monte Carlo Methods for Reliability Evaluation of Linear Sensor Systems. *IEEE Transactions on Reliability*, vol. 60, pp. 305-314.
26. Chen, N., Chen, Y., Li, Z., Zhou, S., and Sievenpiper, C. (2011) Optimal Variability Sensitive Condition-based Maintenance with Cox PH Model. *International Journal of Production Research*, vol. 49, pp. 2083-2100.
27. Yang, Q., and Chen, Y. (2010) Reliability of Coordinate Sensor Systems Under the Risk of Sensor Precision Degradations. *IEEE Transactions on Automation Science and Engineering*, vol. 7, 291-302.
28. Cho, J. J., Ding, Y., Chen, Y., and Tang, J. (2010) Robust Calibration for Localization in Clustered Wireless Sensor Networks. *IEEE Transactions on Automation Science and Engineering*, vol. 7, 81-95.

29. Cho, J. J., Chen, Y., and Ding, Y. (2009) On the Breakdown Point Condition of Structured Linear Models. *Technometrics*, vol. 51, 34-46.
30. Yang, Q. and Chen, Y. (2009) Sensor System Reliability Modeling and Analysis for Fault Diagnosis in Multistage Manufacturing Processes. *IIE Transactions*, vol. 41, 819-830 (*IIE Transactions Best Paper Award*).
31. Li, S. and Chen, Y. (2009) Sensor Fault Detection for Manufacturing Quality Control. *IIE Transactions*, vol. 41, 605-614.
32. Cho, J. J., Chen, Y., and Ding, Y. (2007) On the (Co)Girth of Connected Matroids, *Discrete Applied Mathematics*, vol. 155, 2456-2470.
33. Warren-Rhodes, K., Rhodes, K., Boyle, L., Pointing, S., Chen, Y., Dungan, J., Liu, S. and McKay, C. (2007) Lithophytic Cyanobacterial Communities Across Environmental Gradients and Spatial Scales in China's Hot and Cold Deserts. *FEMS Microbiology Ecology*, vol. 61, 470-482.
34. Warren-Rhodes, K., Dungan, J., Piatek, J., Stubbs, K., Chen, Y. and McKay, C. (2007) Ecology and Spatial Pattern of Cyanobacterial Community Island-Patches in Atacama Desert, Chile. *J. Geophysical Research-Biogeosciences*, vol. 112.
35. Zantek, P., Li, S., and Chen, Y. (2007) Detecting Multiple Special Causes from Multivariate Data with Applications to Fault Detection in Manufacturing. *IIE Transactions*, vol. 39, 771-782.
36. Chen, Y. (2006) Application of Matroid Theory for Diagnosability Study of Coordinate Sensing Systems in Discrete-Part Manufacturing Processes. *Technometrics*, vol. 48, 386-398.
37. Chen, Y. and Jin, J. (2006) Quality-Oriented-Maintenance for Multiple Interactive Components. *IEEE Transactions on Reliability*, vol. 55, 123-134.
38. Chen, Y., Ding, Y., Jin, J., and Ceglarek, D. (2006) Integration of Tolerance and Maintenance Design for Multistage Manufacturing Processes. *IEEE Transactions on Automation Science and Engineering*, vol. 3, 440-453.
39. Chen, Y. and Yang, Q. (2005) Reliability of Two-Stage Weighted-k-out-of-n Systems with Components In Common. *IEEE Transactions on Reliability*, vol. 54, 431-440.
40. Chen, Y. and Jin, J. (2005) Quality-Reliability Chain Modeling for System-Reliability Analysis of Complex Manufacturing Processes. *IEEE Transactions on Reliability*, vol. 54, 475-488.
41. Liu, Q., Ding, Y., and Chen, Y. (2005) Optimal Coordinate Sensor Placements for Estimating Mean and Variance Components of Variation Sources. *IIE Transactions*, vol. 37, 877-889.
42. Ding, Y., Zhou, S., and Chen, Y. (2005) A Comparison of Process Variation Estimators for In-Process Dimensional Measurements and Control. *ASME Transactions, Journal of Dynamic Systems, Measurement and Control*, vol. 127, 69-79.
43. Chen, Y., Jin, J. and Shi, J. (2004) Integration of Dimensional Quality and Locator Reliability in Design and Evaluation of Multi-station Body-In-White Assembly Processes. *IIE Transactions*, vol. 36, 827-839.
44. Zhou, S., Chen, Y., and Shi, J. (2004) Statistical Estimation and Testing for Variation Root Cause Determination of Multistage Manufacturing Processes. *IEEE Transactions on Automation Science and Engineering*, vol. 1, 73-83.
45. Chen, Y. and Jin, J. (2003) Cost-Variability-Sensitive Preventive Maintenance Considering Management Risk. *IIE Transactions*, vol. 35, 1091-1101. (*IIE Transactions Best Paper Award*)

46. Zhou, S., Ding, Y., Chen, Y., and Shi, J. (2003) Diagnosability Study of Multistage Manufacturing Processes Based on Linear Mixed-Effects Models. *Technometrics*, vol. 45, 312-325.
47. Jin, J. and Chen, Y. (2001) Quality and Reliability Information Integration for Design Evaluation of Fixture System Reliability. *Quality and Reliability Engineering International*, vol. 17, 355-372.

Other Conference Proceedings

48. Zhou, S. and Chen, Y. (2009) Event-Log-Based Failure Prediction and Maintenance Service for After-Sales Engineering Systems, Proceedings of 2009 NSF Engineering Research and Innovation Conference, Honolulu, Hawaii.
49. Ding, Y. and Chen, Y. (2009) Fault Tolerance Analysis and Design of Clustered Sensor Networks, Proceedings of 2009 NSF Engineering Research and Innovation Conference, Honolulu, Hawaii.
50. Chen, Y. and Yang, Q. (2008) Reliability of Coordinate Sensor Systems Under the Risk of Sensor Precision Degradation, Proceedings of 2008 NSF Research and Innovation Conference, Knoxville, Tennessee.
51. Cho, J. J., Ding, Y., Chen, Y., and Tang, J. (2007) Robust Calibration for Localization in Clustered Wireless Sensor Networks, The 3rd annual IEEE Conference on Automation Science and Engineering, Scottsdale, AZ.
52. Chen, Y., Donaldson, I. (2006) Application of Matroid Theory to Reliability Study of Coordinate Sensor Systems for Manufacturing Process Fault Diagnosis, Proceedings of 2006 NSF Design, Service, and Manufacturing Grantees and Research Conference, St. Louis, Missouri.
53. Chen, Y., Jin, J. and Shi, J. (2002) Quality and Reliability Integration in Multiple Station Autobody Assembly Processes. Proceedings of the 5th International Conference on Frontiers of Design and Manufacturing, Dalian, China, 2002.
54. Chen, Y., Jin, J. and Shi, J. (2001) Reliability Modeling and Analysis of Multi-station Manufacturing Processes Considering the Quality and Reliability Interaction. Proceedings of IEEE International Conference on Systems, Man, and Cybernetics, Tucson, AZ, 2001.

TEACHING EXPERIENCE

1. Courses Taught

- Undergraduate required courses at University of Iowa:
Operations Research, Digital Systems Simulation, Data Analytics with R
- Graduate courses at University of Iowa:
Reliability Theory and Applications, Nonlinear Optimization, Statistical Pattern Recognition, Advanced Quality Control, Financial Engineering and Optimization, Pattern Recognition for Financial Data
- Taught “Statistical Quality Control” at University of Michigan as the instructor on record for two semesters.

2. Ph.D. Students Graduated (chair and co-chair)

1. Qingyu Yang, “Optimal Reliability Modeling of Linear Sensor Systems”. Graduation date: May 2008. Current position: Associate Professor, Dept. of Industrial and Systems Engineering, Wayne State University, MI.
2. Shan Li, “Simultaneous Monitoring of Process and Sensor Faults for Quality Control of Complex Manufacturing Systems”. Graduation date: Dec., 2008. Current position: Data Scientist, Facebook.
3. Andrew Kiekhaefer, “Simulation Ranking and Selection Procedures and Applications in Network Reliability Design”. Graduation date: May, 2011. Current position: Lead Data Scientist, John Deere.
4. Huan Yu, “New Statistical Methods for Simulation Output Analysis”. Graduation date: July, 2013. Current position: Data Scientist, Microsoft.
5. Bo Sun (co-chair), “Energy Supply Chain Reliability Optimization”. Graduation date: December, 2015. Current position: Quantitative Analyst, CitiBank.
6. Yuxing Hou, “Applications of Outlier and Change Detection for Longitudinal Data”. Graduation date: May, 2017. Current position: Predictive Analyst, Ingram Micro.
7. Baosheng He, “New Bayesian Methods for Quality Control Applications”. Graduation date: May, 2018. Current position: Research Scientist, Thomson Reuters.
8. Xudong Zhang, “New Functional Depth and Applications”. Graduation date: May, 2020. Current position: Data Scientist, Vanguard Group.
9. Zengchenhao Xia (co-chair), “Information Sharing for Sequential Data Analysis based on Gaussian Process and Mixed Effects Models”. Graduation date: May 2026.
10. Max Miller (co-chair), “Modeling and Sequential Analysis for Safety and Decision Support in Complex Systems”, Graduation date: August 2026. Current position: Visiting Assistant Professor, Ohio University.