Jian (Frank) Zou, PhD

BACKGROUND

1. EDUCATION

   - Ph.D., Statistics, 2009, University of Connecticut, Storrs, CT.
   - M.S., Mathematics, 2005, University of Connecticut, Storrs, CT.
   - M.S., Computer Science, 2002, Shandong University, Jinan, China.
   - B.S., Mathematics, 2000, Shandong University, Jinan, China.

2. WORK EXPERIENCE

   - Worcester Polytechnic Institute, Department of Mathematical Sciences, Worcester, MA
     Assistant, Associate Professor of Statistics and Data Science, 2014 - Present
     Affiliated Core Faculty, Data Science Program & Bioinformatics and Computational Biology Program, 2014 - Present
   - Worcester Polytechnic Institute, Department of Mathematical Sciences, Worcester, MA
     Associate Department Head, 2022 - 2024
   - Worcester Polytechnic Institute, Center for Industrial Mathematics & Statistics, Worcester, MA
     Associate Director, 2019 - 2024
     Member, 2014 - Present
   - Indiana University-Purdue University Indianapolis, Department of Mathematical Sciences, Indianapolis, IN.
     Assistant Professor, 2011 - 2014
   - National Institute of Statistical Sciences and Duke University, RTP, NC.
     Postdoctoral Fellow, 2009 - 2011

SCHOLARSHIP

3. LIST OF PUBLICATIONS

   Publications (Underlined authors are students/postdoc coauthors, * indicates corresponding/senior author)

   (i) Wang, Y., Jayaweera, N., and **Zou, J.***(2025+). BOST-LAWS: A Bayesian Online Spatio-Temporal Detection Framework using Likelihood Adjusted Weighting Smoothing for Disease Surveillance. Submitted.

   (ii) Yu, E., Cao, G., Pei, Y., Khalil, Y.F., **Zou, J.***, De Alwis, T.P., Brody, E., Hyder, M. (2025+). Enhancing FRACAS Through Natural Language Processing: An AI-Driven Approach to System Reliability Analysis. Submitted.

   (iii) Brody, E., Hyder, M., Khalil, Y.F., **Zou, J.***, De Alwis, T.P., Cao, G., Yu, E. (2025+). An AI-Driven Combinatorial Approach to Failure Analysis of Engineering Systems. Submitted.

(iv) Wang, Y., Jayaweera, N., and **Zou, J.***(2025). BOSTON-PUPA: A Bayesian Online Spatio-Temporal Outbreak Detection Framework With Prior Updating and P-Value Adaptation. *Statistical Analysis and Data Mining.* Accepted.

(v) Wang, Y., Zhang, Y., **Zou, J.***, and Ravishanker, N. (2025). Online Structural Break Detection in Financial Durations. *Statistics and Computing.* 35(2), 1–19.

(vi) Wei, Z., Salargarna, F., Murawsky, J., Si, B., Frechette, J., Carter, A., **Zou, J.**, Yoganathan, A., and Fogel, M. (2024). Computational Fluid Dynamics is Key Predictors of Adverse Events in Single Ventricle Patients After the Fontan. *Circulation.* 140(Suppl_1), A4147784.

(vii) Wang, Y., Liu, H., **Zou, J.***, and Ravishanker, N. (2024). Multivariate latent level correlation model with INLA for discrete financial time series. *Annals of Applied Statistics.* 18(3), 2462-2485.

(viii) Grabill, N., Wang, S., Olayinka, H.A., De Alwis, T.P., Khalil, Y.F., and **Zou, J.*** (2024). AI-Augmented Failure Modes, Effects, and Criticality Analysis (AI-FMECA) for Industrial Applications. *Reliability Engineering & System Safety.* 250, 110308.

(ix) Liu, H., **Zou, J.***, and Ravishanker, N. (2022). Biclustering high-frequency financial time series based on information theory. *Statistical Analysis and Data Mining.* 15(4), 447-462.

(x) Liu, H., **Zou, J.***, and Ravishanker, N. (2022). Clustering high-frequency financial time series based on information theory. *Applied Stochastic Models in Business and Industry.* 38 (1), 4-26.

(xi) Zhu, X., **Zou, J.**, Mochel, M.C., and Bledsoe, J. (2022). Reply to "Limitations of multivariate survival analysis". *Modern Pathology.* 35 (7), 994-995

(xii) Zhu, X., Jamshed, S., **Zou, J.**, and Bledsoe, J. (2021). Molecular and immunophenotypic characterization of anal squamous cell carcinoma reveals distinct clinicopathologic groups associated with HPV and TP53 mutation status. *Modern Pathology.* 34(5):1017-1030.

(xiii) Bai, S., Lindberg, J., Whalen, G., Bathini, V., **Zou, J.**, and Yang, M. (2021). Utility of HNF-1B and a panel of lineage-specific biomarkers to optimize the diagnosis of pancreatic ductal adenocarcinoma. *American Journal of Cancer Research.* 11(3):858-865.

(xiv) Al-Attar, M., Rock, K., Zhu, X., **Zou, J.**, Dresser, K., and Jiang, Z. (2021). IRF2, A Potential Biomarker for Urothelial Carcinoma Progression. *Laboratory Investigation.* 101(S1), 526-528.

(xv) Andrei, M., Ghosh, S. and **Zou, J.*** (2020). Dynamic Correlation Multivariate Stochastic Volatility Black-Litterman With Latent Factors. *International Journal of Statistics and Probability.* 10(2), 1-17.

(xvi) Yan, D., Randolph, T. W., **Zou, J.** and Gong, P. (2019). Incorporating deep features in the analysis of TMA images. *Statistics and its Interface.* 12(2):283-293.

(xvii) Wang, X., Shojaie, A. and **Zou, J.** (2019). Bayesian Hidden Markov Models for Dependent Large-Scale Multiple Testing. *Computational Statistics and Data Analysis.* 136:123-136.

(xviii) Zhang, Y., **Zou, J.***, Ravishanker, N. and Thavaneswaran, A. (2019). Modeling Financial Durations Using Penalized Estimating Functions. *Computational Statistics and Data Analysis.* 131:145-158.

(xix) **Zou, J.***, Yan, H. and Zhang, Z. (2018). A Hybrid Hierarchical Bayesian Model for Spatio-Temporal Surveillance Data. *Statistics in Medicine.* 37(28):4216-4233.

(xx) Zhang, Y., **Zou, J.***, Ravishanker, N. (2018). Structural Break Detection in Financial Durations. *Applied Stochastic Models in Business and Industry.* 34(6):992–1006.

(xxi) **Zou, J.***, Wang, F. and Wu, Y. (2018). Vast Portfolio Allocation and Risk Analysis using High-Frequency Financial Data. *Statistics and Its Interface.* 11(1):141 – 152. DOI: http://dx.doi.org/10.4310/SII.2018.v11.n1.a12.

(xxii) Liu, H., **Zou, J.*** and Ravishanker, N. (2018). Multiple Day Biclustering of High-Frequency Financial Time Series. *Stat.* 7(1): e176. DOI: https://doi.org/10.1002/sta4.176.

(xxiii) Yan, H., Zhang, Z and **Zou, J.*** (2018). Dynamic Space-Time Model for Syndromic Surveillance with Particle Filters and Dirichlet Process. *In: Blasch, E., Ravela, S., Aved, A. (Eds.) Handbook of Dynamic Data Driven Application Systems.* Springer, Cham. 139-152. DOI: https://doi.org/10.1007/978-3-319-95504-9

(xxiv) Comer, KF, Gibson, PJ, **Zou, J.**, Rosenman, M. and Dixon, BE. (2018). Electronic Health Record (EHR)-Based Community Health Measures: An Exploratory Assessment of Perceived Usefulness by Local Health Departments. *BMC Public Health*, 18(1). DOI: 10.1186/s12889-018-5550-2.

(xxv) Ansari, S.F., Yan, H., **Zou, J.**, Worth, R.M. and Barbaro, N.M. (2018). Hospital Length of Stay and Readmission Rate for Neurosurgical Patients. *Neurosurgery.* 82(2):173-181. DOI: 10.1093/neuros/nyx160.

(xxvi) Tlachac, M., Rundensteiner, E., Barton, K., Troppy, S., Beaulac, K., Doron, S. and **Zou, J.** (2018). CASSIA: An Assistant for Identifying Clinically and Statistically Significant Decreases in Antimicrobial Susceptibility. *Proceedings of 2018 IEEE International Conference on Biomedical and Health Informatics (BHI),* Las Vegas, NV, 2018, pp. 389-392. DOI: 10.1109/BHI.2018.8333450

(xxvii) Villelli, N.W., Yan, H., **Zou, J.** and Barbaro, N.M. (2017). The Impact of the 2006 Massachusetts Healthcare Reform on Spine Surgery Patient Payer-Mix and Age. *Journal of Neurosurgery: Spine.* 27(6):694-699. DOI: 10.3171/2017.4.SPINE161141.

(xxviii) Villelli, N.W., Das, R., Yan, H., Huff, W., **Zou, J.** and Barbaro, N.M. (2017). Impact of the 2006 Massachusetts health care insurance reform on neurosurgical procedures and patient insurance status. *Journal of Neurosurgery.* **2017(Jan.);126(1)**:167-174.

(xxix) Yan, H., Zhang, Z. **Zou, J.*** (2017). An Online Spatio-Temporal Model for Inference and Predictions of Taxi Demand. *Proceedings of IEEE International Conference on Big Data 2017,* 3550-3557. DOI: 10.1109/BigData.2017.8258345

(xxx) Patikorn, T., Selent, D., Heffernan, N., Beck, J. and **Zou, J.** (2017). Using a Single Model Trained across Multiple Experiments to Improve the Detection of Treatment Effects. *Proceedings of International Conference on Educational Data Mining (EDM) 2017,* 202–207.

(xxxi) Yin, B., Botelho, A., Patikorn, T., Heffernan, N. and **Zou, J.** (2017). Causal Forest vs. Naive Causal Forest in Detecting Personalization: An Empirical Study in ASSISTments. *Proceedings of International Conference on Educational Data Mining (EDM) 2017,* 388–389.

(xxxii) Patikorn, T., Heffernan, N. and **Zou, J.** (2017). An Offline Individual Treatment Rule Evaluation Method and How to Find Heterogeneous Treatment Effect. *Proceedings of International Conference on Educational Data Mining (EDM) 2017,* 390–391.

(xxxiii) Dixon, B.E., **Zou, J.**, Comer, K.F., Rosenman, M., Craig, J.L. and Gibson, P. (2016). Using electronic health record data to improve community health assessment. *Front Public Health Serv Sys Res.* **5(5)**:50–6.

(xxxiv) Wang, Y., Wu, S. and **Zou, J.** (2016). Quantum Annealing With Markov Chain Monte Carlo Simulations and D-Wave Quantum Computers. *Statistical Science.* **31(3)**:362-398.

(xxxv) Kim, D., Wang, Y. and **Zou, J.** (2016). Asymptotic theory for large volatility matrix estimation based on high-frequency financial data. *Stochastic Processes and their Applications.* **126(11)**:3527–3577.

(xxxvi) **Zou J.***, Zhang H. (2016) High-Frequency Financial Statistics Through High-Performance Computing. *In: Arora R. (eds) Conquering Big Data with High Performance Computing.* Springer, Cham.

(xxxvii) **Zou, J.*** and Huang, C. (2016). Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data. *Proceedings of IEEE International Conference on Big Data 2016,* 2332-2341. DOI: 10.1109/BigData.2016.7840866

(xxxviii) Hong, L. and **Zou, J.** (2015). Jump tests for semimartingales. *South African Actuarial Journal.* **15(1)**:93-108.

(xxxix) **Zou, J.***, An, Y. and Yan, H. (2015). Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations. *Proceedings of IEEE International Conference on Big Data 2015,* 2437-2444. DOI: 10.1109/BigData.2015.7364038

(xl) **Zou, J.***, Karr, A.F., Datta, G., Lynch, J. and Grannis, S. (2014). A Bayesian spatio-temporal approach for real-time detection of disease outbreaks: A case study. *BMC Medical Informatics and Decision Making.* **14**:108.

(xli) Wang, Y. and **Zou, J.** (2014). Volatility Analysis in High-Frequency Financial Data. *WIREs: Computational Statistics,* 6(6):393–404.

(xlii) **Zou, J.*** and Zhang, H. (2014). High-frequency financial statistics with parallel R and Intel Xeon Phi coprocessor. *Proceedings of IEEE International Conference on Big Data 2014,* 61–69. DOI: 10.1109/BigData.2014.7004414

(xliii) **Zou, J.*** and Wang, Y. (2013). Statistical Methods for Large Portfolio Risk Management. *Statistics and Its Interface*, 6, 477–485.

(xliv) **Zou, J.*** and Huang, H. (2013). On Portfolio Allocation: A Comparison of Using Low-Frequency and High-Frequency Financial Data. *Topics in Applied Statistics*, Hu, M.; Liu, Y. & Lin, J. (Eds.) Springer New York, 55, 13–22.

(xlv) **Zou, J.***, Karr, A.F., Banks, D., Heaton, M., Datta, G., Lynch, J. and Vera, F. (2012). Bayesian Methodology for the Analysis of Spatial-Temporal Surveillance Data. *Statistical Analysis and Data Mining*, 5, 194–204.

(xlvi) Heaton, M., Banks, D., **Zou, J.**, Datta, G., Karr, A.F., Lynch, J. and Vera, F. (2012). A Spatio-Temporal Absorbing State Model for Disease and Syndromic Surveillance. *Statistics in Medicine*, 31, 2123–2136.

(xlvii) Cressie, N., Assuncao, R., Holan, S., Levine, M, Nicolis, O., Zhang, J. and **Zou, J.** (2012). Dynamical Random-Set Modeling of Concentrated Precipitation in the US. *Statistics and Its Interface*, 5, 169–181.

(xlviii) Tao, M., Wang, Y., Yao, Q., **Zou, J.** (2011). Large Volatility Matrix Inference via Combining Low-Frequency and High-Frequency Approaches. *Journal of the American Statistical Association*, 106, 1025–1040.

(xlix) Wang, Y. and **Zou, J.** (2010). Vast Volatility Matrix Estimation for High-Frequency Financial Data. *Annals of Statistics*, 38, 943–978.

(l) Duan, J., Wang, Y. and **Zou, J.** (2009). The Speed of Option Price Convergence from GARCH to Diffusion Models. *International Journal of Theoretical and Applied Finance*, 12, 359–391.

(li) **Zou, J.** and Wang, X. (2002). Research on a Multimedia Network Real-Time Monitor-Control Platform. *Proceedings of Distributed and Parallel Computing Symposium*, 20–24.

(lii) Zhang, H. and **Zou, J.** (2002). Research on Distributed Multimedia Network Collaborative Platform. *Journal of Computer Engineering and Applications* 17, 172–174.

Other Publications

(liii) **Jian Zou**, "Volatility estimation and option pricing", University of Connecticut, Storrs, CT

4. FELLOWSHIPS AND GRANTS

(i) Senior Personnel, National Science Foundation, "REU Site: Research Experiences for Undergraduates in Industrial Mathematics and Statistics", $412,937, 05/01/2023 – 07/31/2026 (Advised on three REU projects over the course of three summers.)

(ii) Co-PI, Army Research Lab (ARL), "Data Sciences, AI and Machine Learning for Army Applications", $854,000, 07/01/19 - 06/30/21. (Received faculty summer support and a research assistant.)

(iii) Co-PI, TRIADs: WPI Interdisciplinary Seed Grant Pilot, "SUPER BUGS, Genomics-driven molecular and epidemiological modeling of multidrug resistance", $60,000, 07/01/20 - 06/30/22. (Received faculty support for statistical modeling and data analysis.)

(iv) Senior Personnel, National Science Foundation, "REU Site: Research Experiences for Undergraduates in Data Science", $366,000, 05/01/19 - 04/30/22 (Advised on one REU projects over one summer.)

(v) Senior Personnel, National Science Foundation, "REU Site: Research Experiences for Undergraduates in Industrial Mathematics and Statistics", $388,517, 03/01/2018 – 02/28/2021.

(vi) Senior Personnel, National Science Foundation, "REU Site: Research Experiences for Undergraduates in Data Science", $367,500, 05/01/16 - 04/30/19 (Advised on two REU projects over two summers.)

(vii) PI, National Science Foundation (TG-DMS150005), "Monte Carlo Simulation of Quantum Evolution", XSEDE (Extreme Science and Engineering Discovery Environment at Texas Advanced Computing Center) Computing Resources, Stampede: 50000 SUs; Ranch: 500 GB; 9/2015-3/2017 (Supporting Zou's high performance computing needs for research).

(viii) Co-PI, Robert Wood Johnson Foundation (I.D. 71271): "Leveraging Integrated Electronic Data Sources to Improve Population Health Assessment at Local Levels", $200,000, 09/15/2013 - 09/14/2015.

(ix) PI, National Science Foundation (TG-DMS130018), "Cluster-enabled Large Scale High-frequency Financial Data Analytics", XSEDE (Extreme Science and Engineering Discovery Environment at Texas Advanced Computing Center) Computing Resources, Stampede: 75000 SUs; Ranch: 500 GB; 7/2013-7/2015 (Supporting Zou's high performance computing needs for research).

(x) PI, Subcontract of National Science Foundation (DMS-0914906) grant from the National Institute of Statistical Sciences, "Collaborative Research for Developing ATD: Bayesian Methods in Syndromic Surveillance: CAR Models and Computational Implementation", $644,019, 09/01/2012 - 08/31/2014.

(xi) Senior Personnel, National Institute of Health (K23HD057130): "Neighborhood poverty and sexually transmitted infections", $ 100,000, 08/01/2013 - 07/31/2014.

5. PROFESSIONAL PRESENTATIONS

(i) (Invited) "BOSTON-PUPA: a Bayesian online spatio-temporal outbreak detection framework with prior updating and p-value adaptation." ICSA 2025 Applied Statistics Symposium, Storss, CT, June, 2025.

(ii) (Invited) "Latent level correlation modeling of multivariate discrete-valued financial time series." Statistics and Data Science Colloquium, University of Central Florida, September, 2024.

(iii) (Invited) "BOSTON-PUPA: a Bayesian online spatio-temporal outbreak detection framework with prior updating and p-value adaptation." 38th New England Statistics Symposium, Storrs, CT, May, 2024.

(iv) (Invited) "Latent level correlation modeling of multivariate discrete-valued financial time series." 37th New England Statistics Symposium, Boston, MA, June, 2023.

(v) (Invited/Declined) "Information Theory-Based Pattern Detection for High-Frequency Financial Time Series." ICSA 2022 Applied Statistics Symposium, Gainesville, FL, June, 2022.

(vi) (Invited) "Biclustering high-frequency financial time series based on information theory." 36th New England Statistics Symposium, Storrs, CT, May, 2022.

(vii) (Invited) "Pattern Detection for High-Frequency Financial Time Series via Clustering and Bi-Clustering." Statistics and Data Science Seminar, University of Illinois Chicago, February, 2021.

(viii) (Invited) "Multivariate Latent Correlation Model with INLA for Discrete Financial Time Series." The 34th New England Statistics Symposium, October, 2021.

(ix) (Invited) "Pattern Detection for High-Frequency Financial Time Series via Clustering and Bi-Clustering." Department Colloquium, University of Georgia, October, 2021.

(x) (Invited) "Hybrid Hierarchical Spatio-Temporal Methodologies: Model Reduction and Filtering." 5th EAC-ISBA Conference, November, 2021.

(xi) (Invited) "Clustering and Bi-Clustering for High-Frequency Financial Time Series Based on Mutual Information." 2020 International Virtual Conference on Advanced Statistical Techniques in Business and Industry. December, 2020.

(xii) (Invited) "Clustering and Bi-Clustering for High-Frequency Financial Time Series Based on Mutual Information." 2020 Joint Statistics Meetings. Virtual. August, 2020.

(xiii) (Invited) "Hybrid Hierarchical Spatio-Temporal Methodologies: Model Reduction and Filtering." EAC-ISBA 2020 Conference, Dali, China, June, 2020.

(xiv) (Invited) "Hybrid Hierarchical Spatio-Temporal Methodologies: Model Reduction and Filtering." Departmental Colloquium, University of Rhode Island, Kingstown, RI, October, 2019.

(xv) (Invited) "Learning Low-Dimensional Manifolds for the Scoring of Tissue Microarray Images", 33th New England Statistics Symposium, Hartford, CT, May, 2019.

(xvi) (Invited) "When Big Data Meet Financial Statistics: A Data Science Perspective." 2018 ICSA China Conference, Qingdao, China, July, 2018.

(xvii) (Invited) "A Hybrid Hierarchical Bayesian Model for Spatio-Temporal Surveillance Data." ICSA 2018 Applied Statistics Symposium, New Brunswick, NJ, June, 2018.

(xviii) "An Online Spatio-Temporal Model for Inference and Predictions of Taxi Demand." 2017 IEEE International Conference on Big Data, Boston, MA, December, 2017.

(xix) "Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data", Joint Statistical Meetings, Baltimore, MD, August, 2017.

(xx) (Invited) "Dynamic Space-Time Model for Syndromic Surveillance with Particle Filters and Dirichlet Process", QPRC 2017: The 34th Quality and Productivity Research Conference, Storrs, CT, June, 2017.

(xxi) (Invited) "Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data", International Society for Business and Industrial Statistics (ISBIS) 2017 Meeting on Statistics in Business Analytics, Yorktown Heights, NY, June, 2017.

(xxii) (Invited) "High Dimensional Dynamic Modeling for Massive Spatio-Temporal Data", 31th New England Statistics Symposium, Storrs, CT, April, 2017.

(xxiii) "Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data", IEEE International Conference on Big Data 2016 (IEEE BigData 2016), Washington DC, December, 2016.

(xxiv) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", Department of Mathematical Sciences Colloquium, Northeastern University, Boston, MA, October, 2016.

(xxv) "Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations", Joint Statistical Meetings, Chicago, IL, August, 2016.

(xxvi) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", International Symposium on Business and Industrial Statistics, Barcelona, Spain, June, 2016.

(xxvii) "Conquering Big Data in Volatility Inference and Risk Management", SAMSI Games and Decisions in Reliability and Risk Workshop, RTP, NC, May, 2016.

(xxviii) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", Department of Mathematical Sciences Colloquium, UMass, Dartmouth, MA, April, 2016.

(xxix) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", Department of Mathematical Sciences Colloquium, UMass, Amherst, MA, March, 2016.

(xxx) (Invited) "Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations", IEEE International Conference on Big Data 2015 (IEEE BigData 2015), Santa Clara, CA, October, 2015.

(xxxi) (Invited) "Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations", Department of Mathematical Sciences Colloquium, Boston University, Boston, MA, October, 2015.

(xxxii) "High-frequency financial statistics with parallel R and Intel Xeon Phi coprocessor", Joint Statistical Meetings, Seattle, WA, August, 2015.

(xxxiii) (Invited) "Bayesian Spatio-Temporal Methodology for Biosurveillance", 60th ISI World Statistics Congress, Rio de Janeiro, Brazil, July, 2015.

(xxxiv) (Invited) "High Performance Computations for Statistical Methods in High-Frequency Finance", Fifth International IMS-FIPS Workshop, New Brunswick, NJ, June, 2015

(xxxv) (Invited) "Statistical Methods for Large Portfolio Risk Management", 29th New England Statistics Symposium, Storrs, CT, April, 2015.

(xxxvi) (Invited) "Bayesian Spatio-Temporal Methodology for Biosurveillance", Department of Statistics Colloquium, University of Connecticut, Storrs, CT, February, 2015.

(xxxvii) (Invited) "High-frequency financial statistics with parallel R and Intel Xeon Phi coprocessor", IEEE International Conference on Big Data 2014 (IEEE BigData 2014), Washington DC, October, 2014.

(xxxviii) (Invited) "Statistical Methods for Large Portfolio Risk Management", Joint Statistical Meetings, Boston, MA, August, 2014.

(xxxix) (Invited) "Statistical Methods for Large Portfolio Risk Management", International Symposium on Financial Engineering and Risk Management 2014 (FERM 2014), Beijing, China, June, 2014.

(xl) (Invited) "High Performance Computations and Statistical Methods for Large Portfolio Risk Management", Department of Computer Science Colloquium, Shandong University, Jinan, China, June, 2014.

(xli) (Invited) "Statistical Methods for Large Portfolio Risk Management", Department of Statistics Colloquium, Shanghai University of Finance and Economics, Shanghai, China, June, 2014.

(xlii) (Invited) "Bayesian Spatio-Temporal Methodology for Real-Time Detection of Disease Outbreaks", School of Mathematics Lingnan Special Lecture, Sun Yat-Sen University, Guangzhou, China, May, 2014.

(xliii) (Invited) "Bayesian Spatio-Temporal Methodology for Real-Time Detection of Disease Outbreaks", Department of Mathematical Sciences Colloquium, Worcester Polytechnic Institute, Worcester, MA, April, 2014.

(xliv) (Invited) "Statistical Methods for Large Portfolio Risk Management", Department of Statistics Colloquium, Purdue University, West Lafayette, IN, January, 2014.

6. CONSULTING GRANT

- Hologic, Inc, Indianapolis, IN: "Multifactor Experimental Design and Analysis for Cancer Diagnostic Devices", PI, 2013.
- Polymer Technology Systems, Inc, Indianapolis, IN: "Statistical Modeling of Variation Adjustment and Outlier Detection for Polymer Technology Systems", PI, 2012.

TEACHING

7. TEACHING AND CURRICULUM INNOVATIONS AT WPI

- As Associate Department Head of Mathematical Sciences, actively collaborated with interdisciplinary teams to design innovative curricula and research initiatives that bridged statistics, finance, and AI technology.
- Facilitated strategic partnerships and industry engagement, curriculum development that aligns with current trends in financial technology and artificial intelligence.
- Key contributor to the development of the new Bachelor of Science degree program in Data Science. Collaborated with all three departments/units within the Data Science program to establish degree requirements and integrate them into the curriculum.
- Designed and developed a new graduate course, "Computational Statistics". Extensive use of project-based learning in course curriculum, focusing on real-world applications using publicly available data. This course was first offered as MA590 in Spring of 2017 and became MA 551 in 2020.
- Worked with the undergraduate committee and Prof. Fangfang Wang to develop an experimental course, "Introduction to Time Series Analysis". Helped to design and draft the course proposal, and lead the discussion in the departmental meetings to facilitate the approval. Topics include autocorrelation function, partial autocorrelation function, extended autocorrelation function, autoregressive-moving-average models, models for seasonal time series, unit-root test, integrated processes, distributed lag models, and transfer function models. Optional topics may include conditional heteroscedastic models and the Kalman filter. This course was first offered as MA464X in D term of 2022 and became MA 4644 in 2024.

- Worked with the undergraduate committee and Prof. Randy Paffenroth to develop an experimental course, "Data Analytics and Statistical Learning". Helped to design and draft the course proposal, and lead the discussion in the departmental meetings to facilitate the approval. Topics include regression; classification/clustering; sampling methods (bootstrap and cross validation); and decision tree learning. This course was first offered as MA463X in D term of 2017 and became MA 4635 in 2019.

8. LECTURE COURSES TAUGHT

- AT WPI
  (i) **C15 Term** *MA2611 Applied Statistics I* (4 sections, 108 students)
  (ii) **D15 Term** *MA2612 Applied Statistics II* (4 sections, 89 students)
  (iii) **Fall 2015** *MA554 Applied Multivariate Analysis* (14 students)
  (iv) **D16 Term** *MA2612 Applied Statistics II* (4 sections, 100 students)
  (v) **A16 Term** *MA2611 Applied Statistics I* (4 sections, 107 students)
  (vi) **Fall 2016** *MA550 Time Series Analysis* (27 students)
  (vii) **D17 Term** *MA2612 Applied Statistics II* (4 sections, 92 students)
  (viii) **D18 Term** *MA2612 Applied Statistics II* (4 sections, 98 students)
  (ix) **Fall 2018** *MA590 Computational Statistics* (10 students)
  (x) **B18 Term** *MA2612 Applied Statistics II* (2 sections, 92 students)
  (xi) **Spring 2019** *MA542 Regression Analysis* (15 students)
  (xii) **B19 Term** *MA2612 Applied Statistics II* (3 sections, 70 students)
  (xiii) **D19 Term** *MA2612 Applied Statistics II* (4 sections, 100 students)
  (xiv) **Fall 2019** *MA590 Computational Statistics* (12 students)
  (xv) **D20 Term** *MA2611 Applied Statistics I* (5 sections, 130 students)
  (xvi) **D20 Term** *MA2612 Applied Statistics II* (4 sections, 79 students)
  (xvii) **B20 Term** *MA2612 Applied Statistics II* (4 sections, 70 students)
  (xviii) **Fall 2021** *MA511 Applied Statistics For Engineers and Scientists* (39 students)
  (xix) **B21 Term** *MA2611 Applied Statistics I* (6 sections, 163 students)
  (xx) **A22 Term** *MA2611 Applied Statistics I* (3 sections, 66 students)
  (xxi) **B22 Term** *MA2612 Applied Statistics II* (4 sections, 85 students)
  (xxii) **A23 Term** *MA2611 Applied Statistics I* (2 sections, 56 students)
  (xxiii) **B23 Term** *MA2612 Applied Statistics II* (5 sections, 122 students)
  (xxiv) **A24 Term** *MA2611 Applied Statistics I* (3 sections, 53 students)
  (xxv) **B24 Term** *MA2611 Applied Statistics I* (5 sections, 123 students)
  (xxvi) **D25 Term** *MA2611 Applied Statistics I* (3 sections, 83 students)
- AT IUPUI
  (i) **Fall 2011** *STAT35000 Introduction to Statistics* (36 students)
  (ii) **Fall 2011** *STAT52100 Statistical Computing* (14 students)
  (iii) **Spring 2012** *STAT52000 Time Series and Applications* (13 students)

(iv) **Fall 2012** *STAT35000 Introduction to Statistics* (39 students)
(v) **Fall 2012** *STAT52100 Statistical Computing* (13 students)
(vi) **Spring 2013** *STAT52000 Time Series and Applications* (8 students)
(vii) **Fall 2013** *STAT35000 Introduction to Statistics* (38 students)
(viii) **Fall 2013** *STAT52100 Statistical Computing* (13 students)
(ix) **Spring 2014** *STAT35000 Introduction to Statistics* (38 students)
(x) **Spring 2014** *STAT52000 Time Series and Applications* (13 students)

9. UNDERGRADUATE PROJECT ADVISING AT WPI (IQPS AND MQPS)

INTERACTIVE QUALIFYING PROJECTS

IQPs at WPI are interdisciplinary projects completed by each undergraduate student (in crossmajor teams or individually) aimed at addressing a problem or need arising at the intersection of science and society. These projects are the equivalent of 3 undergraduate courses and result in a published written report.

- AY 2014/2015, Terms B/C (Worcester Project Center)

(i) Commercial Kitchen Profitability (Sponsor: Worcester Regional Food Hub)
  - Nicholas Comei, Thomas Danko, Ashley Nistler, Michael Vaitkunas

(ii) Assistive Technology Intervention Process (Sponsor: Seven Hills Foundation)
  - Jahan Dadlani, Joseph Fainer, David Goodrich, Jacob Hackett

(iii) Abby's House 40^{th} Anniversary Video (Sponsor: Abby's House)
  - William Beatty, Elizabeth Bliss, Jordan Feeley, Arianna Smith

(iv) Family Accessibility of the Worcester Art Museum (Sponsor: Worcester Art Museum)
  - Michael Caldwell, Sebastian Espinosa, Dylan Roche, Bruno Scherrer

(v) Marketing and Recruiting College Student Volunteers for Habitat for Humanity Metro West ReStore (Sponsor: Habitat for Humanity)
  - Christian Doskocil, Julie Valim, Kevin Wormer

MAJOR QUALIFYING PROJECTS

MQPs at WPI are senior capstone projects completed by each undergraduate student (in teams or individually) involving high-level research that addresses a problem of interest in their area of study. These capstone projects are the equivalent of 3 undergraduate courses and result in a published written report, typically along with an oral and/or poster presentation.advised or co-advised the following MQPs:

(i) Data-Driven Marketing Analysis for Music Worcester
AY 2024/2025, Terms A/B/C, co-advised with Prof. Fangfang Wang (MA)
  - Nate Kaalman, Aayan Krishan, Keyang Li, Paige Scully

(ii) Mining Graph Patterns in Software Repositories
AY 2023/2024, Terms A/B/C/D, co-advised with Prof. Fabricio Murai (CS)

- Nur Fateemah, Alexander MacDonald, Jakob Simmons, Ethan Vaz Falcao

(iii) Analyzing the Dynamic Relationship Between Intraday Trading Activity and Volatility Using High-Frequency Data
AY 2020/2021, Terms A/B/C, co-advised with Prof. Fangfang Wang (MA)

- Emily Baker, Ryan Candy, Isadora Coughlin

(iv) Analysis of AM-241 Resuspension into Atmosphere
AY 2018/2019, Terms A/B/C/D, co-advised with Profs. David Medich (PH) and Zhongqiang Zhang (MA)

- Paula Sarrion Silvestre

(v) Flexible Infrastructure Supporting Machine Learning for Anomaly Detection in Big Data (Sponsor: ACI Worldwide)
AY 2016/2017, Terms A/B/C/D, co-advised with Prof. Elke Rundensteiner (CS)

- Erin Esco, Alexander Huot, Yihong Zhou, Ziyan Ding

(vi) Statistical method for risk management and portfolio theory
AY 2014/2015, Terms D/A/B

- Zhenyan Li

OTHER UNDERGRADUATE PROJECTS

(i) Use of AI algorithms to predict the remaining useful life (RUL) of aircraft safety-critical equipment
Center for Industrial Mathematics and Statistics Research Experiences for Undergraduates (REU), Summer 2025

- Angelina Legkodimov (University of Delaware), Patrick (Eunsang) Park (University of California, Merced), Pranav Tikkawarand (Rutgers University), and Andres Rocha (California Polytechnic State University)
- Two papers in preparation

(ii) AI and Risk Modeling for System Reliability and Safety Engineering
Center for Industrial Mathematics and Statistics Research Experiences for Undergraduates (REU), Summer 2024

- Evan Brody (New York University), Karl Ramus (Worcester Polytechnic Institute), and Esther Yu (Cornell University)
- Two papers submitted for publication

(iii) AI-augmented Reliability Predictions using Failure Modes, Effects, and Criticality Analysis for Industrial Applications
Center for Industrial Mathematics and Statistics Research Experiences for Undergraduates (REU), Summer 2023

- Nicholas Grabilla (University of Michigan) and Stephanie Wang (University of Rochester)
- Paper presented at the 2023 Society for Industrial and Applied Mathematics (SIAM) Annual Meeting
- Paper presented at the 2024 Joint Mathematics Annual Meeting (JMM)

(iv) CityView 2.0: Informative Urban Mobility Data Visualization
Data Science Research Experiences for Undergraduates (REU), Summer 2018

- Vindhya Kuchibhotla (Boston University) and Emmanuel Odofin (Lincoln University)
- Poster presented at the 2018 WPI Summer Undergraduate Research Showcase

(v) SURV: A Visualization System for Massive Urban Data
Data Science Research Experiences for Undergraduates (REU), Summer 2017

- Christian Huacon (Hostos Community College) and Lucas Pelegrin (Michigan Technological University)
- Paper presented at the 2017 IEEE MIT Undergraduate Research Technology Conference

(vi) Deep Learning For Multi-Task Network Extraction from Time Series Data
Research Experiences for Undergraduates (REU), Summer 2016

- Rajeshware Majumdar (University of Connecticut) and Puja Trivedi (University of Maryland)
- Poster presented at the 2016 Annual Biomedical Research Conference for Minority Students (ABRCMS)

10. GRADUATE CAPSTONE PROJECTS, THESES AND DISSERTATIONS ADVISED

Served as Major PhD Advisor:

(i) Yanzhao Wang, PhD Dissertation (Statistics), *New developments in sequential change point detection for time series and spatio-temporal analysis*, graduation date: May, 2023.

(ii) Haitao Liu, PhD Dissertation (Data Science), *Patterns Detection on Multivariate High-Frequency Time Series*, graduation date: May, 2020.

(iii) Hong Yan, PhD Dissertation (Statistics), *Hybrid Hierarchical Spatio-Temporal Methodologies: Model Reduction and Filtering*, graduation date: December, 2018.

Served as PhD Dissertation Committee Member:

(iv) Shaoming Yin, PhD Dissertation (Data Science), *Comprehensive Evaluation of the Relative Performance of Cohort Balancing Methods for Estimating Marginal Hazard Ratios in Small to Moderate Sample Size Scenarios*, expected graduation date: May, 2026.

(v) Mingzhi Hu, PhD Dissertation (Data Science), *Data Mining and Foundational Models for Spatial-Temporal Data*, expected graduation date: May, 2026.

(vi) Shuaichuan Feng, PhD Dissertation (Statistics), *Innovative Statistical Methods for Genetic Data Analysis: Heritability Estimation and P-Value Combination*, expected graduation date: August, 2025.

(vii) Biao Yin, PhD Dissertation (Data Science), *Facilitating Scientific Material Discovery via Deep Learning on Small Image Datasets*, graduation date: May, 2024.

(viii) Xiaohui Chen, PhD Dissertation (Statistics), *Novel Statistical Methods for Aggregating Correlated and Missing Data with Applications to Chronic Disease Research*, graduation date: August, 2023.

(ix) Jidapa Thadajarassiri, PhD Dissertation (Data Science), *Knowledge Amalgamation from Heterogeneous Pre-Trained Models*, graduation date: May, 2023.

(x) Evan Witz, PhD Dissertation (Mathematical Sciences), *Mathematical Principles for Deconstructing Deep Learning: Theory and Application to Electromagnetic Signals*, graduation date: August, 2022.

(xi) Nitish Bahadur, PhD Dissertation (Data Science), *Dimension Estimation and Application in Finance*, graduation date: December, 2021.

(xii) Pitchaya Wiratchotisatian, PhD Dissertation (Data Science), *Essays in Mixed-Integer Nonlinear Optimization for Matching Applications*, graduation date: August, 2021.

(xiii) Wenjing Li, PhD Dissertation (Statistics), *Optimal Ensembles for Deep Learning: Theory and Practice*, graduation date: May, 2021.

(xiv) Yuan Yu, PhD Dissertation (Statistics), *Bayesian Small-Area Analyzes of the Unrelated Question Design with Multiple Sensitive Questions*, graduation date: May, 2019.

(xv) Wen Liu, PhD Dissertation (Data Science), *Identifying Fixations in Gaze Data via Inner-Density and Optimization*, graduation date: May, 2019.

(xvi) Lu Chen, PhD Dissertation (Statistic)), *Hierarchical Bayesian Models for Polychotomous Data from Sub-Areas*, graduation date: December, 2018.

(xvii) Jiaxin Liu, Chi Zhang, Shanshan Zhou, and Tianyu Zou, Master's Capstone Project (Applied Statistics), *State Space Statistical Models for Multispecies Marine Fish Population Dynamics*, Graduated May, 2017.

(xviii) Chuqin Huang, Master's Capstone Project (Applied Statistics), *Multivariate Statistical Analysis for Financial Time Series*, Graduated January, 2017.

(xix) Yunbo An, Master's Capstone Project (Financial Mathematics), *High-Dimensional Volatility Inference for High-Frequency Financial Data*, Graduated May, 2016.

(xx) Dongchen Jiang, Master's Thesis (Applied Statistics), *Model Comparison of Multivariate Volatility Modeling for High-Frequency Financial Data*, Graduated May, 2015.

(xxi) Binod Manandhar, PhD Dissertation (Mathematical Sciences (Statistics)), *Bayesian Models for the Analysis of Noisy Responses from Small Areas: An Application to Poverty Estimation*, Graduated May, 2017. *PhD thesis committee member, Advisor: Dr. Balgobin Nandram at WPI*

(xxii) Sounthar Manickavasagam, Master Thesis (Data Science), *Deployment of Autonomous Electric Taxis with Consideration for Charging Stations*, Graduated June, 2017. *Thesis committee member, Advisor: Dr. Andrew Trapp at WPI*

(xxiii) Jiani Yin, PhD Dissertation (Mathematical Sciences (Statistics)), *Hierarchical Bayesian Models, Small Area Estimation and Dirichlet Processes*, Graduated May, 2016. *PhD thesis committee member, Advisor: Dr. Balgobin Nandram at WPI*

11. INDEPENDENT STUDIES AT WPI

Note: Most of the independent studies are offered upon students' requests due to lack of advanced graduate course offerings in research topics.

(i) **Fall 2014**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 597: Hong Yan
(ii) **Fall 2014**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Hong Zhang
(iii) **Fall 2014**, MS THESIS - THES JZ2 599: Dongchen Jiang
(iv) **Spring 2015**, ADVANCED TIME SERIES ANALYSIS - ISG JZ2 595: Hong Yan
(v) **Spring 2015**, MS THESIS - THES JZ2 599: Dongchen Jiang
(vi) **Summer 2015**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 596: Yunbo An
(vii) **Fall 2015**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Hong Yan
(viii) **Fall 2015**, ADVANCED TIME SERIES ANALYSIS - ISG JZ2 595: Lu Chen
(ix) **Spring 2016**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595A: Hong Yan
(x) **Spring 2016**, STATISTICAL SEMINAR - ISG JZ2 595B: Hong Yan
(xi) **Spring 2016**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Chuqin Huang
(xii) **Fall 2016**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Chuqin Huang
(xiii) **Fall 2016**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Yuan Yu
(xiv) **Fall 2016**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
(xv) **Spring 2017**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Haitao Liu
(xvi) **Spring 2017**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Patchara Santawisook
(xvii) **Spring 2017**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595D: Wenjing Li
(xviii) **Spring 2017**, MATH CAPSTONE - ISG JZ2 596: Jiaxin Liu, Chi Zhang, Shanshan Zhou, Tianyu Zou
(xix) **Spring 2017**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
(xx) **Fall 2017**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
(xxi) **Spring 2018**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
(xxii) **Spring 2018**, PHD DISSERTATION - PHD JZ2 699: Haitao Liu
(xxiii) **Fall 2018**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
(xxiv) **Fall 2018**, PHD DISSERTATION - PHD JZ2 699: Haitao Liu
(xxv) **Spring 2019**, PHD DISSERTATION - PHD JZ2 699: Haitao Liu
(xxvi) **Spring 2019**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Yanzhao Wang
(xxvii) **Fall 2020**, PHD DISSERTATION - PHD JZ2 699: Yanzhao Wang
(xxviii) **Spring 2021**, PHD DISSERTATION - PHD JZ2 699: Yanzhao Wang
(xxix) **Fall 2021**, PHD DISSERTATION - PHD JZ2 699: Yanzhao Wang
(xxx) **Spring 2022**, PHD DISSERTATION - PHD JZ2 699: Yanzhao Wang

(xxxi) **Fall 2022**, PHD DISSERTATION - PHD JZ2 699: Yanzhao Wang

(xxxii) **Fall 2022**, INDEPENDENT STUDY/GRADUATE - DS 596: Aidan Horn

(xxxiii) **Fall 2022**, INDEPENDENT STUDY/GRADUATE - MA 595: Xiaoyu Chen

(xxxiv) **Spring 2023**, PHD DISSERTATION - PHD JZ2 699: Yanzhao Wang

(xxxv) **Spring 2024**, Master's Capstone - MA 596: Hammed Olayinka

12. ACADEMIC ADVISING AT WPI

Postdocs Advisees:

(i) Mihnea Andrei, Currently Data Scientist at TotalSoft

(ii) Gonzalo Contador, Currently Assistant Professor at Universidad Técnica Federico Santa María (Federico Santa María Technical University)

(iii) Yevgeniy Ptukhin, Currently Assistant Professor at Western Illinois University

(iv) Nadeesha Jayaweera, Currently Assistant Professor at University of Akron

(v) Tharindu De Alwis, Currently Assistant Professor at University of West Florida

Graduate Students Advised:

PhD Advisees:

(i) Chen, Lu (PhD Student, Statistics)

(ii) Feng, Shuaichuan (PhD Student, Statistics)

(iii) Liu, Haitao (PhD Student, Data Science)

(iv) Liu, Wen (PhD Student, Data Science)

(v) Liu, Yang (PhD Student, Statistics)

(vi) Manandhar, Binod (PhD Student, Statistics)

(vii) Wang, Yanzhao (PhD Student, Statistics)

(viii) Yan, Hong (PhD Student, Statistics)

(ix) Yin, Biao (PhD Student, Data Science)

(x) Yin, Jiani (PhD Student, Statistics)

(xi) Yu, Yuan (PhD Student, Statistics)

(xii) Zhang, Hong (PhD Student, Statistics)

(xiii) Hu, Mingzhi (PhD Student, Data Science)

(xiv) Chen, Xiaoyu (PhD Student, Statistics)

(xv) Zhang, Kai (PhD Student, Data Science)

Master Thesis and Project Advisees:

(xvi) Jiang, Dongchen (Master Student, Applied Statistics)

(xvii) An, Yunbo (Master Student, Financial Mathematics)

(xviii) Bu, Fan (Master Student, Applied Statistics)
(xix) Huang, Chuqin (Master Student, Applied Statistics)
(xx) Liu, Jiaxin (Master Student, Applied Statistics)
(xxi) Zhang, Chi (Master Student, Applied Statistics)
(xxii) Zhou, Shanshan (Master Student, Applied Statistics)
(xxiii) Zou, Tianyu (Master Student, Applied Statistics)
(xxiv) Liu, Zixiao (Master Student, Applied Statistics)
(xxv) Yang, Ruofan (Master Student, Applied Statistics)
(xxvi) AYGÜL, Özge (Master Student, Data Science)

Master Academic Advisees:

(xxvii) Famelia, Cut (Fullbright Student, Data Science)
(xxviii) Ding, Yichen (Master Student, Data Science)
(xxix) Jain, Jinal Jayantilal (Master Student, Data Science)
(xxx) Jiang, Chenjie (Master Student, Data Science)
(xxxi) Jiang, Yulong (Master Student, Applied Math)
(xxxii) Khandelwal, Mukund (Master Student, Data Science)
(xxxiii) Kothari, Janvi Kirti Kumar (Master Student, Data Science)
(xxxiv) Li, Mengdi (Master Student, Data Science)
(xxxv) Li, Zhitao (Master Student, Data Science)
(xxxvi) Niu, Mu (Master Student, Data Science)
(xxxvii) Pasini, Jose (Master Student, Data Science)
(xxxviii) Su, Zhaoning (Master Student, Data Science)
(xxxix) Wang, Ye (Master Student, Data Science)
(xl) Yue, Yun (Master Student, Data Science)

Undergraduate Students Advisees: 26 students

13. PROFESSIONAL SOCIETY MEMBERSHIPS AND OFFICES

- Elected Member, International Statistical Institute (ISI)
- Permanent Member, International Chinese Statistical Association (ICSA)
- Member, American Statistical Association (ASA)
- Member, Institute of Mathematical Statistics (IMS)

14. EDITORIAL, CONFERENCE ORGANIZATION AND REFEREE SERVICES

Editorial

(i) Associate Editor, *Statistica Sinica* 2017 - present

(ii) Associate Editor, *Statistics and Its Interface* 2013 - present

(iii) Associate Editor for Special Issue on "Financial Engineering and Risk Management" of *Statistics and Its Interface*.

(iv) Ad Hoc Book Chapter Reviewer for edited volume *Economic Time Series: Modeling and Seasonality*, Chapman & Hall/CRC Press.

Conference Organization

(i) Session Organizer and Chair, 38th New England Statistics Symposium, Storrs, CT, May, 2024.

(ii) Session Organizer and Chair, 37th New England Statistics Symposium, Boston, MA, June, 2023.

(iii) Student Award Committee, The 36th New England Statistics Symposium, Storrs, CT, May, 2022.

(iv) Workshop Program Committee, IEEE International Conference on Big Data 2019, Los Angeles, CA, December, 2019.

(v) Scientific Program Committee, 33nd New England Statistics Symposium, Hartford, CT, May, 2019.

(vi) Workshop Program Committee, IEEE International Conference on Big Data 2018, Boston, MA, December, 2018.

(vii) Workshop Program Committee, IEEE International Conference on Big Data 2017, Boston, MA, December, 2017.

(viii) Session Organizer and Chair, 61th ISI World Statistics Congress, Marrakech, Morocco, July, 2017.

(ix) Organizing Committee, Organizer and Chair, 34th Quality and Productivity Research Conference, Storrs, CT, June, 2017.

(x) Workshop Program Committee, IEEE International Conference on Big Data 2016, Washington DC, December, 2016.

(xi) Session Chair, International Symposium on Business and Industrial Statistics, Barcelona, Spain, June, 2016.

(xii) Session Organizer and Chair, 60th ISI World Statistics Congress, Rio de Janeiro, Brazil, July, 2015.

(xiii) Session Chair, Fifth International IMS-FIPS Workshop, New Brunswick, NJ, June, 2015.

(xiv) Session Organizer and Chair, 29th New England Statistics Symposium, Storrs, CT, April, 2015.

(xv) Session Organizer, Business and Economic Statistics Section, Joint Statistical Meetings, Montreal, Quebec, Canada, August, 2013

(xvi) Session Chair, Section on Bayesian Statistical Science, Joint Statistical Meetings, Montreal, Quebec, Canada, August, 2013

Recent Referee Services

(i) Annals of Applied Statistics
(ii) Annals of Statistics
(iii) Applied Stochastic Models in Business and Industry
(iv) Canadian Journal of Statistics
(v) Entropy
(vi) INFORMS Journal on Computing
(vii) Journal of Agricultural, Biological, and Environmental Statistics
(viii) Journal of the American Statistical Association
(ix) Journal of Business and Economic Statistics
(x) Journal of Econometrics
(xi) Methods in Ecology and Evolution
(xii) PLOS ONE
(xiii) Spatial Statistics
(xiv) Statistica Sinica
(xv) Statistics and Its Interface
(xvi) Statistics and Probability Letters
(xvii) Statistics in Medicine
(xviii) WIREs Computational Statistics

Proposal Reviews

- Reviewer for Canada Research Chairs
- NSF MMS Program Ad Hoc Reviewer
- Reviewer for Hong Kong Research Grants Council

15. HONORS, AWARDS AND OTHER RECOGNITION RELATED TO SCHOLARSHIP

(i) NSF Travel Award, SAMSI Games and Decisions in Reliability and Risk Workshop, 2016.
(ii) NSF Travel Award, Fifth International IMS-FIPS Workshop, 2015
(iii) NSF Travel Award, 14th Meeting of New Researchers in Statistics and Probability, 2012
(iv) NSF Travel Award, Uncertainty Quantification for High-Performance Computing Workshop, 2012
(v) Travel Award, NISS/ASA Writing Workshop for Junior Researchers, 2009
(vi) NSF Travel Award, Conference on Modeling High Frequency Data in Finance, 2009
(vii) IBM T.J.Watson Student Research Paper Award, New England Statistics Symposium, 2009

(viii) Graduate Pre-doctoral Fellowship, University of Connecticut, 2005

SERVICE

16. SERVICE TO PROFESSION

(i) Manage and review manuscripts for journals
(ii) Grant reviewer for NSF
(iii) Organize and chair special sessions in international conferences/workshops
(iv) Panel for career development for Research Experience for Undergraduate students

17. SERVICE TO DEPARTMENT AND UNIVERSITY - WPI COMMITTEE AND ADMINISTRATIVE ASSIGNMENT

(i) Associate Department Head, WPI Math Department
- Successfully managed operations of the department, streamlined department processes, improved efficiency and reduced operational costs.
- Led curriculum development and course scheduling, enhancing academic offerings (facilitating the development of new FinTech and Biostats programs).
- Implemented student retention and recruitment strategies that led to increased enrollment and mentorship programs that improved student success and career readiness.

(ii) Chair, WPI Data Science Undergraduate Program Committee
(iii) Member, WPI Math Department Graduate Program Committee
(iv) Member, WPI Data Science Hiring Committee
(v) Member, WPI Math Department Undergraduate Committee
- Facilitated successfully passing 12 CAO proposals for new course developments and revisions of existing undergraduate courses.
- Co-organized and co-chaired the undergraduate awards ceremony.

(vi) Member, WPI Data Science Steering Committee
(vii) Member, WPI Data Science Curriculum Committee
(viii) Member, WPI Bioinformatics & Computational Biology Steering Committee
(ix) Member, WPI Math Department Hiring Committee
(x) Member, WPI Data Science Hiring Committee
(xi) Member, WPI Center for Industrial Mathematics and Statistics
(xii) Designer and Grader, WPI Math Department general comprehensive examination (GCE) in Probability and in Mathematical Statistics
(xiii) Organizer and Chair, WPI Math Department Statistics Seminar
(xiv) Faculty Mentor for Assistant Professor Qingshuo Song

(xv) Faculty Mentor for Assistant Professor Fangfang Wang

(xvi) Faculty Mentor for Assistant Teaching Professor Buddika Peiris

18. SERVICE TO STUDENTS AT WPI

(i) Panel participant at Graduate School Panel at WPI

(ii) Judge for Graduate Research Innovation Exchange (GRIE)