

# JOHN YOUNGJUN CHOE

## *Curriculum Vitae*

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## EDUCATIONAL HISTORY

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**University of Michigan**, Ann Arbor, MI

Ph.D., Industrial & Operations Engineering, 2016

*Concentration:* Quality Engineering & Applied Statistics

*Dissertation:* Computationally Efficient Reliability Evaluation with Stochastic Simulation Models (Advisor: Eunshin Byon)

M.A., Statistics, 2016

**Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, S. Korea

B.S. (summa cum laude), Physics and Management Science (double major), 2010

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## EMPLOYMENT HISTORY

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**University of Washington**, Seattle, WA

Associate Professor, Industrial & Systems Engineering, 9/16/2022 – Present

Assistant Professor, Industrial & Systems Engineering, 9/1/2016 – 9/15/2022

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## AWARDS AND HONORS

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- **Tohoku University Invitational Fellowship for Collaborative Research**, 2024  
President's Office, Tohoku University
  - **UW NETI Educational Development Award**, 2022  
College of Engineering, University of Washington
  - **UW Faculty Appreciation for Career Education & Training (FACET) Recipient**, 2022  
Career Center @ Engineering, University of Washington
  - **NSF OSEER ECM Fellow**, 2020-2021  
NSF-supported Operations and Systems Engineering Extreme Event Research (OSEER) network's Early Career Mentoring (ECM) Program
  - **INFORMS QSR Best Paper Competition Finalist**, 2019  
Quality, Statistics, and Reliability (QSR) Section, INFORMS
  - **IISE Annual Conference Best Track Paper Award (Energy Systems Track)**, 2016  
Institute of Industrial and Systems Engineers (IISE)
  - **INFORMS QSR Best Paper Competition Finalist**, 2015  
Quality, Statistics, and Reliability (QSR) Section, INFORMS
  - **ASA Mary G. and Joseph Natrella Scholarship**, 2015  
Quality and Productivity Section, American Statistical Association (ASA)
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## AFFILIATIONS AND OTHER APPOINTMENTS

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Visiting Associate Professor, International Research Institute of Disaster Science, Tohoku University, Sendai, Miyagi, Japan, 6/17/2024 – 9/13/2024

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## PUBLICATIONS

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(Notes: Publications until 2024 used former name, Youngjun Choe. Google citation record available at: <https://scholar.google.com/citations?user=2skJdE0AAAAJ&hl=en&oi=sra>

Footnote: Undergraduate students<sup>0</sup>; Graduate students<sup>1</sup>; Equally contributed authors<sup>†</sup>)

### Refereed Archival Journal Publications

1. Martell, M.<sup>1†</sup>, Terry, N.<sup>1†</sup>, Sengupta, R.<sup>1</sup>, Salazar, C.<sup>1</sup>, Errett, N. A., Miles, S. B., Wartman, J., and **Choe, Y.**, Open-Source Data Pipeline for Street-view Images: a Case Study on Community Mobility During COVID-19 Pandemic. Accepted in *PLoS ONE*.
2. Miles, S., Ly, M.<sup>0</sup>, Terry, N.<sup>1</sup>, and **Choe, Y.** (2024). Restimate: Recovery Estimation Tool for Resilience Planning. *Journal of Safety Science and Resilience*. 5(1): 128-135. DOI: 10.1016/j.jnlssr.2024.01.001
3. Cao, Q. D.<sup>1</sup> and **Choe, Y.**, Post-Hurricane Damage Assessment Using Satellite Imagery and Geolocation Features. Accepted in *Risk Analysis*. DOI: 10.1111/risa.14244
  - Data (Open Access): <https://doi.org/10.17603/ds2-3cca-f398>
4. Liu, Z.<sup>1</sup> and **Choe, Y.** (2023). Data-Driven Sparse Polynomial Chaos Expansion for Models With Dependent Inputs. *Journal of Safety Science and Resilience*. 4(4): 358-365. DOI: 10.1016/j.jnlssr.2023.08.003
  - Code (Open Source): <https://github.com/kliuseattle/sparsePCE>
5. Shang, L., Dermisi, S., **Choe, Y.**, Lee, H. W., and Min, Y. (2023). Assessing the Office Building Marketability Before and After the Implementation of Energy Benchmarking and Disclosure Policies – Lessons Learned from Major US Cities. *Sustainability*. 15(11):8883:1-23. DOI: 10.3390/su15118883
6. Ankit, A.<sup>0</sup>, Liu, Z.<sup>1</sup>, Miles, S., and **Choe, Y.** (2022). U.S. Resilience to Large-Scale Power Outages in 2002–2019. *Journal of Safety Science and Resilience*. 3(2): 128-135. DOI: 10.1016/j.jnlssr.2022.02.002
7. Liu, Z.<sup>1†</sup>, Maneekul, P.<sup>1†</sup>, Pendergrast, C., Doubleday, A., Miles, S. B., Errett, N. A., and **Choe, Y.** (2022). Physical Activity Monitoring Data Following Disasters. *Sustainable Cities and Society*. 81(103814):1-8. DOI: 10.1016/j.scs.2022.103814
8. Cao, Q. D.<sup>1</sup>, Miles, S., and **Choe, Y.** (2022). Infrastructure Recovery Curve Estimation Using Gaussian Process Regression on Expert Elicited Data. *Reliability Engineering and System Safety*. 217(108054):1-10. DOI: 10.1016/j.res.2021.108054
9. Pendergrast, C., Miles, S. B., **Choe, Y.**, Errett, N. A. (2021). Perspectives of Fitness, Parks, and Active Transportation Organizations on Factors Influencing Physical Activity and Wellbeing During Disaster Recovery. *International Journal of Mass Emergencies and Disasters*. 39(2):292-313.
10. Yang, Z.<sup>0</sup>, **Choe, Y.**, Martell, M.<sup>1</sup> (2021). COVID-19 Economic Policy Effects on Consumer Spending and Foot Traffic in the U.S. *Journal of Safety Science and Resilience*. 2(4): 230-237. DOI: 10.1016/j.jnlssr.2021.09.003
11. Terry, N.<sup>1</sup> and **Choe, Y.** (2021). Splitting Gaussian Processes for Computationally-Efficient Regression. *PLoS ONE*. 16(8): e0256470:1-17. DOI: 10.1371/journal.pone.0256470

12. Martell, M.<sup>1</sup>, Miles, S. B., and **Choe, Y.** (2021). Review of Empirical Quantitative Data Use in Lifeline Infrastructure Restoration Modeling. *Natural Hazards Review*. 22(4): 03121001:1-14. DOI: 10.1061/(ASCE)NH.1527-6996.0000514
13. Liu, Z.<sup>1</sup>, Banerjee, A. G., and **Choe, Y.** (2021). Identifying the Influential Inputs for Network Output Variance Using Sparse Polynomial Chaos Expansion. *IEEE Transactions on Automation Science and Engineering*. 18(3): 1026-1036. DOI: 10.1109/TASE.2020.2993257
  - Selected as the **2019 INFORMS QSR Best Paper Competition Finalist**
14. Starling, J.<sup>1</sup>, **Choe, Y.**, and Mastrangelo, C. (2021). Identifying DMSMS Availability Risk at the System Level. *International Journal of Production Research*. 59(10): 2905-2925. DOI: 10.1080/00207543.2020.1743894
15. Doubleday, A., **Choe, Y.**, Busch Isaksen, T. M., Errett, N. A. (2021). Urban Bike and Pedestrian Activity Impacts from Wildfire Smoke Events in Seattle, WA. *Journal of Transport & Health*. 21(101033):1-9. DOI: 10.1016/j.jth.2021.101033
16. Starling, J.<sup>1</sup>, Mastrangelo, C, and **Choe, Y.** (2021). Improving Weibull Distribution Estimation for Generalized Type I Censored Data Using Modified SMOTE. *Reliability Engineering and System Safety*. 211(107505):1-12. DOI: 10.1016/j.res.2021.107505
17. Doubleday, A., **Choe, Y.**, Busch Isaksen, T. M., Miles, S. B., and Errett, N. A. (2021). How Did Outdoor Biking and Walking Change during COVID-19?: A Case Study of Three U.S. Cities. *PLoS ONE*. 16(1): e0245514:1-13. DOI: 10.1371/journal.pone.0245514
18. Liu, Z.<sup>1</sup> and **Choe, Y.** (2021). Data-Driven Sensitivity Indices for Models With Dependent Inputs Using Polynomial Chaos Expansions. *Structural Safety*. 88(101984):1-10. DOI: 10.1016/j.strusafe.2020.101984
19. Cao, Q. D.<sup>1</sup> and **Choe, Y.** (2020). Building Damage Annotation on Post-Hurricane Satellite Imagery Based on Convolutional Neural Networks. *Natural Hazards*. 103(3): 3357-3376. DOI: 10.1007/s11069-020-04133-2
  - Data (Open Access): <http://dx.doi.org/10.21227/sdad-1e56>
20. Kotani, T., Tozato, K., Takase, S., Moriguchi, S., Terada, K., Fukutani, Y., Otake, Y., Nojima, K., Sakuraba, M., **Choe, Y.** (2020). Probabilistic Tsunami Hazard Assessment with Simulation-Based Response Surfaces. *Coastal Engineering*. 160(103719):1-12. DOI: 10.1016/j.coastaleng.2020.103719
21. Shang, L., Lee, H. W., Dermisi, S., **Choe, Y.** (2020). Impact of Energy Benchmarking and Disclosure Policy on Office Buildings. *Journal of Cleaner Production*. 250(119500):1-9. DOI: 10.1016/j.jclepro.2019.119500
22. Kim, A., Reed, D., **Choe, Y.**, Wang, S., and Recart, C. (2019). New Building Cladding System Using Independent Tilted BIPV Panels with Battery Storage Capability. *Sustainability*. 11(20):5546:1-18. DOI: 10.3390/su11205546
23. Chen, Y<sup>†</sup>. and **Choe, Y<sup>†</sup>.** (2019). Importance Sampling and its Optimality for Stochastic Simulation Models. *Electronic Journal of Statistics*. 13(2): 3386-3423. DOI: 10.1214/19-EJS1604
24. Doubleday, A., **Choe, Y.**, Miles, S. B., and Errett, N. A. (2019). Daily Bicycle and Pedestrian Activity as an Indicator of Disaster Recovery: A Hurricane Harvey Case Study. *International Journal of Environmental Research and Public Health*. 16(2836): 1-10. DOI: 10.3390/ijerph16162836

25. Cao, Q. D.<sup>1</sup> and **Choe, Y.** (2019). Cross-Entropy Based Importance Sampling for Stochastic Simulation Models. *Reliability Engineering and System Safety*, 191(106526): 1-12. DOI: 10.1016/j.res.2019.106526
26. **Choe, Y.**, Lam, H., and Byon, E. (2018). Uncertainty Quantification of Stochastic Simulation for Black-box Computer Experiments. *Methodology and Computing in Applied Probability*, 20(4): 1155–1172. DOI: 10.1007/s11009-017-9599-7
  - Selected for the **Natrella invited session** in the 2015 Quality & Productivity Research Conference at Raleigh, NC.
27. **Choe, Y.**, Guo, W., Byon, E., Jin, J., and Li, J. J. (2016). Change-Point Detection on Solar Panel Performance Using Thresholded LASSO. *Quality and Reliability Engineering International*, 32(8): 2653–2665. DOI: 10.1002/qre.2077
28. **Choe, Y.**, Pan, Q., and Byon, E. (2016). Computationally Efficient Uncertainty Minimization in Wind Turbine Extreme Load Assessments. *ASME Journal of Solar Energy Engineering*, 138(4):041012:1-8. DOI: 10.1115/1.4033511
29. Byon, E., **Choe, Y.**, and Yampikulsakul, N. (2016). Adaptive Learning in Time-variant Processes with Application to Wind Power Systems. *IEEE Transactions on Automation Science and Engineering*, 13(2):997–1007. DOI: 10.1109/TASE.2015.2440093
30. **Choe, Y.**, Byon, E., and Chen, N. (2015). Importance Sampling for Reliability Evaluation with Stochastic Simulation Models. *Technometrics*, 57(3):351–361. DOI: 10.1080/00401706.2014.1001523
  - Selected by the journal's Editor for the **Technometrics invited session** in the 2015 INFORMS Annual Meeting at Philadelphia, PA.

#### Conference Proceedings and Other Non-journal Articles (Fully Refereed)

1. Starling, J.<sup>1</sup>, **Choe, Y.**, and Mastrangelo, C. (2019). Optimal Technology Refresh Strategies for Strategic DMSMS Management using Ranking and Selection. *Proceedings of the 2019 Winter Simulation Conference*, p.2524-2535. DOI: 10.1109/WSC40007.2019.9004856
2. **Choe, Y.**, Guo, W., Byon, E., Jin, J., and Li, J. J. (2016). Change-Point Detection in Solar Panel Performance Analysis. *Proceedings of the 2016 Industrial and Systems Engineering Research Conference (ISERC)*, p.236-241.
  - Selected for the conference's **Best Track Paper (Energy Systems Track)**.

#### Papers Submitted

1. Martell, M.<sup>1</sup>, Salazar, C.<sup>1</sup>, Errett, N. A., Miles, S. B., Wartman, J., and **Choe, Y.**, Outdoor Social Distancing Behaviors Changed During a Pandemic. 16 single-spaced pages.
2. Lensing, J.<sup>1</sup>, Wang, J., Johnson, B. B., and **Choe, Y.**, Text Mining of Practical Disaster Reports: Case Study on Cascadia Earthquake Preparedness. 41 double-spaced pages.
3. Chen, S. A.<sup>1†</sup>, Escay, A.<sup>0†</sup>, Haberland, C.<sup>1†</sup>, Schneider, T.<sup>1†</sup>, Staneva, V. and **Choe, Y.**, Benchmark Dataset for Automatic Damaged Building Detection from Post-Hurricane Remotely Sensed Imagery. 8 double-column pages.
  - Preprint: <https://arxiv.org/abs/1812.05581>
  - Data (Open Access): <http://dx.doi.org/10.21227/1s3n-f891>

4. **Choe, Y.**, Chen, Y. and Terry, N.<sup>1</sup>, Information Criterion for Boltzmann Approximation Problems. 67 double-spaced pages. Preprint: <https://arxiv.org/abs/1704.04315>
  - Python Package (Open Source): <https://pypi.org/project/cicriterion/1.0/>

## Letters

1. **Choe, Y.** (2022). Book Review: *An Introduction to Acceptance Sampling and SPC with R* by John Lawson. *Journal of the American Statistical Association*. 117(537):528. DOI: 10.1080/01621459.2022.2035160
2. **Choe, Y.** (2021). Book Review: *Design of Experiments for Generalized Linear Models* by Kenneth G. Russell. *Journal of the American Statistical Association*. 116(534):1038. DOI: 10.1080/01621459.2021.1921472

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## OTHER SCHOLARLY ACTIVITY

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### Invited Lectures and Seminars

1. UW Center for Disaster Resilient Communities (CDRC) Seminar, *Regional Data Ecosystem Development for Public Health Emergency Preparedness and Response (PHEPR)*, 26 Feb. 2024.
2. Elizabethtown College's Data Science & Engineering Seminar Series, *Data Science for Disaster Management*, 16 Mar. 2023.
3. Florida International University (FIU)'s Organizing Decentralized Resilience in Critical Interdependent-infrastructure Systems and Processes (ORDER-CRISP) Seminar Series, *Are We Ready to Harness Big Data for Disaster Management?*, 2 Jun. 2022.
4. The University of California, Los Angeles (UCLA)'s Civil & Environmental Engineering (CEE) Department Graduate Seminar Series, *Are We Ready to Harness Big Data for Disaster Management?*, 24 May 2022.
5. Stanford Urban Resilience Initiative (SURI)'s Disaster Resilience Seminar Series, *Leveraging Physical Activity Data to Assess and Inform Disaster Recovery*, 28 Oct. 2020.
6. UW Center for Studies in Demography & Ecology (CSDE) Seminar, *Integrating Physical Activity Data in Disaster Recovery Planning and Implementation*, 16 Oct. 2020.
7. UW Department of Statistics Seminar, *Information Criterion for Boltzmann Approximation Problems*, 9 Oct. 2020. (The recording is available on the [department website](#) and [YouTube](#).)
8. UW Environmental & Occupational Health Seminar, *The COVID-19 Pandemic and the Seattle, Washington Street View Campaign*, 1 Oct. 2020.
9. IISE/QCRE Webinar, *Damage Assessment on Post Hurricane Imagery*, 6 Aug. 2019. (The recording is available on the [IISE website](#).)
10. UW M9 Seminar, *Machine Annotation of Post-Hurricane Damages on Satellite Imagery*, 19 Jun. 2018.

### Conference Presentations

(Note: Presenter in bold, Undergraduate students<sup>0</sup>, Graduate students<sup>1</sup>, Equally contributed authors<sup>†</sup>)

1. Martell, M.<sup>1†</sup>, Terry, N.<sup>1†</sup>, **Sengupta, R.**<sup>1</sup>, Salazar, C.<sup>1</sup>, Errett, N. A., Miles, S. B., Wartman, J., and Choe, Y., "Open-source data pipeline for street-view images: a case study on community mobility during COVID-19 pandemic", *2023 SRA Annual Meeting*, Washington, DC, USA, 10-14 Dec. 2023.

2. **Johnson, B.**, Grover, H., Lindell, M., Choe, Y., Daly, M., and Ly, M.<sup>0</sup>, "Consumer beliefs about lifeline infrastructure recovery times and preparedness for a major earthquake", *2023 SRA Annual Meeting*, Washington, DC, USA, 10-14 Dec. 2023.
3. **Wartman, J.**, Errett, N. A., Miles, S. B., Choe, Y., Terry, N.<sup>1</sup>, Martell, M.<sup>1</sup>, Salazar, C.<sup>1</sup>, and Gormley, C., "The Covid-19 Seattle Street View Campaign", *American Geophysical Union Fall Meeting*, Chicago, IL, USA, 12-16 Dec. 2022.
4. Miles, S., Ly, M.<sup>0</sup>, Terry, N.<sup>1</sup>, and **Choe, Y.**, "Estimating disaster recovery times of interdependent infrastructure systems", *2022 SRA Annual Meeting*, Tampa, FL, USA, 4-8 Dec. 2022.
5. **Choe, Y.**, "Data Science for Disaster Management" in New Tools and Methods for Analyzing Natural Hazard And Disaster Reconnaissance Data (Panel Discussion), *Natural Hazards Research Summit 2022*, Washington, DC, USA, 6-7 Oct. 2022.
6. **Choe, Y.**, "Challenges and Opportunities in Data Science for Disaster Resilience" (Poster Presentation), *Natural Hazards Research Summit 2022*, Washington, DC, USA, 6-7 Oct. 2022.
7. **Errett, N. A.**, Vickery J, Patel R, Kwok R, Miller A, Abramson D, Baker M, Bennett A, Berman J, Bhagwanajee S, Bostrom A, Busch Isaksen T, Choe Y, Cox E, Cummings BJ, Faustman E, Fulwiler D, Galluzzo B, Gibbons N, Hartwell C, Kessel A, Khan A, Kohler P, Korfmacher M, Lien O, Lovell S, Moe K, Morris S, Nerenberg I, Packenham JP, Ramsey S, Randazza J, Savage M, Scott D, Treser C, Wartman J, Weed N, Williams D, Wittenauer R, Wladyka C., "Building Capacity for Disaster Research Response (DR2): Lessons, Tools and Resources from the University of Washington - National Institute of Environmental Health Sciences DR2 Workshop", *34th Annual Conference of the International Society for Environmental Epidemiology*, Athens, Greece, 18-21 Sep. 2022
8. **Terry, N.<sup>1</sup>**, Martell, M.<sup>1</sup>, Salazar, C.<sup>1</sup>, Errett, N. A., Miles, S. B., Choe, Y., and Wartman, J., "Measuring community recovery from COVID-19 using longitudinal street-level imagery and computer vision", *IISE Annual Conference & Expo 2022*, Seattle, WA, USA, 21-24 May. 2022.
9. Choe, Y., Chen, Y., and **Terry, N.<sup>1</sup>**, "Information Criterion for Approximate Bayesian Uncertainty Quantification", *INFORMS Annual Meeting*, Virtual, 24-27 Oct. 2021.
10. Martell, M.<sup>1</sup>, Miles, S., and **Choe, Y.**, "Literature Review on Modeling of Lifeline Infrastructure Restoration Using Empirical Quantitative Data", *INFORMS Annual Meeting*, Virtual, 7-13 Nov. 2020.
11. **Terry, N.<sup>1</sup>** and Choe, Y. "Splitting Gaussian Process Models For Fast Regression", *INFORMS Annual Meeting*, Virtual, 7-13 Nov. 2020.
12. Liu, Z.<sup>1†</sup>, Maneeikul, P.<sup>1†</sup>, Pendergrast, C., Doubleday, A., Miles, S. B., Errett, N. A., and **Choe, Y.** "Assessing Disaster Recovery Using Physical Activity Monitoring Data", *Researchers Meeting Following the Annual Natural Hazards Research and Applications Workshop*, Virtual, 15-16 Jul. 2020.
13. **Martell, M.<sup>1</sup>**, Miles, S., and Choe, Y., "Modeling of Lifeline Infrastructure Restoration Using Empirical Quantitative Data", *Researchers Meeting Following the Annual Natural Hazards Research and Applications Workshop*, Virtual, 15-16 Jul. 2020.
14. **Cao, Q. D.<sup>1</sup>**, Miles, S., and Choe, Y., "Infrastructure Recovery Curve Estimation using Gaussian Process Regression on Expert Elicited Data", *Researchers Meeting Following the Annual Natural Hazards Research and Applications Workshop*, Virtual, 15-16 Jul. 2020.
15. **Wartman, J.**, **Silver, B.**, **Errett, N. A.**, and **Choe, Y.**, "The COVID-19 Pandemic and the Seattle, Washington Street View Campaign", *Annual Natural Hazards Research and Applications Workshop*, Virtual, 12-15 Jul. 2020.
16. **Pedersen, K.**, Grover, H., Choe, Y., and Errett, N. A. "Documenting The Impact Of Lifeline Service Disruptions On Healthcare System Performance Following Earthquakes Since 2000:

- A Reconnaissance Report Analysis", *Annual Natural Hazards Research and Applications Workshop*, Virtual, 12-15 Jul. 2020.
17. Martell, M.<sup>1</sup>, Miles, S., and **Choe, Y.**, "Literature Review on Modeling of Lifeline Infrastructure Restoration Using Empirical Quantitative Data", *NHERI SimCenter Workshop on Simulation and Data Needs to Support Disaster Recovery Planning*, Berkeley, CA, USA, 30-31 Jan. 2020.
  18. **Starling, J.**<sup>1</sup>, Choe, Y., and Mastrangelo, C. "Optimal Technology Refresh Strategies for Strategic DMSMS Management Using Ranking and Selection", *Winter Simulation Conference 2019*, National Harbor, MD, USA, 8-11 Dec. 2019.
  19. **Starling, J.**<sup>1</sup>, Mastrangelo, C., and Choe, Y., "Optimal Life of Need Buy Policy Algorithms for Strategic DMSMS Management", *Diminishing Manufacturing Sources and Material Shortages (DMSMS) 2019 Conference*, Phoenix, AZ, USA, 2-5 Dec. 2019.
  20. **Starling, J.**<sup>1</sup>, Mastrangelo, C., and Choe, Y., "Optimal Technology Refresh Strategies Using Infinite Horizon Optimization", *INFORMS Annual Meeting*, Seattle, WA, USA, 20-23 Oct. 2019.
  21. **Liu, Z.**<sup>1</sup>, Banerjee, A. G., and Choe, Y., "Identifying the Influential Inputs For Network Output Variance Using Sparse Polynomial Chaos Expansion", *INFORMS Annual Meeting*, Seattle, WA, USA, 20-23 Oct. 2019.
  22. **Maneekul, P.**<sup>1†</sup>, Liu, Z.<sup>1†</sup>, Miles, S., Errett, N. and **Choe, Y.**, "Personal Fitness Monitoring App Data to Assess Community Recovery at Scale: Case Study on Post-hurricane Harvey Recovery of Harris County, Texas", *INFORMS Annual Meeting*, Seattle, WA, USA, 20-23 Oct. 2019.
  23. **Cao, Q. D.**<sup>1</sup> and Choe, Y., "Hurricane-damaged Building Identification Using Satellite Imagery and Geographical Features", *INFORMS Annual Meeting*, Seattle, WA, USA, 20-23 Oct. 2019.
  24. **Starling, J.**<sup>1</sup>, Mastrangelo, C., and Choe, Y., "Optimal Life of Need Buy Policies for Strategic DMSMS Management", *The 2019 Joint Undersea Warfare Technology Fall Conference*. Groton, CT, USA, 16-18 Sep. 2019.
  25. Cao, Q. D.<sup>1</sup> and **Choe, Y.**, "Post-Hurricane Damage Assessment with Satellite Imagery Data", *The Second Conference on Risk Analysis, Decision Analysis and Security*, Buffalo/Niagara Falls, NY, USA, 30 Jul.-2 Aug. 2019.
  26. Doubleday, A.<sup>†</sup>, Pendergrast, C.<sup>†</sup>, Miles, S. B., Choe, Y., and **Errett, N. A.**, "Understanding the Impact of Hurricane Harvey on Bike and Pedestrian Path Usage, and Examining Factors Influencing Physical Activity and Wellbeing During Disaster Recovery", *Annual Natural Hazards Research and Applications Workshop*, Broomfield, CO, USA, 14-17 Jul. 2019.
  27. Liu, Z.<sup>1†</sup>, Maneekul, P.<sup>1†</sup>, Miles, S., Errett, N. and **Choe, Y.**, "Personal Fitness Monitoring App Data to Assess Community Recovery at Scale: Case Study on Post-Hurricane Harvey Recovery of Harris County, Texas", *Annual Natural Hazards Research and Applications Workshop*, Broomfield, CO, USA, 14-17 Jul. 2019.
  28. **Starling, J.**<sup>1</sup>, Choe, Y., and Mastrangelo, C., "Identifying DMSMS Availability Risk at the System Level", *The 87th Military Operations Research Society (MORS) Symposium*, Colorado Springs, CO, USA, 17-20 Jun. 2019.
  29. Cao, Q. D.<sup>1</sup> and **Choe, Y.**, "Detecting Damaged Buildings on Post-Hurricane Satellite Imagery", *IISE Annual Conference & Expo 2019*, Orlando, FL, USA, 18-21 May. 2019.
  30. Liu, Z.<sup>1†</sup>, Maneekul, P.<sup>1†</sup>, **Choe, Y.**, Miles, S. B., and Errett, N. A., "Assessing Community Recovery Using Personal Health Monitoring Data", *IISE Annual Conference & Expo 2019*, Orlando, FL, USA, 18-21 May. 2019.
  31. **Starling, J.**<sup>1</sup>, Choe, Y., and Mastrangelo, C., "Simulating DMSMS Risk: Identifying and Prioritizing DMSMS Risk at the Platform Level", *Diminishing Manufacturing Sources and Material Shortages (DMSMS) 2018 Conference*, Nashville, TN, USA, 3-6 Dec. 2018.

32. **Cao, Q. D.**<sup>1</sup> and Choe, Y., "Deep Learning Based Damage Detection on Post-hurricane Satellite Imagery", *INFORMS Annual Meeting*, Phoenix, AZ, USA, 4-7 Nov. 2018.
  - Selected for **the 3rd place winner** in the INFORMS Poster Competition
33. **Cao, Q. D.**<sup>1</sup> and Choe, Y., "Machine Annotation of Post-hurricane Satellite Imagery for Identifying Damages", *INFORMS Annual Meeting*, Phoenix, AZ, USA, 4-7 Nov. 2018.
34. **Liu, Z.**<sup>1</sup>, Banerjee, A. G., and Choe, Y., "Sensitivity Analysis on a Network using the Polynomial Chaos Expansion", *INFORMS Annual Meeting*, Phoenix, AZ, USA, 4-7 Nov. 2018.
35. **Liu, Z.**<sup>1</sup> and Choe, Y., "Data-Driven Sensitivity Indices for Models with Dependent Inputs using the Polynomial Chaos Expansion", *INFORMS Annual Meeting*, Phoenix, AZ, USA, 4-7 Nov. 2018.
36. **Chen, S. A.**<sup>1</sup>, Escay, A.<sup>0</sup>, **Haberland, C.**<sup>1</sup>, Schneider, T.<sup>1</sup>, Yan, A.<sup>1</sup>, Cao, Q. D.<sup>1</sup>, Staneva, V. and Choe, Y., "Automatic Detection of Damaged Buildings on Post-Hurricane Remotely Sensed Imagery", *Cascadia Innovation Corridor Conference*, Vancouver, BC, Canada, 9-10 Oct. 2018.
37. **Wang, S.**, Kim, A., Reed, D. and Choe, Y., "Risk Reduction Through Building Energy Resiliency", *Lloyd's Day Houston at Rice University: "The Smart and Resilient City"*, Houston, TX, USA, 4 Oct. 2018.
38. **Xu, A.**<sup>0</sup>, Aquiningoc, T.<sup>0</sup>, Choe, Y., Miles, S. B., and Errett, N. A., "Measuring Short Term Community Recovery from the Santa Rosa Wildfires", *Washington NASA Space Grant Consortium's Annual Space Grant Awards Reception and Poster Session*, Seattle, WA, USA, 21 Sep. 2018.
39. **Aquiningoc, T.**<sup>0</sup>, Choe, Y., Miles, S. B., and Errett, N. A., "Tracking Wildfire Recovery in Santa Rosa", *Washington NASA Space Grant Consortium's Annual Space Grant Awards Reception and Poster Session*, Seattle, WA, USA, 21 Sep. 2018.
40. Cao, Q. D.<sup>1</sup> and **Choe, Y.**, "Machine Annotation of Post-Hurricane Satellite Imagery for Identifying Damages", *Annual Natural Hazards Research and Applications Workshop*, Broomfield, CO, USA, 8-11 Jul. 2018.
41. Choe, Y., **Guo, W.**, Byon, E., Jin, J., and Li, J. J., "Change-point Detection on Solar Panel Performance Using Thresholded Lasso", *INFORMS Annual Meeting*, Nashville, TN, USA, 13-16 Nov. 2016.
42. **Choe, Y.**, Guo, W., Byon, E., Jin, J., and Li, J. J., "Change-Point Detection in Solar Panel Performance Analysis", *Industrial & Systems Engineering Research Conference (ISERC)*, Anaheim, CA, USA, 21-24 May. 2016.
43. **Choe, Y.**, Pan, Q., and Byon, E., "Computationally Efficient Uncertainty Minimization in Wind Turbine Extreme Load Assessments", *Industrial & Systems Engineering Research Conference (ISERC)*, Anaheim, CA, USA, 21-24 May. 2016.
44. **Choe, Y.** and Byon, E., "Importance Sampling With a Novel Information Criterion for Efficient Reliability Evaluation", *INFORMS Annual Meeting (QSR Best Refereed Paper Competition Session)*, Philadelphia, PA, USA, 1-4 Nov. 2015.
45. **Choe, Y.** and Byon, E., "Importance Sampling With a Novel Information Criterion for Efficient Reliability Evaluation", *INFORMS Annual Meeting (Joint Session QSR/Energy: Data Analytics in Energy Systems)*, Philadelphia, PA, USA, 1-4 Nov. 2015.
46. **Choe, Y.**, Lam, H., and Byon, E., "Towards Understanding Distributional Properties of Importance Sampling Estimators with Stochastic Simulations", *INFORMS Annual Meeting*, Philadelphia, PA, USA, 1-4 Nov. 2015.
47. Choe, Y., **Byon, E.**, and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *INFORMS Annual Meeting (Technometrics Invited Session)*, Philadelphia, PA, USA, 1-4 Nov. 2015.

48. **Choe, Y.** and Byon, E., "Data Analytics for Wind Energy Systems" (Poster Presentation), *INFORMS Annual Meeting (QSR Best Student Poster Competition Session)*, Philadelphia, PA, USA, 1-4 Nov. 2015.
49. **Choe, Y.** and Byon, E., "Data Analytics for Wind Energy Systems" (Poster Presentation), *From Industrial Statistics to Data Science: A Conference in Honor of Vijay Nair*, Ann Arbor, MI, 1-3 Oct., 2015.
50. Choe, Y., **Byon, E.**, and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *ASCE EMI (Engineering Mechanics Institute) Conference*, San Francisco, CA, USA, 16-19 Jun. 2015.
51. **Choe, Y.**, Lam, H., and Byon, E., "Towards Understanding Distributional Properties of Importance Sampling Estimators with Stochastic Simulations", *Quality & Productivity Research Conference*, Raleigh, NC, USA, 10-12 Jun. 2015.
52. **Choe, Y.**, Byon, E., and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *Quality & Productivity Research Conference*, Raleigh, NC, USA, 10-12 Jun. 2015.
53. **Choe, Y.**, Lam, H., and Byon, E., "Towards Understanding Distributional Properties of Importance Sampling Estimators with Stochastic Simulations", *Industrial & Systems Engineering Research Conference (ISERC)*, Nashville, TN, USA, 30 May - 2 Jun. 2015.
54. Byon, E. and **Choe, Y.**, "Data-driven Modeling and Analyses for Wind Power Systems" (Poster Presentation), *The 3rd Biennial Wind Energy Systems Engineering Workshop*, Boulder, CO, 15 Jan., 2015.
55. **Choe, Y.**, Byon, E., and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *INFORMS Annual Meeting*, San Francisco, CA, USA, 9-12 Nov. 2014.
56. **Choe, Y.**, Byon, E., and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *INFORMS Southeast Michigan Symposium*, East Lansing, MI, USA, 3 Oct. 2014.
57. Choe, Y., **Byon, E.**, and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *INFORMS Annual Meeting*, Minneapolis, MN, USA, 6-9 Oct. 2013.
58. **Choe, Y.**, Byon, E., and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *The 59th World Statistics Congress*, Hong Kong, China, 25-30 Aug. 2013.
59. **Choe, Y.**, Byon, E., and Chen, N., "Importance Sampling for Reliability Evaluation with Stochastic Simulation Models", *The workshop of System Informatics and Analytics, The 9th IEEE International Conference on Automation Science and Engineering (IEEE CASE 2013)*, Madison, WI, USA, 17-21 Aug. 2013.

#### **Professional Society Memberships**

- Institute for Operations Research and the Management Sciences (INFORMS), 2013 – Present.
- Society for Risk Analysis, 2022 – Present.
- International Association of Emergency Managers (IAEM), 2022 – Present.

#### **Invited Workshop Participation**

1. *Natural Hazards Research Summit 2022*, Washington, DC, USA, 6-7 Oct. 2022.
  - Selected for the NSF travel grant.
2. *NSF-sponsored workshop on Hurricanes and COVID-19: Lessons Learned and Directions for the Future*, Miami, FL, USA, 13 May 2022.
  - Invited as a panelist supported by the NSF travel grant.

3. *NSF NHERI DesignSafe and SimCenter Workshop on Artificial Intelligence in Natural Hazards Engineering*, Austin, TX, USA, 18-19 Feb. 2020.
  - Selected for the NSF travel grant.
4. *NSF NHERI SimCenter Workshop on Simulation and Data Needs to Support Disaster Recovery Planning*, Berkeley, CA, USA, 30-31 Jan. 2020.
  - Selected for the NSF travel grant.
5. *NSF NHERI@UC San Diego 5th Users Training Workshop*, San Diego, CA, USA, 16-17 Dec. 2019.
  - Selected for the NSF travel grant.

### **Media Coverage**

1. Tracking COVID-19 response in Seattle over time using a mobile imaging system: [UW News](#), [Medical Xpress](#), [KIRO-TV](#), [KING-TV](#), [High Country News](#). Oct.-Dec. 2020.
2. Assessing community well-being after Hurricane Harvey via physical activity data: [UW Population Health](#), [UW School of Public Health](#). Oct. 2019.
3. Energy solutions for public health of remote communities after Hurricane Maria: [UW Boundless](#), [UW Clean Energy Institute](#), [Washington Examiner](#), [Security Management](#), [KING 5](#), [New York Times](#). Dec. 2017.