Jize Zhang

CONTACT INFORMATION
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RESEARCH INTERESTS
Surrogate modeling, stochastic optimization, uncertainty quantification, Bayesian inference, deep learning, urban computing, pervasive sensing.

EDUCATION

University of Notre Dame, Notre Dame, IN, US

- Ph.D., Civil Engineering, *Expected:* 05/2019

  Dissertation topic: Iterative Kriging Surrogate Model Development For Uncertainty Quantification Analysis

- M.S., Applied & Computational Math & Statistics, *Expected:* 05/2019

Carnegie Mellon University, Pittsburgh, PA, US

- M.S., Advanced Infrastructure Systems, 12/2013

Xi'an Jiaotong University, Xi'an, Shaanxi, China

- B.S., Electrical Engineering, with concentration on Control, 06/2012

PROFESSIONAL EXPERIENCE

Data Scientist Intern, Beijing, China
JD.com Urban Computing Division, 06/2018 to 09/2018

- Project: Deep Reinforcement Learning for Controlling Thermal Plants

Research Intern, Dublin, Ireland
IBM Research Lab, 06/2017 to 08/2017

- Project: Data-driven Distributionally Robust Polynomial Optimization

AWARDS AND HONORS

- Best Student Paper in 2018 Engineering Mechanics Institute Conference (EMI2018) Probabilistic Mechanics Competition 2018
- Student Travel Award for SIAM Conference on Uncertainty Quantification (UQ18) 2018
- Student Scholarship for International Conference on Structural Safety & Reliability (ICOSSAR2017) 2017
- Patrick and Jana Eilers Fellowship for Energy Related Research 2017
- University of Notre Dame Departmental Fellowship Award 2014
- Carnegie Mellon University Graduate Assistantship 2012
- Xi'an Jiaotong University Outstanding Undergraduate Thesis 2012

Published Journal Articles

1. **Zhang, J.Z.**, Taflanidis, A.A., Nadal-Caraballo, N.C., Melby, J.A., and Diop, F., 2018. Advances in surrogate modeling for storm surge prediction: storm selection and addressing characteristics related to climate change. *Natural Hazards*, in press, DOI:10.1007/s11069-018-3470-1.
2. **Zhang, J.Z.**, and Taflanidis, A.A., 2018. Multi-objective optimization for design under uncertainty problems through surrogate modeling in augmented input space. *Structural and Multidisciplinary Optimization*, in press, DOI:10.1007/s00158-018-2069-1.
3. **Zhang, J.Z.**, and Taflanidis, A.A., 2018. Adaptive Kriging stochastic sampling and density approximation and its implementation to rare-event estimation. *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 4(3), 04018021.
4. **Zhang, J.Z.**, Taflanidis, A.A., and Medina, J.C., 2017. Sequential approximate optimization for design under uncertainty problems utilizing Kriging metamodeling in augmented input space. *Computer Methods in Applied Mechanics and Engineering*, 315, 369-395.

Submittted Journal Articles

1. **Zhang, J.Z.**, and Taflanidis, A.A., 2018. Bayesian Model Averaging Kriging. *Probabilistic Engineering Mechanics* (under minor revision).
2. **Zhang, J.Z.**, and Lin, L.Z., 2018. Bounded Regression with Gaussian Process Projection. *Computational Statistics and Data Analysis* (submitted).
3. **Zhang, J.Z.**, and Taflanidis, A.A., 2018. Accelerating MCMC via Kriging-based adaptive independent proposal and delayed rejection. *Computer Methods in Applied Mechanics and Engineering* (submitted).

Refereed Conference Proceedings

1. **Zhang, J.**, and Taflanidis, A.A., 2018, June. Bayesian Posterior Sampling using a Metamodel-based Sequential Approach. *19th Working Conference of the IFIP Working Group on Reliability and Optimization of Structural Systems* (IFIP WG 7.5), Zurich, Switzerland.
2. **Zhang, J.**, and Taflanidis, A.A., 2017, August. Multi-objective Optimization under Uncertainty Utilizing Kriging Modeling in Augmented Input Space. *12th International Conference on Structural Safety and Reliability* (ICOSSAR), Vienna, Austria.
3. Taflanidis, A.A, **Zhang, J.**, Nadal-Caraballo, and N., Melby, J., 2017, August. Advances in Surrogate Modeling for Hurricane Risk Assessment: Storm Selection and Climate Change Impact. *12th International Conference on Structural Safety and Reliability* (ICOSSAR), Vienna, Austria.
4. **Zhang, J.**, and Taflanidis, A.A., 2017, June. Adaptive Kriging Sequential Stochastic Sampling and Its Application in Rare Event Simulation. *2nd International Conference on Uncertainty Quantification in Computational Sciences and Engineering* (UNCECOMP), Rhodes Island, Greece.

5. **Zhang, J.**, and Wang, D., 2015, December. Duplicate Report Detection in Urban Crowdsensing Applications for Smart City. *2015 IEEE Interna-tional Conference on Smart City*, Chengdu, China.

Teaching Experience

Teaching Assistant, University of Notre Dame 2014 to 2017

- AME 70779 *Statistical Computing for Scientists and Engineers* Fall 2017
- CE 30150 *Dynamics and Modeling* Springs 2015-2017
- CE 30125 *Computational Methods* Fall 2014

Teaching Assistant, Carnegie Mellon University 2012 to 2013

- 12750 *Infrastructure Management* Spring 2013.
- 12712 *Introduction to Sustainable Engineering* Fall 2012.

Professional Memberships

Society for Industrial and Applied Mathematics (SIAM), Institute of Electrical and Electronics Engineers (IEEE), American Society of Civil Engineers (ASCE).

Skills

Matlab, Python, C, Java, Maple, Mathematica, R and others

References

Dr. Alexandros Taflanidis Associate Professor, University of Notre Dame
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Dr. Ahsan Kareem Professor, University of Notre Dame
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