Rui Xie

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EMPLOYMENT

Assistant Professor　　　　　　　　　　　　　　　　　　　　　Aug 2019 – Present
- Department of Statistics and Data Science
- **University of Central Florida**, Orlando, Florida, USA

EDUCATION

University of Georgia, Department of Statistics, Athens, Georgia, USA
- Ph.D. in Statistics,　　　　　　　　　　　　　　　　　　　　　Aug 2013 – May 2019
  - Focus: Sampling, Time Series, Big Data, Distributed and Decentralized Computing, Spatial Statistics, and Engineering Statistics.

Georgia Institute of Technology, H. Milton School of Industrial and Systems Engineering, Atlanta, Georgia, USA
- M.S. in Statistics,　　　　　　　　　　　　　　　　　　　　　Aug 2011 – May 2013

Xiamen University, Xiamen, Fujian, China
- B.S. in Physics　　　　　　　　　　　　　　　　　　　　　　Aug 2007 – Jul 2011
- B.S. in Quantitative Finance

PUBLICATIONS

PEER-REVIEWED

[1] Lu, Yanfei, **Rui Xie**, and Steven Y. Liang. 2019. CEEMD-assisted bearing degradation assessment using tight clustering. *The International Journal of Advanced Manufacturing Technology* (2019): 1-12. https://doi.org/10.1007/s00170-019-04078-2.

[2] Lu, Yanfei, **Rui Xie**, and Steven Y. Liang. 2019. Extraction of weak fault using combined dual-tree wavelet and improved MCA for rolling bearings. *The International Journal of Advanced Manufacturing Technology* (2019): 1-12. https://doi.org/10.1007/s00170-019-04065-7.

[3] Lu, Yanfei, **Rui Xie**, and Steven Y. Liang. 2019. Bearing Fault Diagnosis with Nonlinear Adaptive Dictionary Learning. *The International Journal of Advanced Manufacturing Technology* (2019): 1-13. https://doi.org/10.1007/s00170-019-03455-1.

[4] **Rui Xie**, Zengyan Wang, Shuyang Bai, Ping Ma, and Wenxuan Zhong. Online decentralized leveraging sampling for streaming multivariate time series. *The 22nd International Conference on Artificial Intelligence and Statistics (AISTATS 2019).*

[5] **Rui Xie**, Mengrui Zhang, Prahatha Venkatraman, Xinlian Zhang, Gaonan Zhang, Robert Carmer, Skylar A. Kantola, Chi Pui Pang, Ping Ma, Mingzhi Zhang, Wenxuan Zhong, and Yuk Fai Leung. Normalization of large-scale behavioural data collected from zebrafish. *PLoS ONE* 14(2): e0212234. https://doi.org/10.1371/journal.pone.0212234

[6] **Rui Xie**, Fangyu Li, Zengyan Wang, and WenZhan Song. Large scale randomized learning guided by physical laws with applications in full waveform inversion. *2018 IEEE Global Conference on Signal and Information Processing (GlobalSIP).*

[7] Fangyu Li, **Rui Xie**, WenZhan Song, and Hui Chen. Optimal seismic reflectivity inversion: data-driven ℓ_p-loss-ℓ_q-regularization sparse regression. *IEEE Geoscience and Remote Sensing Letters*, (2018). PP. 1-5. 10.1109/LGRS.2018.2881102.

[8] Zhang, Xinlian, **Rui Xie**, and Ping Ma. Statistical Leveraging Methods in Big Data. In: Härdle W., Lu HS., Shen X. (eds) *Handbook of Big Data Analytics.* Springer Handbooks of Computational Statistics, Springer, Cham, 2018. 51-74.

[9] Lu, Yanfei, **Rui Xie**, and Steven Y. Liang. Adaptive online dictionary learning for bearing fault diagnosis. *The International Journal of Advanced Manufacturing Technology*, (2018). https://doi.org/10.1007/s00170-018-2902-0.

[10] Lu, Yanfei, **Rui Xie**, and Steven Y. Liang. Detection of weak fault using sparse empirical wavelet transform for cyclic fault. *The International Journal of Advanced Manufacturing Technology*, (2018)99: 1195-1201.

[11] Li, Fangyu, **Rui Xie**, Wenzhan Song, Tao Zhao, and Kurt Marfurt. Optimal ℓ_q norm regularization for sparse reflectivity inversion. *2017 SEG International Exposition and Annual Meeting.* Society of Exploration Geophysicists, (2017): 677-681.

[12] Nural, Mustafa V., Michael E. Cotterell, Hao Peng, **Rui Xie**, Ping Ma, and John A. Miller. Automated predictive big data analytics using ontology based semantics. *International Journal of Big Data,* 2.2 (2015): 43-56.

UNDER REVIEW OR IN PREPARATION

[13] **Rui Xie**, T. N. Sriram, Wei Biao Wu, and Ping Ma. Online sequential leveraging sampling method for streaming data. Under Revision, *Journal of the Royal Statistical Society: Series B (Statistical Methodology).*

[14] Fangyu Li, **Rui Xie**, Ying Hu, WenZhan Song. Resampling-based seismic signal enhancement via randomized local reconstruction. Under revision, *IEEE Geoscience and Remote Sensing Letters.*

[15] Xin Xing, Di Xiao, **Rui Xie**, and Wenxuan Zhong. Model-based dictionary learning: sparse coding beyond Gaussian independent model. Under review, *IEEE Transactions on Signal Processing.*

[16] Lu, Yanfei, **Rui Xie**, and Steven Y. Liang. Intelligent online learning diagnostic model for bearing fault detection. Under review, *Mechanical Systems and Signal Processing.*

[17] **Rui Xie**, Fangyu Li, Zengyan Wang, and WenZhan Song. Sub-sampled Newton method for full-waveform inversion. In preparation.

[18] Cheng Meng, **Rui Xie**, Xinlian Zhang, Abhyuday Mandal, Wenxuan Zhong, and Ping Ma. Design based subsampling in big data with application to robust linear regression. Submitted.

[19] **Rui Xie**, Wenxuan Zhong, and Ping Ma. Leverage Sampling for Spatial Data. In preparation.

AWARDS & HONORS		
	■ **ASA Computing/Graphics Student Paper Award**, American Statistical Association.	Jan 2019
	■ **ICSA Student Paper Award**, International Chinese Statistical Association.	Jun 2018
	■ **Travel Grant**, The 2018 Applied Statistics Symposium. International Chinese Statistical Association (ICSA), New Brunswick, NJ, USA	Jun 2018
	■ **Mu Sigma Rho**: The National Statistics Honorary Society.	May 2018
	■ **Travel Grant**, May Institute: Computation and statistics for mass spectrometry and proteomics. Northeastern University, Boston, MA, USA	Apr 2018
	■ **Georgia Statistics Day Student Poster Award**. Emory University, Atlanta, GA, USA	Oct 2017
	■ **Outstanding Teaching Award**, University of Georgia.	May 2017

PRESENTATION		
	Invited Presentation, JSM 2019 Joint Statistical Meetings - American Statistical Association. *Online Decentralized Leverage Score Sampling for Streaming Multidimensional Time Series.* Denver, CO, USA	Jul 2019
	Invited Presentation, ICSA 2018 Applied Statistics Symposium. *Online sequential leveraging sampling method for streaming time series data.* New Brunswick, NJ, USA	Jun 2018
	Poster, The University of Georgia/Clemson University Joint Seminar. *Sequential leveraging sampling method for streaming time series data.* University of Georgia, Athens, GA, USA	Mar 2018
	Poster, Georgia Statistics Day. *Sequential leveraging sampling method for streaming data.* Emory University, Atlanta, GA, USA	Oct 2017
	Invited Presentation, the Center for Cyber-Physical Systems (CCPS), UGA. *Large scale randomized learning with applications in full waveform inversion.* Athens, GA, USA	Mar 2017

TEACHING ACTIVITIES		
	TEACHING AT UNIVERSITY OF CENTRAL FLORIDA	
	■ STA 5703, Data Mining Methodology I	Fall 2019
	■ STA 4321, Statistical Theory I	Fall 2019
	GUEST LECTURE AT UNIVERSITY OF GEORGIA	
	Graduate Courses	

	Fall 2017
▪ CSEE 8300, Principles of Cyber-Physical Systems	Fall 2017
▪ STAT 6280, Multivariate Time Series Analysis	Spring 2015

Undergraduate Courses
▪ FYOS 1001, First-Year Odyssey Seminars	Fall 2017
▪ STAT 4280, Applied Time Series Analysis	Spring 2016

TEACHING ASSISTANT AT UNIVERSITY OF GEORGIA
Graduate Courses
▪ STAT 6430, Design and Analysis of Experiments	Spring 2018
▪ STAT 6315, Statistical Methods for Researchers	Fall 2016 & Fall 2013
▪ STAT 8910, Statistical Seminar	Fall 2016
▪ STAT 6420, Applied Linear Models	Fall 2015
▪ STAT 6280, Multivariate Time Series Analysis	Spring 2015
▪ STAT 6510, Mathematical Statistics	Fall 2014
▪ STAT 6360, Statistical Software Programming	Summer 2014

Undergraduate Courses
▪ STAT 2000, Introductory Statistics	Fall 2018 & Spring 2014
▪ STAT 4220, Applied Experimental Designs	Fall 2017 & Spring 2016
▪ STAT 4110H, Honors Applied Statistics	Spring 2016

PROFESSIONAL ACTIVITIES & AFFILIATIONS

REVIEW FOR JOURNAL
Environmental and Ecological Statistics
Journal of Statistical Theory and Practice
Statistical Applications in Genetics and Molecular Biology
Sankhya B

REVIEW FOR BOOK CHAPTER
"Handbook of Research on Applied Cybernetics and Systems Science," *IGI Global*, 2017

ORGANIZATION MEMBERSHIP
American Statistical Association (ASA)	2017 – Present
International Chinese Statistical Association (ICSA)	2017 – Present
Institute of Electrical and Electronics Engineers (IEEE)	2018 – Present
IEEE Signal Processing Society	2018 – Present
The Computer Vision Foundation	2019 – Present

OUTREACH ACTIVITIES
▪ Volunteer, Georgia Statistics Day 2018	Oct 2018
University of Georgia, Athens, GA, USA	
▪ Invited Speaker, Lambert High School	Feb 2018
Suwanee, GA, USA	
▪ Invited Speaker, The Gwinnett School of Mathematics, Science, and Technology,	Nov 2017
Lawrenceville, GA, USA	
▪ Volunteer, Georgia Statistics Day 2015	Oct 2015
University of Georgia, Athens, GA, USA	

SKILLS

R, MATLAB, Python, C, LaTeX, Julia, Linux bash, Mathematica, Stata, EViews.
Distributed computing & Parallel computing.