Meng Wang

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Educational Preparation

Cornell University	Electrical and Computer Eng.	Ph.D. in 2012
Tsinghua University	Electrical Engineering	M.Sc.(Hons) in 2007
Tsinghua University	Electrical Engineering	B.Sc.(Hons) in 2005

Professional Experience

Associate Professor, Dept. of ECSE, Rensselaer Polytechnic Institute	July 2019 - present
Assistant Professor, Dept. of ECSE, Rensselaer Polytechnic Institute	December 2012 - June 2019
Postdoctoral Research Scholar, Dept. of ECE, Duke University	August 2012 - December 2012
Graduate Research Assistant, School of ECE, Cornell University	December 2007 - August 2012
Research Intern, IBM T.J. Watson Research Center	May 2010 - August 2010

Selected Honors, Awards, & Fellowships

- James M. Tien '66 Early Career Award and Grant for Faculty, Rensselaer Polytechnic Institute, May 2022.
- Young Investigator Program (YIP) Award, Air Force Office of Scientific Research (AFOSR), October 2019.
- Research Excellence Faculty Award, School of Engineering, Rensselaer Polytechnic Institute, April 2018.
- Young Investigator Program (YIP) Award, Army Research Office (ARO), September 2017.
- Outstanding Reviewer Recognition, International Conference on Acoustics Speech and Signal Processing (ICASSP) 2023, June 2023.
- IEEE Transactions on Smart Grid Best Reviewer Award for 2018, January 2019.
- Visiting Faculty Research Program Award, Air Force Research Laboratory, Summer 2015.
- Paper selected as the runner-up of the Best Paper in Electric Energy Systems Track of Hawaii International Conference on System Sciences 2015, Jan. 2015.
- Paper selected as one of the Best Conference Papers on Power System Analysis and Modeling of IEEE Power & Energy Society General Meeting 2014. July 2014.
- Runner-up of ECE Ph.D. Thesis Research Award, Cornell University Feb. 2012
- Jacobs Fellowship, Cornell University 2009-2010, 2007-2008
- Outstanding Master's Thesis Award, Tsinghua University. Jul. 2007
- First Class Scholarship for Graduate Students, Tsinghua University. Oct. 2006
- Outstanding Undergraduate Thesis, Tsinghua University. Jul. 2005
- First Class Scholarship for Undergraduates, Tsinghua University. 2002, 2003, 2004

Publications

(My students' names are in bold. My name is in italics.)

Journal Papers

J35. **Ming Yi**, *Meng Wang*, Tianqi Xiong, and Dongbo Zhao. Bayesian High-Rank Hankel Matrix Completion for Nonlinear Synchrophasor Data Recovery. *accepted to IEEE Transactions on Power Systems*, March 2023.

J34. Ehsan Hallaji, Roozbeh Razavi-Far, *Meng Wang*, Mehrdad Saif and Bruce Fardanesh. A Streaming Learning Approach for Real-Time Identification of False Data Injection Attacks in Cyber-Physical Power Systems. *IEEE Transactions on Information Forensics and Security*, 17: 3934-3945, 2022, doi:10.1109/TIFS.2022.3216948.

J33. **Ming Yi**, *Meng Wang*, Evangelos Farantatos and Tapas Barik. Bayesian Robust Hankel Matrix Completion with Uncertainty Modeling for Synchrophasor Data Recovery. *ACM SIGENERGY Energy Informatics Review*, 2022, 2(1): 1-19 (invited paper), `https://doi.org/10.1145/3527579.3527580`.

J32. Orlem L. D. Santos, Daniel Dotta, *Meng Wang*, Joe H. Chow, Ildemar C. Decker. Performance Analysis of a DNN Classifier for Power System Events using an Interpretability Method. *International Journal of Electrical Power and Energy Systems*, 2022, 136, `https://doi.org/10.1016/j.ijepes.2021.107594`.

J31. **Ming Yi** and *Meng Wang*. Bayesian Energy Disaggregation at Substations with Uncertainty Modeling. *IEEE Transactions on Power Systems*, 2022, 37(1): 764-775.

J30. *Meng Wang*, Joe H. Chow, Denis Osipov, Stavros Konstantinopoulos, **Shuai Zhang**, Evangelos Farantatos, and Mahendra Patel, Review of Low-Rank Data-Driven Methods Applied to Synchrophasor Measurement, *IEEE Open Access Journal of Power and Energy*, 2021, 8:532-542, `doi:10.1109/OAJPE.2021.3090579`.

J29. **Wenting Li**, **Ming Yi**, *Meng Wang*, Di Shi, and Zhiwei Wang, Real-time Energy Disaggregation at Substations with Behind-the-Meter Solar Generation. *IEEE Transactions on Power Systems*, 2021, 36(3): 2023-2034.

J28. **Shuai Zhang**, *Meng Wang*, Jinjun Xiong, Sijia Liu, and Pin-Yu Chen, Improved Linear Convergence of Training CNNs with Generalizability Guarantees: A One-hidden-layer Case, *IEEE Transactions on Neural Networks and Learning Systems*, 2021, 2(6): 2622-2635, `doi:10.1109/TNNLS.2020.3007399`.

J27. **Ren Wang**, *Meng Wang*, and Jinjun Xiong, Tensor Recovery from Noisy and Multi-Level Quantized Measurements. *EURASIP Journal on Advances in Signal Processing*, 2020, 41 (2020), `https://doi.org/10.1186/s13634-020-00698-z`.

J26. **Ren Wang**, *Meng Wang*, and Jinjun Xiong, Achieve data privacy and clustering accuracy simultaneously through quantized data recovery. *EURASIP Journal on Advances in Signal Processing*, 2020, 22 (2020), `https://doi.org/10.1186/s13634-020-00682-7`.

J25. Stavros Konstantinopoulos, Genevieve M. De Mijolla, Joe H. Chow, Hanoch Lev-Ari, and *Meng Wang*, Synchrophasor Missing Data Recovery via Data-Driven Filtering. *IEEE Transactions on Smart Grids*, 2020, 11(5): 4321-4330.

J24. **Yingshuai Hao**, *Meng Wang*, Joe H. Chow, Modeless Streaming Synchrophasor Data Recovery in Nonlinear Systems. *IEEE Transactions on Power Systems*, 2020, 35(2): 1166-1177.

J23. Yang Cao, Andrew Thompson, *Meng Wang*, and Yao Xie, Sketching for Sequential Change-Point Detection, *EURASIP Journal on Advances in Signal Processing*, 2019, 42 (2019), `https://doi:10.1186/s13634-019-0635-3`. (Authors are listed alphabetically.)

J22. **Wenting Li**, Deepjyoti Deka, Michael Chertkov, and *Meng Wang*. Real-time Fault Localization in Power Grids with Convolutional Neural Networks. *IEEE Transactions on Power Systems*, 2019, 34(6): 4762-4772.

J21. **Wenting Li** and *Meng Wang*. Identifying Overlapping Successive Events Using a Shallow Convolutional Neural Network. *IEEE Transactions on Power Systems*, 2019, 34(6): 4640-4051.

J20. **Shuai Zhang** and *Meng Wang*. Correction of Corrupted Columns in Robust Matrix Completion by Exploiting the Hankel Structure. *IEEE Transactions on Signal Processing*, 2019, 67(10): 2580-2594.

J19. **Ren Wang**, *Meng Wang*, and Jinjun Xiong, Data Recovery and Subspace Clustering from Quantized and Corrupted Measurements. *IEEE Journal of Selected Topics in Signal Processing, Special Issue on Robust Subspace Learning and Tracking: Theory, Algorithms, and Applications*, 2018, 12(6): 1547-1560.

J18. **Yingshuai Hao**, *Meng Wang*, Joe H. Chow, Evangelos Farantatos, Mahendra Patel. Model-less Data Quality Improvement of Streaming Synchrophasor Measurements by Exploiting the Low-Rank Hankel Structure. *IEEE Transactions on Power Systems*, 2018, 33(6): 6966-6977.

J17. Junbo Zhao, Lamine Mili, and *Meng Wang*, A Generalized False Data Injection Attacks Against Power System Nonlinear State Estimator and Countermeasures. *IEEE Transactions on Power Systems*, 2018, 33(5): 4868-4877.

J16. **Wenting Li**, *Meng Wang*, and Joe H. Chow, Real-time Event Identification through Low-dimensional Subspace Characterization of High-dimensional Synchrophasor Data. *IEEE Transactions on Power Systems*, 2018, 33(5): 4937-4947.

J15. **Shuai Zhang**, **Yingshuai Hao**, *Meng Wang*, and Joe H. Chow, Multi-Channel Hankel Matrix Completion through Nonconvex Optimization, *IEEE Journal of Selected Topics in Signal Processing, Special Issue on Signal and Information Processing for Critical Infrastructures*, 2018, 12(4): 617-632.

J14. **Yingshuai Hao**, *Meng Wang*, Joe H. Chow, Likelihood Analysis of Cyber Data Attacks to Power Systems with Markov Decision Processes, *IEEE Transactions on Smart Grid*, 2018, 9(4):3191-3202.

J13. **Pengzhi Gao**, **Ren Wang**, *Meng Wang*, and Joe H. Chow. Low-rank Matrix Recovery from Noisy, Quantized and Erroneous Measurements. *IEEE Transactions on Signal Processing*, 2018, 66 (11): 2918-2932.

J12. **Pengzhi Gao**, *Meng Wang*, Joe H. Chow, Matthew Berger, and Lee M. Seversky. Missing Data Recovery for High-dimensional Signals with Nonlinear Low-dimensional Structures. *IEEE Transactions on Signal Processing*, 2017, 65(20): 5421-5436.

J11. **Pengzhi Gao**, *Meng Wang*, Joe H. Chow, Scott G. Ghiocel, Bruce Fardanesh, George Stefopoulos, and Michael P. Razanousky, Identification of Successive "Unobservable" Cyber Data Attacks in Power Systems, *IEEE Transactions on Signal Processing*, 2016, 64 (21): 5557-5570.

J10. **Pengzhi Gao**, *Meng Wang*, Scott G. Ghiocel, Joe H. Chow, Bruce Fardanesh, and George Stefopoulos, Missing Data Recovery by Exploiting Low-dimensionality in Power System Synchrophasor Measurements, *IEEE Transactions on Power Systems*, 2016, 31 (2): 1006-1013.

J9. *Meng Wang*, Weiyu Xu, Enrique Mallada, and Ao Tang, Sparse Recovery with Graph Constraints, *IEEE Transactions on Information Theory*, 2015, 61 (2): 1028-1044.

J8. Weiyu Xu, *Meng Wang*, Jianfeng Cai, and Ao Tang, Sparse Error Correction from Nonlinear Measurements with Applications in Bad Data Detection for Power Networks, *IEEE Transactions on Signal Processing*, 2013, 61 (24): 6175-6187.

J7. *Meng Wang*, Chee Wei Tan, Weiyu Xu, and Ao Tang, Cost of Not Splitting in Routing: Characterization and Estimation, *IEEE/ACM Transactions on Networking*, 2011, 19 (6): 1849-1859.

J6. *Meng Wang*, Weiyu Xu, and Ao Tang, On the Performance of Sparse Recovery via ℓ_p -minimization ($0 \le p \le 1$), *IEEE Transactions on Information Theory*, 2011, 57 (11): 7255-7278.

J5. *Meng Wang*, Weiyu Xu, and Ao Tang, A Unique "Nonnegative" Solution to an Underdetermined System: from Vectors to Matrices, *IEEE Transactions on Signal Processing*, 2011, 59 (3): 1007-1016.

J4. *Meng Wang*, Fangzheng Li, Lipei Huang, and S. Makoto, A Robust Deadbeat Control Method for UPS Inverters, *Advanced Technology of Electrical Engineering and Energy*, 2007, 26 (4): 31-35.

J3. *Meng Wang*, Yadong Liu, Fangzheng Li, and Lipei Huang, Progressively Converging Deadbeat Control for UPS Inverter, *Advanced Technology of Electrical Engineering and Energy*, 2007, 26 (1): 47-50.

J2. *Meng Wang*, Yadong Liu, Zhihong Jiang, and Lipei Huang, Second-harmonic Compensation Method and Capacitor-voltage Time-sharing Control Scheme for a Double Conversion UPS Rectifier, *Advanced Technology of Electrical Engineering and Energy*, 2006, 25 (2): 29-33.

J1. Deepa Kundur, Javier Contreras, Dipti Srinivasan, Nikolaos Gatsis, *Meng Wang*, and Srinivas Peeta, Introduction to the Special Issue on Signal and Information Processing for Critical Infrastructures, *IEEE Journal Of Selected Topics In Signal Processing*, 2018, 12(4): 575-577. (guest editorial)

Conference Papers

C43. **Shuai Zhang**, *Meng Wang*, Hongkang Li, Miao Liu, Pin-Yu Chen, Songtao Lu, Sijia Liu, Keerthiram Murugesan, Subhajit Chaudhury, On the Convergence and Sample Complexity Analysis of Deep Q-Networks with ϵ-Greedy Exploration, in *Proc. of the Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)*, New Orleans, December 2023. (acceptance rate: 26.1%)

C42. **Mohammed Nowaz Rabbani Chowdhury**, **Shuai Zhang**, *Meng Wang*, Sijia Liu, Pin-Yu Chen, Patch-level Routing in Mixture-of-Experts is Provably Sample-efficient for Convolutional Neural Networks, in *Proc. of 2023 International Conference on Machine Learning (ICML)*, July 2023. (Oral presentation) (acceptance rate: 27.9 %)

C41. **Hongkang Li**, *Meng Wang*, Sijia Liu, Pin-Yu Chen, A Theoretical Understanding of Vision Transformers: Learning, Generalization, and Sample Complexity, in *Proc. the Eleventh International Conference on Learning Representations (ICLR)*, May 2023. (acceptance rate: 31.8%)

C40. **Shuai Zhang**, *Meng Wang*, Pin-Yu Chen, Sijia Liu, Songtao Lu, and Miao Liu, Joint Edge-Model Sparse Learning is Provably Efficient for Graph Neural Networks, in *Proc. the Eleventh International Conference on Learning Representations (ICLR)*, May 2023. (acceptance rate: 31.8%)

C39. **Hongkang Li**, *Meng Wang*, Sijia Liu, Pin-Yu Chen and Jinjun Xiong, Generalization Guarantee of Training Graph Convolutional Networks with Graph Topology Sampling, in *Proc. of 2022 International Conference on Machine Learning (ICML)*, July 2022. (acceptance rate: 21.9%)

C38. **Ming Yi** and *Meng Wang*, Joe H. Chow, Recent Results of Energy Disaggregation with Behind-the-Meter Solar Generation, in *Proc. of the 11th Bulk Power Systems Dynamics and Control Symposium – IREP'2022*, July 2022.

C37. **Shuai Zhang**, *Meng Wang*, Sijia Liu, Pin-Yu Chen and Jinjun Xiong, How Does Unlabeled Data Improve Generalization in Self-training? A one-hidden-layer Theoretical Analysis, in *Proc. the Tenth International Conference on Learning Representations (ICLR)*, April 2022. (acceptance rate: 32.3%)

C36. **Hongkang Li**, **Shuai Zhang**, and *Meng Wang*, Learning and generalization of one-hidden-layer neural networks, going beyond standard Gaussian data, in *Proc. 2022 56th Annual Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, USA, 2022.

C35. **Shuai Zhang**, *Meng Wang*, Sijia Liu, Pin-Yu Chen and Jinjun Xiong, Why Lottery Ticket Wins? A Theoretical Perspective of Sample Complexity on Sparse Neural Networks, in *Proc. of the Thirty-fifth Conference on Neural Information Processing Systems (NeurIPS)*, virtual, December 2021. (acceptance rate: 26%)

C34. **Ren Wang**, Kaidi Xu, Sijia Liu, Pin-Yu Chen, Tsui-Wei Weng, Chuang Gan, and *Meng Wang*, On fast adversarial robustness adaptation in model-agnostic meta-learning. in *Proc. of International Conference on Learning Representations (ICLR)*, Virtual, May 2021. (acceptance rate: 28.7 %)

C33. **Ren Wang**, *Meng Wang*, Jinjun Xiong, Quantized Higher-Order Tensor Recovery by Exploring Low-Dimensional Structures. in *Proc. of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2020.

C32. **Ren Wang**, Sijia Liu, Pin-Yu Chen, Jinjun Xiong and *Meng Wang*, Practical Detection of Trojan Neural Networks: Data-Limited and Data-Free Cases, in *Proc. of 2020 European Conference on Computer Vision (ECCV)*, Glasgow, Scotland, August 2020. (acceptance rate: 26 %)

C31. **Shuai Zhang**, *Meng Wang*, Sijia Liu, Pin-Yu Chen and Jinjun Xiong, "Fast Learning of Graph Neural Networks with Guaranteed Generalizability:One-hidden-layer Case," in *Proc. of 2020 International Conference on Machine Learning (ICML)*, June 2020. (acceptance rate: 21.8%)

C30. **Shuai Zhang**, *Meng Wang*, Sijia Liu, Pin-Yu Chen and Jinjun Xiong, "Guaranteed Convergence of Training Convolutional Neural Networks via Accelerated Gradient Descent," *2020 54th Annual Conference on Information Sciences and Systems (CISS)*, Princeton, NJ, USA, 2020, pp. 1-6, doi: 10.1109/CISS48834.2020.1570627111.

C29. *Meng Wang*, Joe Chow, **Yingshuai Hao**, **Shuai Zhang**, **Wenting Li**, **Ren Wang**, **Pengzhi Gao**, Christopher Lackner, Evangelos Farantatos, and Mahendra Patel, A Low-rank Framework of PMU Data Recovery and Event Identification, in *Proc. of the First IEEE International Conference on Smart Grid Synchronized Measurements and Analytics*, College Station, Texas, May 2019.

C28. **Wenting Li** and *Meng Wang*, Event Identification Using Extracted Features from High-dimensional Power System Data, in *Proc. of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2018. (invited)

C27. **Shuai Zhang** and *Meng Wang*, Correction of Simultaneous Bad Measurements by Exploiting the Low-rank Hankel Structure, in *Pro. of IEEE International Symposium on Information Theory (ISIT) 2018*, Vail, Colorado, June 2018.

C26. Genevieve de Mijolla, Stavros Konstantinopoulos, **Pengzhi Gao**, Joe H. Chow, and *Meng Wang*, An Evaluation of Low-Rank Matrix Completion Algorithms for Synchrophasor Missing Data Recovery, in *Proc. of the Power Systems Computation Conference (PSCC) 2018*, Dublin, Ireland, June 2018.

C25. **Pengzhi Gao** and *Meng Wang*, Dynamic Matrix Recovery from Partially Observed and Erroneous Measurements, in *Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2018*, Calgary, Alberta, Canada, April 2018.

C24. **Shuai Zhang**, **Yingshuai Hao**, *Meng Wang*, and Joe H. Chow, Multi-Channel Missing Data Recovery by Exploiting the Low-rank Hankel Structures, in *Proc. of IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP) 2017*, Curacao, Dutch Antilles, December 2017. (invited)

C23. *Meng Wang*, Joe H. Chow, **Pengzhi Gao**, **Yingshuai Hao**, **Wenting Li**, and **Ren Wang**, Recent Results of PMU Data Analytics by Exploiting Low-dimensional Structures, in *Proc.of the 10th Bulk Power Systems Dynamics and Control Symposium-IREP'2017*, Espinho, Portugal, August 2017.

C22. **Wenting Li**, *Meng Wang*, Joe H. Chow, Fast Event Identification through Subspace Characterization of PMU Data in Power Systems, in *Proc. of IEEE Power & Energy Society General Meeting*, Chicago, IL, July 2017.

C21. *Meng Wang*. Data Quality Management of Synchrophasor Data in Power Systems by Exploiting Low-dimensional Models, in *Proc. of Annual Conference on Information Systems and Sciences*, Baltimore, MD, March 2017. (invited)

C20. **Pengzhi Gao**,**Ren Wang**, *Meng Wang*, and Joe H. Chow, Low-rank Matrix Recovery from Quantized and Erroneous Measurements: Accuracy-preserved Data Privatization in Power Grids, in *Proc. of Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, California, November 2016.

C19. **Pengzhi Gao**, *Meng Wang*, Joe H. Chow, Matthew Berger, and Lee M. Seversky, Matrix Completion with Columns in Union and Sums of Subspaces, in *Proc. of IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2015*, Orlando, FL, December 2015.

C18. **Yingshuai Hao**, *Meng Wang*, and Joe H. Chow, Likelihood Analysis of Cyber Data Injection Attacks to Power Systems, in *Proc. of IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2015*, Orlando, FL, December 2015.

C17. Yao Xie, *Meng Wang*, and Andrew Thompson, Sketching for Sequential Change-Point Detection, in *Proc. of IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2015*, December 2015.

C16. *Meng Wang*, Joe H. Chow, **Pengzhi Gao**, Xinyu Tony Jiang, Yu Xia, Scott G. Ghiocel, Bruce Fardanesh, George Stefopoulos, Yutaka Kokai, Nao Saito, and Michael P. Razanousky, A Low-Rank Matrix approach for the Analysis of Large Amounts of Synchrophasor Data, in *Proc. of Hawaii International Conference on System Sciences*, (**Runner-up for Best Paper in Electric Energy Systems Track**), Kauai, HI, January 2015.

C15. *Meng Wang*, **Pengzhi Gao**, Scott G. Ghiocel, Joe H. Chow, Bruce Fardanesh, George Stefopoulos, Michael P. Razanousky, Identification of "Unobservable" Cyber Data Attacks on Power Grids, in *Proc. of IEEE SmartGridComm*, Venice, Italy, November 2014.

C14. Quan Wang, Xinchi Zhang, *Meng Wang*, and Kim Boyer, Learning Room Occupancy Patterns from Sparsely Recovered Light Transport Models, in *Proc. of IEEE International Conference on Pattern Recognition*, Stockholm, Sweden, August 2014.

C13. Quan Wang, Xin Shen, *Meng Wang*, and Kim Boyer, Label Consistent Fisher Vectors, in *Proc. of IEEE International Conference on Pattern Recognition*, Stockholm, Sweden, August 2014.

C12. **Pengzhi Gao**, *Meng Wang*, Scott G. Ghiocel, and Joe H. Chow, Modeless Reconstruction of Missing Synchrophasor Measurements, in *Proc. IEEE Power & Energy Society General Meeting*, Washington, DC, **(Best Conference Papers on Power System Analysis and Modeling)**, July 2014.

C11. *Meng Wang*, Weiyu Xu, and Robert Calderbank, Compressed Sensing with Corrupted Participants, in *Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)* ,Vancouver, Canada, May 2013.

C10. Xiaohang Li, Hongyi Yao, *Meng Wang* and Soung Chang Liew, ADMOT: Compressive Sensing Techniques for Channel Monitoring in Multiple Access Networks, in *Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada, May 2013.

C9. *Meng Wang*, Weiyu Xu, Enrique Mallada, and Ao Tang, Sparse Recovery with Graph Constraints: Fundamental Limits and Measurement Construction, in *Proc. of IEEE International Conference on Computer Communications (INFOCOM) 2012*, Orlando, Florida, March 2012: 1871 - 1879.

C8. Weiyu Xu, *Meng Wang*, and Ao Tang, On State Estimation with Bad Data Detection, in *Proc. of IEEE Conference on Decision and Control and European Control Conference (CDC-ECC) 2011*, Orlando, Florida, December 2011: 5989-5994.

C7. Weiyu Xu, *Meng Wang*, Enrique Mallada, and Ao Tang, Recent results on sparse recovery over graphs, in *Proc. of Asilomar Conference on Signals, Systems, and Computers 2011*, Pacific Grove, CA, November 2011: 413-417.

C6. *Meng Wang*, Xiaoqiao Meng, and Li Zhang, Consolidating Virtual Machines with Dynamic Bandwidth Demand in Data Centers, in *Proc. of IEEE International Conference on Computer Communications (INFOCOM) MINICONFERENCE 2011*, Shanghai, China, April 2011: 71-75.

C5. *Meng Wang*, Weiyu Xu, and Ao Tang, The Limits of Error Correction with ℓ_p Decoding, in *Proc. of IEEE International Symposium on Information Theory (ISIT) 2010*, Austin, Texas, June 2010: 749-753.

C4. *Meng Wang*, Chee Wei Tan, Ao Tang, and Steven H. Low, How Bad is Single-Path Routing, in *Proc. of IEEE Global Communications Conference (Globecom)*, Honolulu, Hawaii, November 2009: 1-6.

C3. *Meng Wang*, and Ao Tang, Conditions for a Unique Non-negative Solution to an Underdetermined System, in *Proc. of Allerton Conference*, Monticello, Illinois, September 2009: 301-307.

C2. Animashree Anandkumar, *Meng Wang*, Lang Tong, and Ananthram Swami, Prize-Collecting Data Fusion for Cost-Performance Tradeoff in Distributed Inference, in *Proc. of IEEE International Conference on Computer Communications (INFOCOM)*, Rio De Janeiro, Brazil, April 2009: 2150-2158.

C1. *Meng Wang*, Fangzheng Li, Yadong Liu, Lipei Huang, and S. Makoto, Distributed Parallel Operation of Modified Deadbeat Controlled UPS Inverters, in *Proc. of IEEE PESC*, Orlando, Florida, June 2007: 1727-1732.

Book Chapters

B2. *Meng Wang* and Joe Chow, Data quality and privacy enhancement. in book "*Advanced Data Analytics for Power Systems.*" A. Tajer, S.M. Perlaza, H.V. Poor, Eds. Cambridge UK: Cambridge University Press 2021, ch.11, pp: 261-282.

B1. *Meng Wang*. Signal Processing in Smart Grids: from Data to Reliable Information. One chapter in book "*Smart Grid Control: An Overview and Research Opportunities.*" J. Stoustrup, A. Annaswamy, A. Chakrabortty, Z. Qu (Eds). Springer, 2018, pp: 173-184.

Students' Achievements

- Hongkang Li (Ph.D. student) won Rensselaer's Founders Award of Excellence, Oct. 2023.
- Ming Yi (Ph.D. student) won the Charles M. Close '62 Doctoral Prize from RPI ECSE, April 2023.
- Hongkang Li (Ph.D. student) won the 2022 Belsky Award for Computational Sciences and Engineering, December 2022.
- Ming Yi (Ph.D. student) won Rensselaer's Founders Award of Excellence, Oct. 2022.
- Shuai Zhang (Ph.D. student) won RPI ECSE Allen B. DuMont Prize for high scholastic ability, May 2021.
- Ren Wang (Ph.D. student) won Rensselaer's Founders Award of Excellence, Sep. 2019.
- Shuai Zhang (Ph.D. student) won Rensselaer's Founders Award of Excellence, Sep. 2019.
- Kyle Ritchie (M.S. student co-advised with Dr. Ning Zhang) won the Leo Beranek Student Medal from the Institute of Noise Control Engineering of USA, May 2019.
- Ren Wang (Ph.D. student) was selected as one of IBM/RPI AI Horizons Scholars, May 2019.
- Wenting Li (woman Ph.D. student) won Rensselaer's Founders Award of Excellence, Sep. 2018.
- Shuai Zhang (Ph.D. student) won a travel award to 2018 IEEE International Symposium on Information Theory, April 2018.
- Yingshuai Hao (Ph.D. student) won Rensselaer's Founders Award of Excellence, Sep. 2017.
- Pengzhi Gao (Ph.D. student) won Rensselaer's Founders Award of Excellence, Sep. 2015.

Invited Talks and Presentations

- Illinois Institute of Technology, Frontiers of Data Science: Theory, Applications, and Trustworthiness Seminars, *Computationally Efficient Deep Learning with Generalization Guarantees*, November 14, 2023
- CURENT Monthly Faculty Presentation to Industry, virtual, *Load Disaggregation at Substations Using Machine Learning Methods*, May 4, 2023
- Carnegie Mellon University, Electrical and Computer Engineering, Departmental Seminars, *Sample-Efficient Fast Learning in Power Systems*, June 22, 2022.
- Virtual Seminar at Eli Lilly and Company, *Low-rank Matrix Recovery of Dynamical Data*, April 12, 2022
- 2021 CIE/USA-GNYC Annual Convention, *Learning Neural Networks via Stochastic Gradient Descent with Generalization Guarantee: One-hidden-layer case*, October 16, 2021.
- Virtual Seminar at Army Research Lab (ARL), *Fast Algorithms with Provable Guarantees for High-dimensional Data Analytics*, August 6, 2019
- Tutorial at ACM e-Energy 2019 conference, *High-dimensional data analytics using low-dimensional models in power systems*, Phoenix, AZ, June 25, 2019.
- IEEE Big Data Webinar Series, Big Data & Analytics for Power Systems, *PMU Data Analytics Using Low-dimensional Models*, June 7, 2019
- Tutorial on Synchrophasor Data Analytics at the First IEEE International Conference on Smart Grid Synchronized Measurements and Analytics, *High-dimensional Data Analytics Using Low-dimensional Models in Power Systems*, May 20, 2019
- Computational Intelligence Society (CIS) at Schenectady Section, *High-dimensional Data Analytics Using Low-dimensional Models in Power Systems*, May 16, 2019.
- Isaac Newton Institute Workshop on Flexible Operation and Advanced Control for Energy Systems, University of Cambridge, Cambridge, United Kingdom, *High-dimensional data analytics using low-dimensional models in power systems*, January 2019.
- Arizona State University, School of Electrical, Computer and Energy Engineering, Departmental Seminars, *High-dimensional Data Analytics Using Low-dimensional Models in Power Systems*, November 8, 2018.
- Rensselaer Polytechnic Institute, Undergraduate research seminar series, *High-dimensional Data Analytics*, July 25, 2018.

- Texas A&M University, Department of Electrical &Computer Engineering, Departmental Seminars, *High-dimensional Data Analytics of PMU Measurements by Exploiting Low-dimensional Models*, April 17, 2017.

- Global Energy Interconnection Research Institute North America (GEIRINA), *PMU Data Quality Improvement and Information Extraction*, July 28, 2016.

- Pacific Gas and Electric Company (PGE), *PMU Data Quality Improvement and Information Extraction*, July 27, 2016.

- Space Time Insights, *PMU Data Quality Improvement and Information Extraction*, July 27, 2016.

- New England Independent System Operator (ISO-NE), *PMU Data Quality Improvement and Information Extraction*, April 21, 2016.

- New York Independent System Operator (NYISO), *PMU Data Quality Improvement and Information Extraction*, April 20, 2016.

- Workshop on Smart Grid Control, IEEE American Control Conference (ACC) 2016. *PMU Data Quality Improvement for Power System Monitoring and Control*, July 5, 2016.

- IBM T.J. Watson Research Center, Invited Talk, *High-Dimensional Data Analysis by Exploiting Low-Dimensional Structures with Applications to Power System Monitoring,* February, 2016.

- Tsinghua University, Department of Electrical Engineering, Departmental Seminars, *Data Management of High-dimensional Synchrophasor Measurements by Exploiting Low-dimensional Structures,* December 2015.

- Shanghai Jiaotong University, Department of Electrical Engineering, Invited Talk, *Data Management of High-dimensional Synchrophasor Measurements by Exploiting Low-dimensional Structures,* December 2015.

- Beijing Jiaotong University, Department of Electrical Engineering, Departmental Seminar, *Data Management of High-dimensional Synchrophasor Measurements by Exploiting Low-dimensional Structures,* December 2015.

- Huazhong University of Science and Technology, East Lake International Forum for Outstanding Overseas Young Scholars, *Data Management of High-dimensional Synchrophasor Measurements by Exploiting Low-dimensional Structures,* December 2015.

- Worcester Polytechnic Institute, Department of Electrical and Computer Engineering, Departmental Seminars, *Data Management of High-dimensional Synchrophasor Measurements Using Low-rank Methods*, September 2015.

- California Institute of Technology, Department of Electrical Engineering, RSRG Seminars, *Low-Rank Methods in Data Management of High-Dimensional Synchrophasor Measurements*, March 2015.

- Cornell University, School of Electrical and Computer Engineering, ISN Seminars, *High-dimensional Data Analysis in Power System Monitoring*, October 2014

- University of New Hampshire, Departmental of Electrical and Computer Engineering, Departmental Seminars, *Data-challenged monitoring of computer networks and power systems*, July 2014.

- Rensselaer Polytechnic Institute, Department of Mathematical Sciences *Data-challenged Monitoring of Engineering Networks*, September 2014.

Service to the Community

- Associate Editor of IEEE Transactions on Smart Grids, May 2020 till current.

- Committee Member, IEEE Signal Processing Society (SPS) Machine Learning for Signal Processing (MLSP) Technical Committee, November 2023-current

- Committee member of IEEE PES (Power & Energy Society) Scholarship Plus Initiative, 2013-2022.

- Co-Chair for *Control and Operations Symposium at the 11th IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm 2020)*, 2020.

- Organizer of a tutorial on Synchrophasor Data Analytics at *the First IEEE International Conference on Smart Grid Synchronized Measurements and Analytics (SGSMA)* at Texas A&M University 2019.

- Travel Grant Chair, *the Tenth ACM International Conference on Future Energy Systems (ACM e-Energy) 2019*.

- Guest Editor for IEEE Journal of Selected Topics in Signal Processing (JSTSP)- Special Issue for Signal and Information Processing for Critical Infrastructures, 2017-2018.

- Technical Co-Chair for Symposium on Information Processing and Optimization for Smart Grids in IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2017

- Technical Co-Chair for *Symposium on Signal and Information Processing for Smart Grid Infrastructures in IEEE GlobalSIP 2016,*

- NSF panelist: ECCS/ENG(2023), ECCS/ENG (2022), ECCS/ENG (2021), MPS/DMS (2021), ECCS/ENG (2018), CCF/CISE(2017), CCF/CISE(2016), CCF/CISE (2014), ECCS/ENG (2014).

- Co-organizer of "The Smart Grid" Summer Camp for high school students, 2014 - 2019.

- Technical program committee member for

   the Thirteenth ACM International Conference on Future Energy Systems (ACM e-Energy) 2022,

   the Tenth ACM International Conference on Future Energy Systems (ACM e-Energy) 2019,

   Symposium on Signal and Information Processing for Optimizing Future Energy Systems in IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2018,

   Intelligent Systems Application to Power Systems (ISAP) Conference 2017,

   Symposium on Signal and Information Processing for Optimizing Future Energy Systems in IEEE GlobalSIP 2015,

   IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2014,

   Symposium on Smart Grid Services and Management Models in IEEE SmartGridComm 2013,

   Symposium on "New Sensing and Statistical Inference Methods" in the 1st IEEE Global Conference on Signal and Information Processing (GlobalSIP), 2013.

- Reviewer for *IEEE Transactions on Power Systems*, *IEEE Transactions on Information Theory*, *IEEE/ACM Transactions on Networking*, *IEEE Transactions on Signal Processing*, *IEEE Transactions on Image Processing*, *IEEE Transactions on Communications*, *IEEE Transactions on Smart Grid*, *IEEE Signal Processing Letters*, *Information and Inference: A Journal of the IMA*,

- One of the four judges of Best Conference Papers in IEEE Power & Energy Society General Meeting 2018. August 2018.

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