Gang Wang

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Education

Ph.D.	University of Minnesota, Minneapolis, US Electrical and Computer Engineering Advisor: Prof. Georgios B. Giannakis	Jan. 2015-Present
Ph.D.	Beijing Institute of Technology, Beijing, China Electrical Engineering Advisors: Profs. Jie Chen and Jian Sun	Sep. 2011-Present GPA: 3.98/4.0, **Rank: 1/38**
Bachelor	Beijing Institute of Technology, Beijing, China Electrical Engineering Advisor: Prof. Jian Sun	Sep. 2007-June 2011 GPA: 3.91/4.0

Journal Papers

[J1] **G. Wang** and G. B. Giannakis, "Solving Large-scale Systems of Random Quadratic Equations via Stochastic Truncated Amplitude Flow,'' to be submitted.

[J2] **G. Wang**, G. B. Giannakis, and Y. C. Eldar, "Solving Systems of Random Quadratic Equations via Truncated Amplitude Flow,'' *IEEE Transactions on Information Theory*, submitted July.

[J3] **G. Wang**, V. Kekatos, A.-J. Conejo, and G. B. Giannakis, "Ergodic Energy Management Leveraging Resource Variability in Distribution Grids,'' *IEEE Transactions on Power Systems*, to appear June 2016.

[J4] V. Kekatos, **G. Wang**, A.-J. Conejo, and G. B. Giannakis, "Stochastic Reactive Power Management in Microgrids with Renewables," *IEEE Transactions on Power Systems*, vol. 30, January 2015.

[J5] **G. Wang**, J. Chen, and J. Sun, "Stochastic Stability of Extended Filtering for Nonlinear Systems with Measurement Packet Losses," *IET Control Theory & Applications*, vol. 7, no. 17, pp. 2048-2055, November 2013.

[J6] **G. Wang**, J. Chen, G. B. Giannakis, and J. Sun, "Power Scheduling for Kalman Filtering over Lossy Wireless Sensor Networks," to be submitted.

Conference Papers

[C1] G. Wang and G. B. Giannakis, "Solving Random Systems of Quadratic Equations via Truncated Generalized Gradient Flow,'' *The Thirtieth Annual Conf. on Neural Information Processing Systems*, Barcelona Spain, December 5-10, 2016 (submitted).

[C2] G. Wang, A. S. Zamzam, G. B. Giannakis, and N. D. Sidiropoulos, "Power System State Estimation via Feasible Point Pursuit,'' *Proc. of Globalsip Conf.*, Washington, DC, Dec. 7-9, 2016.

[C3] B. Yang, G. Wang, and N. D. Sidiropoulos, "Group-sparse Regularization for Low-rank Tensor Completion and Decomposition,'' *Proc. of Asilomar Conf. on Signals, Systems, and Computers*, Pacific Grove, CA, November 6-9, 2016.

[C4] G. Wang and G. B. Giannakis, "TGGF: Truncated Generalized Gradient Flow for Solving Random Systems of Quadratic Equations,'' *Intl. Conf. on Machine Learning Nonconvex Optimization Workshop*, New York City, June 19-25, 2016.

[C5] G. Wang, V. Kekatos, and G. B. Giannakis, "Stochastic Energy Management in Distribution Grids,'' *Proc.*

of Intl. Conf. on Acoustics, Speech and Signal Processing, Shanghai, China, March 20-25, 2016.

[C6] D. K. Berberidis, V. Kekatos, G. Wang, and G. B. Giannakis, "Online Censoring for Large-Scale Regression," *Proc. of Intl. Conf. on Acoust., Speech, and Signal Processing*, Brisbane, Australia, April 19-24, 2015.

[C7] **G. Wang**, D. K. Berberidis, V. Kekatos, and G. B. Giannakis, "Online Reconstruction from Big Data via Compressive Censoring," *Proc. of GlobalSIP Conf.*, Atlanta, GA, December 3-5, 2014.

[C8] D. K. Berberidis, **G. Wang**, G. B. Giannakis, and V. Kekatos, "Adaptive Estimation from Big Data via Censored Stochastic Approximation," *Proc. of Asilomar Conf. on Signals, Systems, and Computers*, Pacific Grove, CA, November 2-5, 2014.

[C9] V. Kekatos, **G. Wang**, and G. B. Giannakis, "Stochastic Loss Minimization for Power Distribution Networks," *Proc. of North America Power Systems*, Pullman, WA, September 7-9, 2014.

[C10] **G. Wang**, S.-J. Kim, and G. B. Giannakis, "Moving-Horizon Dynamic Power System State Estimation Using Semidefinite Relaxation," *Proc. of IEEE PES General Mtg.*, Washington, DC, July 27-31, 2014.

[C11] S.-J. Kim, **G. Wang**, and G. B. Giannakis, "Online Semidefinite Programming for Power System State Estimation," *Proc. of Intl. Conf. on Acoustics, Speech and Signal Processing*, Florence, Italy, May 4-9, 2014.

[C12] **G. Wang**, J. Chen, and J. Sun, "Stochastic Stability of Extended Filtering for Non-linear Systems with Measurement Packet Losses," *IASTED Asian Conference on Modelling, Identification and Control*, Phuket, Thailand, April 2-4, 2012.

[C13] **G. Wang**, J. Chen, and J. Sun, "On Sequential Kalman Filtering with Scheduled Measurements," *IEEE 3rd Annual Intern. Conf. on Cyber Technology in Automation, Control and Intelligent Systems*, Nanjing, May 26-30, 2013.

Invited Referee

IEEE Transactions on Signal Processing, IEEE Transactions on Power Systems, IEEE Transactions on Smart Grid, Acta Automatica Sinica, Conference on Neural Information Processing Systems, Conference on Control and Decision

Research/Project Experience

08/2015-Present **Provable Algorithms for Phase Retrieval**

- Design state-of-the-art algorithms for nonconvex phase retrieval applications with optimal sample complexity, linear computational complexity, near-perfect statistical guarantees
- Stochastic algorithms for phase retrieval

University of Minnesota, Minneapolis

Collaborator: G. B. Giannakis and Y. C. Eldar

05/2014-01/2015 **Online Censoring for Large-Scale Regression**

- Fixed and adaptive censoring rules for data reduction
- Efficient LMS and RLS type algorithms for large-scale regression
- Online support vector regression with censored targets

University of Minnesota, Minneapolis

Collaborators: G. B. Giannakis, V. Kekatos, and D. K. Berberidis

05/2014-07/2015 **Stochastic Reactive Power Management**

- (Dualized) SOCP relaxation for power loss minimization in distribution networks
- Efficient stochastic approximation solvers
- Efficient subgradient computation

Beijing Institute of Technology & University of Minnesota, Minneapolis

Collaborators: V. Kekatos and G. B. Giannakis

09/2013-03/2014 **Dynamic Power System State Estimation**

- Online convex optimization based state estimation via semidefinite relaxation
- Moving-horizon dynamic state estimation via semidefinite relaxation

Beijing Institute of Technology & University of Minnesota, Minneapolis
Collaborators: S.-J. Kim and G. B. Giannakis

02/2012-09/2013 **Kalman Filtering in Networked Control Systems with Data Packet Drops**

- Optimal power scheduling designed for networked systems with data packet drops
- Sufficient and necessary stability conditions for modified Kalman filter

State Key Laboratory of Complex Systems Intelligent Control and Decision & Beijing Institute of Technology
Collaborators: J. Chen and J. Sun

05/2012-04/2013 **State Estimation for Nonlinear Networked Systems**

- Extended filtering algorithm proposed nonlinear systems with measurement losses
- Sufficient conditions established for stochastic stability of proposed filtering algorithm

State Key Laboratory of Complex Systems Intelligent Control and Decision & Beijing Institute of Technology
Collaborators: J. Chen and J. Sun

10/2010-06/2011 **Robust Adaptive Control of Nonlinear Systems**

- Robust & adaptive control methods for nonlinear systems with coupled uncertainties
- Lyapunov stability analysis

State Key Laboratory of Complex Systems Intelligent Control and Decision & Beijing Institute of Technology
Collaborator: J. Sun

Honors and Awards

2013 National Scholarship (**top 2%**)
2013 Beijing Institute of Technology Outstanding Graduate Students
2013 Academic Excellence Scholarship (Special-class) Beijing Institute of Technology (**top 2%**)
2012 Beijing Institute of Technology Excellent Graduate Students
2012 Academic Excellence Scholarship (First-class) Beijing Institute of Technology
2010 People's Scholarship (First-class) of Beijing Institute of Technology (**top 5%**)
2010 Beijing Institute of Technology Excellent Students
2010 Third Prize in National Undergraduate Electronic Design Contest
2009 Beijing Institute of Technology Excellent Students
2008 People's Scholarship (First-class) of Beijing Institute of Technology (**top 5%**)

Technical Skills

Distributed algorithms, machine learning, optimization
Capable of coding with C and C++
Familiar with MATLAB, MatPower

Volunteer Experience

08/2008 Beijing Olympic Games volunteer
04/2008 Fangshan International Long Walk Competition volunteer

References

1. Prof. *Jie Chen*, Prof. of School of Automation, and Vice-President of Beijing Institute of Technology, Beijing 100081, China; Tel: 0086-10-68913795, E-mail: chenjie@bit.edu.cn
2. Prof. *Jian Sun*, Prof. of School of Automation, Beijing Institute of Technology, Beijing 100081, China; Tel: 0086-10-68912464, E-mail: sunjian@bit.edu.cn.