

CURRICULUM VITAE

Xuyang WU

CONTACT INFORMATION

- School of Information Science and Technology
- ShanghaiTech University
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EDUCATION

Ph.D. student in Electrical Engineering Systems (Sep, 2015- Jul, 2020)

ShanghaiTech University, Shanghai, China

Advisor: Prof. Jie Lu

B.S. in Applied Mathematics (2011-2015)

NorthWestern Polytechnical University, Xi'an, China

RESEARCH INTERESTS

- Distributed optimization over multi-agent systems
- Convex optimization theory and algorithms
- Application of distributed algorithms on power systems, machine learning, etc.

RESEARCH AND TEACHING EXPERIENCE

Research Assistant (2015-2020)

School of Information Science and Technology, ShanghaiTech University, Shanghai, China

Teaching Assistant of Linear Systems II (Spring 2017), Linear Systems I (Fall 2016, Spring 2018, Fall 2018)

School of Information Science and Technology, ShanghaiTech University, Shanghai, China

AWARD

- Student Award, Chinese Academy of Science, 2017
- Best Student Paper Finalist, IEEE ICCA, 2019

VISITING EXPERIENCE

- Prof. Jianbo Shi, School of Engineering and Applied Science, University of Pennsylvania, Apr-May, 2019
- Prof. Mikael Johansson, School of Electrical Engineering and Computer Science, KTH Royal Institute of Technology, Feb-Mar, 2020

PUBLICATIONS

Journal Papers [J1]-[J4]

- **X. Wu** and J. Lu, “Fenchel Dual Gradient Methods for Distributed Convex Optimization over Time-Varying Networks,” *IEEE Transactions on Automatic Control*, vol 64, no 11, 2019.
- **X. Wu** and J. Lu, “Distributed Optimization over Time-varying Networks with Minimal Connectivity”, *IEEE Control Systems Letters*, vol 4, no 3, 2020.
- **X. Wu**, Z. Qu, and J. Lu, “A Second-Order Proximal Algorithm for Consensus Optimization,” accepted to *IEEE Transactions on Automatic Control*, 2020.
- H. Wei, Z. Qu, **X. Wu**, H. Wang, and J. Lu, “A Distributed Newton Method for Locally Strongly Convex Optimization,” submitted to *IEEE Transactions on Signal Processing*, 2019.

Conference Papers [C1]-[C6]

- **X. Wu** and J. Lu, “Partially Asynchronous Coordinate Descent Algorithms for Smooth Convex Optimization,” In Proceeding of the 56th IEEE Conference on Decision and Control, Melbourne, Australia, December, 2017.
- **X. Wu** and J. Lu, “A Fenchel Dual Gradient Method for Distributed Convex Optimization over Time-varying Networks,” In Proceeding of the 56th IEEE Conference on Decision and Control, Melbourne, Australia, December, 2017.
- H. Wei, Z. Qu, **X. Wu**, H. Wang and J. Lu, “An Approximately-Zero-Gradient-Sum Algorithm for Consensus Optimization”, In Proceeding of the 15th International Conference on Control, Automation, Robotics, and Vision, Singapore, November, 2018.
- **X. Wu**, K. C. Sou and J. Lu, “Fenchel Dual Gradient Methods Enabling a Smoothing Technique for Nonsmooth Distributed Convex Optimization”, In Proceeding of the 57th IEEE Conference on Decision and Control (invited), Miami, FL, 2018.
- **X. Wu** and J. Lu, “Improved Convergence Rates of P-EXTRA for Non-smooth Distributed Optimization”, In Proceeding of the 15th IEEE International Conference on Control & Automation (ICCA), Edinburgh, Scotland, 2019 (**best student paper final list**).

Papers In Preparation [J5]-[J6]

- **X. Wu**, H. Wang and J. Lu, “A Distributed Proximal Primal-Dual Algorithm for Nonsmooth Optimization with Coupling Constraints”, submitted to the 59th IEEE Conference on Decision and Control, 2020.
- **X. Wu**, K. C. Sou, and J. Lu, “Fenchel Dual Gradient Methods Enabling a Smoothing Technique for Nonsmooth Distributed Convex Optimization”, submitted to *IEEE Transactions on Automatic Control*, 2020.
- **X. Wu** and J. Lu, “Distributed Approximate Methods of Multipliers for Composite Optimization”, to be submitted to *SIAM Journal on Optimization*, 2020.