

# LIJUN CHEN

PhD, Caltech, 2007; MS, UMD, 2001; MS, CAS-ITP, 1998; BS, USTC, 1995

## RESEARCH OVERVIEW

I aim to build rigorous foundations and develop new methodologies in optimization, control, and systems theory for analysis, control, and design of complex networked systems. Problems associated with such systems are typically large, computationally hard, and often require distributed solutions; yet they are also very structured and have features that can be exploited by appropriate computational methods. My research focuses on developing optimization approaches for such problems, and aims to develop theories, methods, and tools for modeling, exploiting structure, and distributing the design, optimization, and control of networked systems. A long-term research goal is to create a mathematical underpinning of network architecture that would include a unified framework that integrates computation, communication, control, and incentive, and allow rigorous analysis and systematic design of complex networked systems.

Research Interests:

- Control and optimization of networked systems
- Cyber-physical networks and autonomous systems
- Machine learning and its integration with control
- Communication and computer networks
- Distributed optimization and control
- Convex relaxation and parsimonious solutions
- Game theory and its engineering applications
- Theoretical foundations of complex engineering networks

## ACADEMIC APPOINTMENTS

Assistant Professor of Computer Science  
University of Colorado at Boulder, Boulder, CO, 2012 – Present

Research Scientist in Computing + Mathematical Sciences  
California Institute of Technology, Pasadena, CA, 2007 – 2011

## AWARDS

Best Paper Award, the Fourth IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), 2007

Charles Lee Powell Fellowship, California Institute of Technology, 2001-2002

Graduate School Fellowship, University of Maryland at College Park, 1998-2000

ELITE Fellowship, first prize, Chinese Academy of Sciences, 1996

## TEACHING

CSCI3104: Algorithms

University of Colorado at Boulder, Fall 2017, Fall 2018, Spring 2020

CSCI5254: Convex Optimization and Its Application

University of Colorado at Boulder, Fall 2014, Fall 2015, Spring 2017, Spring 2018, Spring 2019, Fall 2020

CSCI700-800: Online Optimization and Active Learning

University of Colorado at Boulder, Fall 2016

CSCI7000-023: Optimization and Control of Networks

University of Colorado at Boulder, Spring 2016

CSCI7000-019: Networks: Economics and Dynamics

University of Colorado at Boulder, Spring 2015

TLEN7000-003: Network Analysis Techniques

University of Colorado at Boulder, Fall 2014

TLEN7000/ECEN7002: Foundations of Networks

University of Colorado at Boulder, Fall 2012, Fall 2013

TLEN5330: Data Communications

University of Colorado at Boulder, Spring 2013

CS/EE 145c: Networking

California Institute of Technology, Spring 2008

CS/EE 145b: Networking

California Institute of Technology, Winter 2008

CDS 270: Optimization, Game, and Layering in Communication Networks

California Institute of Technology, Fall 2006

## RESEARCH MENTORING

### **PhD Students (Current)**

- Guohui Ding (Computer Science, University of Colorado at Boulder, 2015–)
- Zhiyuan Liu (Computer Science, University of Colorado at Boulder, 2015–)
- Wanshan Yang (Computer Science, University of Colorado at Boulder, 2015–)

### **PhD Students (Completed)**

- Chenyu Zheng (Computer Science, University of Colorado at Boulder, May 2014; now Assistant Professor at Fudan University)
  - Thesis: Self-Organizing Hybrid Cellular-MANETs

- Co-advised with Prof. Doug Sicker
- Xinyang Zhou (Telecom, University of Colorado at Boulder, May 2018; now Researcher at NREL)
  - Thesis: Distributed Real-time Voltage Control in Distribution Networks

#### **Other PhD Students (Mentored significantly)**

- Na Li (Control and Dynamical Systems, California Institute of Technology, June 2013; now Assistant Professor at Harvard University)
  - Thesis: Distributed Optimization in Power Networks and General Multi-agent Systems
  - Not her official thesis advisor, all her work on power networks was done with me
- Seungil You (Control and Dynamical Systems, California Institute of Technology, June 2015; now at Google)
- Tao Cui (Electrical Engineering, California Institute of Technology, June 2009; now at Qualcomm)

#### **MS Students (Current)**

- Sourav Chakraborty (Computer Science, University of Colorado at Boulder, 2020–)

#### **MS Students (Completed)**

- Abhiram Yarlagadda (Telecom, University of Colorado at Boulder, December 2014)
  - Thesis: The Price of Local Voltage Control in Distribution Systems
- Christopher Jones (Telecom, University of Colorado at Boulder, December 2017)
  - Thesis: A comparative study of public cloud network performance and its implications for multi-cloud performance optimization

#### **BS Students**

- Dean Eyolfson (CS, University of Colorado at Boulder, Spring 2019)
  - Topic: Matching between Youtubers and Sponsors

#### **Other Research Students**

- Adam DuBois (MS student, Telecom, University of Colorado at Boulder, 2012)
- Rebecca Mitchell (PhD student, Applied Math, University of Colorado at Boulder, 2013–2014)
- Paria Rezaeinia (PhD student, Electrical Engineering, University of Colorado at Boulder, 2012–2013)
- John Sewolich (MS student, Telecom, University of Colorado at Boulder, 2012)

#### **Thesis Committees:**

- Khaled Alanezi (PhD, CS, University of Colorado, May 2016)
- Farhad Anaraki (PhD, ECEE, University of Colorado; March 2017)
- Ibrahim Ayad (PhD, Telecom, University of Colorado, May 2020)
- Holly Borowski (PhD, AES, University of Colorado, May 2016)
- Mohit Chhabra (PhD, ECEE, University of Colorado, May 2014)

- Ogheneovo Dibie (PhD, CS, University of Colorado, May 2016)
- Derek Driggs (MS, Applied Math, University of Colorado, April 2017)
- Zhe Feng (PhD, ECEE, University of Colorado, in progress)
- Masoud Farivar (PhD, EE, California Institute of Technology, June 2015)
- Omar Hammad (MS, CS, University of Colorado, May 2019)
- Rozanna Jesudasan (MS, Swinburne Univ of Technology, Australia, June 2013)
- Tristan Konolige (PhD, CS, University of Colorado, May 2020)
- Michelle Lim (PhD, ECEE, University of Colorado, June 2014)
- Xing Li (PhD, ECEE, University of Colorado, May 2016)
- Fenglong Lu (PhD, ECEE, University of Colorado, May 2016)
- Yevgen Matviychuk (PhD, ECEE, University of Colorado, May 2016)
- Adnan Mian (PhD, Telecom, University of Colorado; April 2017)
- Gabor Molnar (PhD, Telecom, University of Colorado, December 2014)
- Yimin Pan (PhD, ECEE, University of Colorado; December 2018)
- Ben Pearre (PhD, CS, University of Colorado, May 2013)
- Hanchao Qi (PhD, ECEE, University of Colorado, May 2014)
- Mohamed Salman (PhD, EECE, University of Colorado; Dec 2019)
- Chinmay Save (MS, Telecom, University of Colorado, December 2012)
- Yassmin Shalaby (MS, ECEE, University of Colorado, May 2014)
- Parisa Rahimzadeh (PhD, CS, University of Colorado; May 2020)
- Danny Riley (PhD, CS, University of Colorado, in progress)
- Steve Robertson (PhD, Telecom, University of Colorado)
- Joshua Traube (PhD, ECEE, University of Colorado, December 2013)
- Minghui Xu (PhD, Physics, University of Colorado, May 2016)
- Anvesh Yalla (MS, ECEE, University of Colorado, April 2017)

## PROFESSIONAL SERVICE

- **Editor:** IEEE Transactions on Communications, 2015–, IEEE Control Systems Society Conference Editorial Board, 2017–
- **Chair:** Special Interest Group in ICT-Enabled Transactive Energy and Grid Economics of IEEE ComSoc Smart Grid Communications Emerging Technical Subcommittee, 2017–
- **Guest Editor:** Special Issue on Energy and Smart Grid, IEEE Communications Surveys & Tutorials COMST, 2013
- **Technical Program Committee**
  - 2021: The IEEE International Conference on Computer Communications (INFOCOM), IEEE International Conference on Communications (ICC) SAC Symposium Smart Grid Communications Track, Wireless On-demand Network systems and Services Conference (WONS)

- 2020: IEEE International Conference on Communications (ICC) SAC Symposium Smart Grid Communications Track, IEEE Global Communications Conference: Selected Areas in Communications: Smart Grid Communications (Globecom SAC SGC), the IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm), IEEE Conference on Games (CoG)
- 2019: Wireless On-demand Network systems and Services Conference (WONS), IEEE International Conference on Communications (ICC) SAC Symposium Smart Grid Communications Track; IEEE Wireless Communications and Networking Conference (WCNC), IEEE Global Communications Conference: Selected Areas in Communications: Smart Grid Communications (Globecom SAC SGC), IEEE Conference on Games, the IEEE Global Conference on Signal and Information Processing (GlobalSIP), the IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm), IEEE Conference on Games (CoG)
- 2018: The IEEE International Conference on Computer Communications (INFOCOM), the IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS), IEEE ICC SAC Symposium Smart Grid Communications Track, the IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm), the IEEE Global Conference on Signal and Information Processing (GlobalSIP)
- 2017: The IEEE International Conference on Computer Communications (INFOCOM), the IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS), the ACM International Conference on Future Energy Systems (e-Energy), the IEEE International Conference on Smart Grid Communications (SmartGridComm), the IEEE Global Conference on Signal and Information Processing (GlobalSIP)
- 2016: The IEEE International Conference on Computer Communications (INFOCOM), the IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS), the IEEE International Conference on Smart Grid Communications (SmartGridComm; for 2 different symposia), the IEEE Global Conference on Signal and Information Processing (GlobalSIP)
- 2015: The IEEE International Conference on Computer Communications (INFOCOM), the IEEE International Conference on Smart Grid Communications (SmartGridComm; for 2 different symposia), the International Conference on Wireless Communications and Signal Processing (WCSP)
- 2014: The IEEE International Conference on Computer Communications (INFOCOM), the IEEE International Conference on Smart Grid Communications (SmartGridComm; for 3 different symposia), the International Conference on Wireless Communications and Signal Processing (WCSP)
- 2013: The IEEE International Conference on Computer Communications (INFOCOM), the IEEE International Conference on Smart Grid Communications (SmartGridComm; for 3 different symposia)
- 2012: The IEEE International Conference on Computer Communications (INFOCOM), the IEEE International Conference on Smart Grid Communications (SmartGridComm; for 1 symposium), the International Symposium on Wireless Communication Systems (ISWCS)
- 2011: The International Workshop on Communications Technologies for Secure, Reliable, and Sustainable Smart Grids (SG-COMNETS)

- **Session Organization**

- Sessions on power systems, the Information Theory and Applications (ITA) Workshop, 2014
- Session on new control approaches for power networks, the IEEE Conference on Decision and Control (CDC), 2014
- **Referee:** IEEE/ACM Transactions on Networking, IEEE Transactions on Information Theory, IEEE Transactions on Mobile Computing, IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, Computer Networks Journal, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Signal Processing, IEEE Journal of Selected Topics in Signal Processing, IEEE Communications Letters, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Vehicular Technology, IEEE Network, IEEE Transactions on Broadcasting, Performance Evaluation, Queueing Systems, Operations Research, IEEE Transactions on Automatic Control, IEEE Transactions on Control of Network Systems, IEEE Transactions on Systems, Man, and Cybernetics – Part B: Cybernetics, IEEE Transactions on Control Systems Technology, Automatica, IEEE Transactions on Power Systems, IEEE Transactions on Smart Grid, IEEE Power Engineering Letters, Journal of Energy Engineering, Applied Energy, IET Generation, Transmission & Distribution, EURASIP Journal on Wireless Communications and Networking, EURASIP Journal on Advances in Signal Processing, European Transactions on Telecommunications, Wireless Networks, IEEE Infocom, IEEE ICC, IEEE Globecom, IEEE ISIT, GameNets, IEEE PIMRC, IEEE CDC, ACC, IEEE MSC, IEEE ICCA, IEEE SmartGridComm, IEEE SG Comm, Workshop on Control of Cyber-Physical Systems, IEEE Transactions on Dependable and Secure Computing, IEEE Robotics and Automation Letters, IEEE Control Systems Letters, Sustainable Computing, Informatics and Systems
- **Review Panel:** NSF/EPAS, NSF/CyberSEES, NSF/NeTS, NSF/DCSA CU Innovative Seed Grant Program (IGP)
- **University Service**
  - Departments
    - \* CS ABET Accreditation Committee 2020 –, EECE DSP/COM Faculty Search Committee 2020 –, CS Faculty Search Chair, 2018–2019; Member of ML/NLP Faculty Search Committee, 2018–2019; Member of the CS Transfer Course Evaluation Committee, 2017–2018; Member of the CS Undergraduate Committee, 2016–2017; Member of the CS Graduate Committee, 2014–2017; Member of the ITP PhD Committee, 2012–2018 (Chair 2017–2018)
    - \* Seminar organization: ITP PhD Seminars, 2012–2014; ITP Seminar Series, 2014–2015
  - College: Outstanding Dissertation Award Committee, 2015, 2016; Graduate Education Council, Spring 2014; Faculty Search Committee in Robotics, Dynamics and Control 2017–2018; GoldShirt S-STEM faculty mentor 2017–
  - University: Faculty-Student Mentoring Program, Fall 2014

## PUBLICATIONS

### **Journals**

1. L. Chen and S. You, The Weighted Sum Rate Maximization in MIMO Interference Networks: Minimax Lagrangian Duality and Algorithm, under review, *IEEE Transactions on Communications*. Also available at *CoRR* abs/1309.4034.
2. X. Li, S. You, L. Chen, A. Li and Y. Liu, Dual Link Algorithm for the Weighted Sum Rate Maximization in MIMO Interference Channels, under review, *IEEE Transactions on Signal Processing*, 2016. Also available at *CoRR* abs/1604.00926.

3. Y. Guo, X. Zhou, C. Zhao, L. Chen and T Summers, Optimal Power Flow with State Estimation In-the-Loop for Distribution Networks, under review, *IEEE Transactions on Power Systems*, 2020.
4. X. Zhou, C.-Y. Chang, A. Bernstein, C. Zhao and L. Chen, Economic Dispatch With Distributed Energy Resources: Co-Optimization of Transmission and Distribution Systems, accepted, *IEEE Control Systems Letters*, 2020.
5. W. Yang, G. Yang, T. Huang, J. Zeng, J. Cai, L. Chen, S. Mishra and E. Liu, Utilizing Players Playtime Records for Churn Prediction: Mining Playtime Regularity, accepted, *IEEE Transactions on Games*, 2020.
6. X. Zhou, M. Farivar, Z. Liu, L. Chen and S. Low, Reverse and Forward Engineering of Local Voltage Control in Distribution Networks, to appear, *IEEE Transactions on Automatic Control*, 2020.
7. Y. Nakahira and L. Chen, An Integrative Perspective to LQ and  $\ell_\infty$  Control for Delayed and Quantized Systems, *IEEE Transactions on Automatic Control*, 65(11): 4781-4792, 2020.
8. X. Zhou, Z. Liu, Y. Guo, C. Zhao and L. Chen, Gradient-Based Multi-Area Distribution System State Estimation, *IEEE Transactions on Smart Grid*, 11(6): 5325-5338, 2020.
9. X. Zhou, E. Dall'Anese and L. Chen, Online Stochastic Optimization of Networked Distributed Energy Resources, *IEEE Transactions on Automatic Control*, 65(6): 2387-2401, 2020.
10. X. Zhou, Z. Liu, C. Zhao and L. Chen, Accelerated Voltage Regulation in Multi-Phase Distribution Networks Based on Hierarchical Distributed Algorithm, *IEEE Transactions on Power Systems*, 35(3): 2047-2058, 2020.
11. Z. Liu, S. You, X. Zhou, G. Ding and L. Chen, Signal-Anticipating in Local Voltage Control in Distribution Systems, *IEEE Transactions on Smart Grid*, 11(1): 233-246, 2020.
12. X. Zhou and L. Chen, Demand Shaping in Cellular Networks, *IEEE Transactions on Control of Network Systems*, 6(1): 363-374, 2019.
13. X. Zhou, E. Dall'Anese, L. Chen, and A. Simonetto, An Incentive-Based Online Optimization Framework for Distribution Grids, *IEEE Transactions on Automatic Control*, 63(7): 2019-2031, 2018.
14. L. Chen and S. You, Reverse and Forward Engineering of Frequency Control in Power Networks, *IEEE Transactions on Automatic Control*, 62(9): 4631-4638, 2017.
15. N. Li, C. Zhao and L. Chen, Connecting Automatic Generation Control and Economic Dispatch from an Optimization View, *IEEE Transactions on Control of Network Systems*, 3(3): 254-264, 2016.
16. L. Chen and N. Li, On the Interaction between Load Balancing and Speed Scaling, *IEEE Journal on Selected Areas in Communications (JSAC) - series on Green Communications and Networking*, 33(12): 2567-2578, 2015.
17. N. Li, L. Chen and M. Dahleh, Demand Response Using Linear Supply Function Bidding, *IEEE Transactions on Smart Grid*, 6(4): 1827-1838, 2015.
18. L. Chen, T. Ho, M. Chiang, S. H. Low and J. C. Doyle, Congestion Control for Multicast Flows with Network Coding, *IEEE Transactions on Information Theory*, 58(9): 5908-5921, 2012.
19. T. Cui, L. Chen and T. Ho, Distributed Distortion Optimization for Correlated Sources, *IEEE Transactions on Communications*, 60(5): 1336-1344, 2012.
20. F. Chandra, D. F. Gayme, L. Chen and J. C. Doyle, Robustness, Optimization, and Architectures, *European Journal of Control*, 5-6: 472-482, 2011.

21. L. Chen, S. H. Low and J. C. Doyle. Random Access Game and Medium Access Control Design, *IEEE/ACM Transactions on Networking*, 18(4): 1303-1316, 2010.
22. L. Chen, S. H. Low and J. C. Doyle, Cross-Layer Design in Multihop Wireless Networks (Invited), Special Issue on Wireless for the Future Internet, *Computer Networks Journal*, 55:480-496, 2010.
23. T. Cui, L. Chen and T. Ho, On Distributed Scheduling in Wireless Networks Exploiting Broadcast and Network Coding, *IEEE Transactions on Communications*, 58(4):1223-1234, 2010.
24. T. Cui, L. Chen and S. H. Low, A Game-theoretic Framework for Medium Access Control, *IEEE Journal of Selected Areas in Communications*, 26(7): 1116-1127, 2008.
25. B. Chen, L. Chen and R. Han, Josephson Like Effects in the Mesoscopic Electric Circuit, *Communications in Theoretical Physics*, 31: 301-304, 1999.
26. B. Chen, L. Chen and R. Han, Bloch Wave Oscillation and Coulomb Blockade in Mesoscopic Electric Circuits, *Physics Letters A*, 246: 446-450, 1998.

### Book Chapters

1. L. Chen, N. Li, L. Jiang and S. H. Low, Optimal Demand Response: Problem Formulation and Deterministic Case, *Control and Optimization Theory for Electric Smart Grids*, Aranya Chakraborty and Marija Ilic (Eds.), pp. 63-85, Springer, 2012.
2. L. Chen, S. H. Low and J. C. Doyle, Dual Scheduling Algorithm in a Generalized Switch: Asymptotic Optimality and Throughput Optimality, In *High-Performance Packet Switching Architectures*, Itamar Elhanany and Mounir Hamdi (Eds.), pp. 147-168, Springer, 2006.

### Conference Proceedings

1. L. Chen, J. Grochow, R. Layer and M. Levet, Mastery-based and standards-based grading in a large, undergraduate Intro Algorithms course: a case report, under review, *Annual conference on Innovation and Technology in Computer Science Education (ITiCSE)*, 2021.
2. W. Yang, Z. Feng, L. Chen, W. Xu and E. Liu, Channel Reciprocity in FDD Multiuser MIMO Systems by Super-resolution, to appear, *Proceedings of the IEEE International Conference on Communications (ICC)*, 2021.
3. X. Zhou, C.-Y. Chang, A. Bernstein, C. Zhao and L. Chen, Economic Dispatch With Distributed Energy Resources: Co-Optimization of Transmission and Distribution Systems, to appear, *Proceedings of the American Control Conference (ACC)*, 2021.
4. G. Ding, J. Koh, C. Heckman, A. Roncone and L. Chen, Distributed Approximation of Centralized Value Functions: Convergence and Performance Bounds, under review, *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2021.
5. X. Zhou, Y. Chen, Z. Liu, C. Zhao and L. Chen, Multi-Level Optimal Power Flow Solver in Large Distribution Networks, *Proceedings of the IEEE International Conference on Smart Grid Communications (SmartGridComm)*, 2020.
6. Z. Liu, H. Wang, B. Waggner, E Liu and L. Chen, A Smoothed Analysis of Online Lasso for the Sparse Linear Contextual Bandit Problem, *Workshop on Real World Experiment Design and Active Learning, ICML*, 2020.



7. J. Koh, G. Ding, C. Heckman, L. Chen and A. Roncone, Cooperative Control of Mobile Robots with Stackelberg Learning, *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2020. (acceptance rate 47%)
8. W. Yang, T. Huang, J. Zeng, Y. Tang, L. Chen, S. Mishra and E. Liu, Correlation Between Personality and Social Interactions in Online Strategy Games, *Proceedings of IEEE Conference on Games (CoG)*, pp. 756-759, 2020. (acceptance rate 42.5%)
9. Y. Guo, X. Zhou, C. Zhao, Y. Chen, T Summers and L. Chen, Solving Optimal Power Flow for Distribution Networks with State Estimation Feedback, *Proceedings of the American Control Conference (ACC)*, pp. 3148-3155, 2020.
10. Z. Liu, G. Ding, L. Chen and E. Yeung, Towards Scalable Koopman Operator Learning: Convergence Rate and Distributed Implementation, *Proceedings of the American Control Conference (ACC)*, pp. 3983-3990, 2020.
11. G. Ding, J. Koh, K. Merchaert, B. Vanderborght, M. Nicotra, A. Roncone, C. Heckman and L. Chen, Distributed Reinforcement Learning for Cooperative Multi-Robot Object Manipulation, *Proceedings of International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, pp. 1831-1833, 2020. (acceptance rate 40%)
12. Z. Liu, H. Wang, F. Shen, K. Liu and L. Chen, Incentivized Exploration for Multi-Armed Bandits under Reward Drift, *Proceedings of the AAAI Conference on Artificial Intelligence*, 30(04), pp. 4981-4988, 2020. (acceptance rate 20.6%)
13. W. Yang, T. Huang, J. Zeng, Y. Tang, L. Chen, S. Mishra and E. Liu, Purchase Prediction for Paying Players in Free Online Games via Survival Analysis, *Proceedings of IEEE International Conference on Big Data (Big Data)*, pp. 4444-4449, 2019.
14. W. Yang, G. Yang, T. Huang, J. Zeng, J. Cai, L. Chen, S. Mishra and E. Liu, Mining Player In-game Time Spending Regularity for Churn Prediction in Free Online Games, *Proceedings of IEEE Conference on Games (CoG)*, pp. 1-8, 2019.
15. X. Zhou, Z. Liu, W. Wang, C. Zhao, F. Ding and L. Chen, Hierarchical Distributed Voltage Regulation in Networked Autonomous Grids, *Proceedings of the American Control Conference (ACC)*, pp. 5563-5569, 2019.
16. G. Ding, H. Ravanbakhsh, Z. Liu, S. Sankaranarayanan and L. Chen, Distributed Online Convex Programming for Collision Avoidance in Multi-agent Autonomous Vehicle Systems, *Proceedings of the American Control Conference (ACC)*, pp. 2771-2776, 2019.
17. W. Yang, G. Yang, T. Huang, L. Chen and E. Liu, Whales, Dolphins, or Minnows? Towards the Player Clustering in Free Online Games Based on Purchasing Behavior via Data Mining Technique, *Proceedings of IEEE International Conference on Big Data (Big Data)*, pp. 4101-4108, 2018.
18. W. Yang, L. Chen and E. Liu, Three-dimensional Super-resolution with Nonuniform Cutoff Frequencies, *Proceedings of Asilomar Conference on Signals, Systems and Computers*, pp. 1955-1958, 2018.
19. G. Ding, S. Aghli, C. Heckman and L. Chen, Game-Theoretic Cooperative Lane Changing Using Data-Driven Models, *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3640-3647, 2018. (acceptance rate 46.7%)
20. W. Yang, L. Chen and E. Liu, Super-resolution for Achieving Frequency Division Duplex (FDD) Channel Reciprocity, *Proceedings of IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pp. 1-5, 2018.

21. Z. Liu, S. Kundu, L. Chen and E. Yeung, Decomposition of Nonlinear Dynamical Systems Using Koopman Gramians, *Proceedings of the American Control Conference (ACC)*, pp. 4811-4818, 2018.
22. X. Zhou, Z. Liu, E. Dall'Anese and L. Chen, Stochastic Dual Algorithm for Voltage Regulation in Distribution Networks with Discrete Loads, *Proceedings of the IEEE International Conference on Smart Grid Communications (SmartGridComm)*, pp. 405-410, 2017.
23. Y. Nakahira, N. Chen, L. Chen and S. Low, Smoothed Least-laxity-first Algorithm for EV charging, *Proceedings of the ACM International Conference on Future Energy Systems (ACM e-Energy)*, pp. 242-251, 2017. (acceptance rate 36%)
24. X. Zhou, E. Dall'Anese, L. Chen and K. Baker, Incentive-based Voltage Regulation in Distribution Networks, *Proceedings of the American Control Conference (ACC)*, pp. 2732-2738, 2017.
25. Z. Liu and L. Chen, Proportional Control Applied to Dynamic Network Resource Allocation, *Proceedings of the American Control Conference (ACC)*, pp. 1948-1953, 2017.
26. M. Salman and L. Chen, Optimizing Secondary User Performance Under Delay Constraint For Primary User, *Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC)*, pp. 1-6, 2017. (6 pages)
27. K. Alanezi, R. Rafiq, L. Chen and S. Misha, Leveraging BLE and Social Trust to Enable Mobile In Situ Collaborations, *Proceedings of the ACM International Conference on Ubiquitous Information Management and Communication (IMCOM)*, 2017. (8 pages, acceptance rate 29%)
28. X. Zhou and L. Chen, An Incremental Local Algorithm for Better Voltage Control in Distribution Networks, *Proceedings of the IEEE Conference on Decision and Control (CDC)*, pp. 2396-2402, 2016. (8 pages, acceptance rate 53%)
29. G. Ding and L. Chen, Load Balancing and Speed Scaling Interaction in Processor-Sharing Systems with Exponential Power Functions, *Proceedings of the Allerton Conference on Communication, Control, and Computing*, pp. 1197-1203, 2016. (7 pages, acceptance rate not available)
30. X. Zhou, J. Tian, L. Chen and E. Dall'Anese, Local Voltage Control in Distribution Networks: A Game-Theoretic Perspective, *Proceedings of the North American Power Symposium (NAPS)*, 2016. (6 pages, acceptance rate 57%)
31. X. Zhou, M. Farivar and L. Chen, Pseudo-Gradient Based Local Voltage Control in Distribution Networks, *Proceedings of the Allerton Conference on Communication, Control, and Computing*, pp. 173-180, 2015. (acceptance rate not available)
32. X. Zhou and L. Chen, A New Perspective to Synchronization in Networks of Coupled Oscillators: Reverse Engineering and Convex Relaxation, *Proceedings of the IFAC Workshop on Distributed Estimation and Control in Networked Systems (NecSys)*, 48(22):40-45, 2015. (acceptance rate 85%)
33. M. Farivar, X. Zhou and L. Chen, Local Voltage Control in Distribution Systems: An Incremental Control Algorithm, *Proceedings of the IEEE International Conference on Smart Grid Communications (SmartGridComm)*, pp. 732-737, 2015. (acceptance rate 45%)
34. K. Alanezi, X. Zhou, L. Chen and S. Misha, Panorama: A Framework to Support Collaborative Context Monitoring on Co-Located Mobile Devices, *Proceedings of the International Conference on Mobile Computing, Applications, and Services (MobiCASE)*, pp. 143-160, 2015. (acceptance rate 37%)

35. X. Li, S. You, L. Chen, A. Liu and Y. Liu, A New Algorithm for the Weighted Sum Rate Maximization in MIMO Interference Networks, *Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC)*, pp. 147-152, 2015. (acceptance rate 45%)
36. X. Zhou and L. Chen, Demand Shaping in Cellular Networks, *Proceedings of the Allerton Conference on Communication, Control, and Computing*, pp. 621-628, 2014. (acceptance rate not available)
37. S. You and L. Chen, Reverse and Forward Engineering of Frequency Control in Power Networks, *Proceedings of the IEEE Conference on Decision and Control (CDC)*, pp. 191-198, 2014. (acceptance rate 51%)
38. J. Shihadeh, S. You and L. Chen, Signal-anticipating in Local Voltage Control in Distribution Systems, *Proceedings of the IEEE International Conference on Smart Grid Communications (SmartGridComm)*, pp. 212-217, 2014. (acceptance rate: 41%)
39. S. You, L. Chen and Y. Liu, Convex-Concave Procedure for Weighted Sum Rate Maximization in a MIMO Interference Network, *Proceedings of the IEEE Global Communications Conference (GLOBECOM)*, pp. 4060-4065, 2014. (acceptance rate: 40%)
40. C. Zheng, L. Chen and D. C. Sicker, Hybrid Cellular-MANETs in Practice: A Microblogging System for Smart Devices in Disaster Areas, *Proceedings of the International Wireless Communications and Mobile Computing Conference (IWCMC)*, pp. 648-653, 2014. (acceptance rate 34%)
41. N. Li, L. Chen, C. Zhao and S. H. Low, Connecting Automatic Generation Control and Economic Dispatch from an Optimization View, *Proceedings of the American Control Conference (ACC)*, pp. 735-740, 2014. (acceptance rate 64%)
42. C. Zheng, L. Chen and D. C. Sicker, Hybrid Cellular-MANETs: An Energy-Aware Routing Design, *Proceedings of the IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS)*, pp. 9-16, 2014. (acceptance rate: 23%)
43. M. Farivar, L. Chen and S. H. Low, Equilibrium and Dynamics of Local Voltage Control in Distribution Systems, *Proceedings of the IEEE Conference on Decision and Control (CDC)*, pp. 4329-4334, 2013. (acceptance rate 56%)
44. C. Zheng, D. C. Sicker and L. Chen, Self-Organized Context-Aware Hybrid MANETs, *Proceedings of the IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS)*, pp. 128-130, 2013. (acceptance rate 26%)
45. N. Li, L. Chen and S. H. Low, Exact Convex Relaxation of OPF for Radial Networks using Branch Flow Model, *Proceedings of the IEEE International Conference on Smart Grid Communications (SmartGridComm)*, pp. 7-12, 2012. (acceptance rate 44%)
46. N. Li, L. Chen and S. H. Low, Demand Response in Radial Distribution Networks: Distributed Algorithm, *Proceedings of the Asilomar Conference on Signals, Systems and Computers*, pp. 1549-1553, 2012. (invited paper)
47. N. Li, L. Chen, L. Gan and S. H. Low, An Optimization Based Demand Response in Radial Distribution Networks, *Proceedings of the IEEE Workshop on Smart Grid Communications: Design for Performance (SGComm)*, pp. 1474-1479, 2012. (acceptance rate not available)
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