WEIXIAN LIAO

CONTACT INFORMATION

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RESEARCH INTERESTS

Cybersecurity, privacy, and optimization in big data applications, cyber physical systems, machine learning, cloud computing and wireless networks.

TEACHING INTERESTS

Security and privacy, big data analytics, computer networks, and wireless communications.

EDUCATION

Ph.D. in Electrical Engineering and Computer Science — 07/2018 (expected)
Case Western Reserve University, Cleveland, OH

M.S. in Electrical and Computer Engineering — 12.2015
Mississippi State University, Mississippi State, MS

B.S. in Information Engineering — 07.2012
Xidian University, Xi'an, Shaanxi, China

RESEARCH EXPERIENCE

Research Assistant — Spring, 2016 – present
Department of Electrical Engineering and Computer Science, Case Western Reserve University

Research Assistant — Fall, 2012 – Fall, 2015
Department of Electrical and Computer Engineering, Mississippi State University

TEACHING EXPERIENCE

Teaching assistant
Case Western Reserve University, Cleveland, OH
- EECS 313 Signal Processing — Spring 2017
- DSCI 133 Introduction to Data Science and Engineering — Fall 2016
- EECS 313 Signal Processing — Spring 2016

Guest lecturer
Mississippi State University, Mississippi State, MS
- ECE 8823 Wireless Networks — Fall 2014
- ECE 8990 Advanced Topics in Big Data — Spring 2015

PUBLICATIONS

- **Journal Papers**

7. **Weixian Liao**, Sergio Salinas, Ming Li, Pan Li, and Kenneth A. Loparo, "Cascading Failure Attacks in the Power System: A Stochastic Game Perspective," to appear in *IEEE Internet of Things Journal*.
6. **Weixian Liao**, Changqing Luo, Sergio Salinas, and Pan Li, "Efficient Secure Outsourcing of Large-scale Separable Programming for Big Data," to appear in *IEEE Transactions on Big Data*.
5. **Weixian Liao**, Ming Li, Sergio Salinas, Pan Li, and Miao Pan, "Energy-Source-Aware Cost Optimization for Green Cellular Networks with Strong Stability", *IEEE Transactions on Emerging Topics in Computing*, Vol. 4, No. 4, pp. 541- 555, Dec. 2016.
4. Sergio Salinas, Chagnqing Luo, Xuhui Chen, **Weixian Liao**, and Pan Li, "Efficient Secure Outsourcing of Large-scale Sparse Linear Systems of Equations", to appear in *IEEE Transactions on Big Data*.
3. Ming Li, **Weixian Liao**, Xuhui Chen, Jinyuan Sun, Xiaoxia Huang, and Pan Li, "Economic-Robust Transmission Opportunity Auction for D2D Communications in Cognitive Mesh Assisted Cellular Networks," to appear in *IEEE Transactions on Mobile Computing*.
2. Sheng Cai, **Weixian Liao**, Changqing Luo, Ming Li, Xiaoxia Huang, and Pan Li, "CRIL: An Efficient Online Adaptive Indoor Localization System", *IEEE Transactions on Vehicular Technology*, Vol. 66, No. 5, pp. 4148- 4160, May 2017.
1. Arun Thapa, **Weixian Liao**, Ming Li, Pan Li, and Jinyuan Sun, "SPA: A Secure and Private Auction Framework for Decentralized Online Social Networks", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 27, No. 8, pp. 2394- 2407, Aug. 2016.

- **Conference Papers**

5. Changqing Luo, **Weixian Liao**, Sergio Salinas, and Pan Li, "Efficient Secure CP Tensor Decompositions for Large-scale Data Analysis', *IEEE ICDCS 2018*, under review.
4. **Weixian Liao**, Wei Du, Sergio Salinas, and Pan Li, "Efficient Privacy-preserving Outsourcing of Large-scale Optimization for Smart Cities," *IEEE Internal Conference on Smart City (SmartCity'16)*, Sydney, Australia, Dec. 12- Dec. 14, 2016.
3. Sergio Salinas, Changqing Luo, **Weixian Liao**, and Pan Li, "Efficient Secure Outsourcing of Quadratic Programs", *ACM Asia Conference on Computer and Communications Security (ASIACCS' 2016)*, Xi'an, China, May 30- June 3, 2016. (Acceptance ratio: 73/350=20.9%)
2. **Weixian Liao**, Ming Li, Sergio Salinas, Pan Li, and Miao Pan, "Optimal Energy Cost for Strongly Stable Multi-hop Green Cellular Networks", *IEEE International Conference on Distributed Computing Systems (ICDCS'14)*, Madrid, Spain, June 30- July 3, 2014. (Acceptance ratio: 66/500 = 13%)
1. Sergio Salinas, Changqing Luo, **Weixian Liao**, and Pan Li, "State Estimation for Energy Theft Detection in Microgrids", *International Conference on Communications and Networking in China (ChinaCom'14)*, Maoming, China, August 14-16, 2014. (**Best Paper Award**)

- **Papers in Preparation**

4. **Weixian Liao**, and Pan Li, "Distributed Stochastic Analysis in Cascading Attack in Smart Cities", *IEEE Transactions on Dependable and Secure Computing*.
3. **Weixian Liao**, and Pan Li, "Detecting Unobservable Attacks in Nonlinear Cyber-physical Systems", *IEEE Transactions on Smart Grid*.

2. **Weixian Liao**, and Pan Li, "Interdiction Analysis for Distributed Stochastic Game against Attacks in Microgrids", *IEEE Transactions on Power System*.

1. **Weixian Liao**, and Pan Li, "Stability in Ensemble Feature Selection: A Theoretical Approach", *IEEE Transactions on Big Data*.

HONORS AND AWARDS

- IEEE Student Travel Grant, 2014
- Bagley Graduate Fellowship, MSU, 2013-2015
- Outstanding Graduates Award, Xidian University, 2012
- National Scholarship, Chinese Ministry of Education, 2011
- First-class Prize, National Undergraduate mathematical Contests in Modeling (Shaanxi), 2010

PROFESSIONAL ACTIVITIES

- **Journal Referee**

IEEE Transactions on Smart Grid, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Vehicular Technology, IEEE Transactions on Big Data, IEEE Transactions on Information Forensics and Security, IEEE Transactions on Dependable Computing.

- **Conference Referee**

INFOCOM'17, ICC'17, INFOCOM'16, ICC'17, ICCCN'15, ICC'15, INFOCOM'14, VTC'14, WCSP'14, etc.

- **Society Memberships**

Student Member in IEEE, IEEE-Computer Society, IEEE-Power and Energy Society, IEEE-Computational Intelligence Society.