Feng Ye

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PRINCIPAL INTERESTS

Smart grid, distributed optimization, remote state estimation, control system theory, federated learning, privacy preserving, cyber security.

ACADEMIC BACKGROUND

Visiting Ph.D. Student, Electrical and Computer Engineering 10/2022 - Present
University of Victoria, Victoria, BC, Canada

- Research in privacy preserving and security of federated learning under direction of Prof. Lin Cai (Canadian Academy of Engineering (CAE) Fellow, IEEE Fellow).
- Research interests: distributed coordination, federated learning, privacy preserving, and cyber security.

Ph.D., Control Science and Engineering 09/2019 - Present
Southeast University, Nanjing, Jiangsu, China

- Ph.D. research in privacy preserving and security of control systems under direction of Prof. Xianghui Cao.
- Research interests: smart grid, distributed optimization, remote state estimation, privacy preserving, and cyber security.

B.S., Electrical Engineering and Automation 09/2015 - 06/2019
Northeastern University, Shenyang, Liaoning, China

- Focus areas: electrical engineering, power system analysis, and automatic control theory.

RESEARCH FUNDING PARTICIPATION

- National Natural Science Foundation of China: *The theory and method of design and analysis of industrial Internet topology for system control*, 01/2021 - 12/2023, participator.
- National Natural Science Foundation of China: *Distributed collaborative design of scheduling and control in the wireless multi-channel cyber-physical systems*, 01/2016 - 12/2019, participator.
- Outstanding Young Scholarship of Jiangsu Province of China: *Study on the security control of cyber-physical systems under communication interference attacks*, 07/2018 - 06/2021, participator.

JOURNAL ARTICLES

5. F. Ye, X. Cao, L. Cai, and M.-Y. Chow, False Data Injection Attack Detection with Zero Prior Knowledge in Privacy-Preserving Distributed Energy Management Systems, Submitted to *Automatica*, under peer review.
4. F. Ye, X. Cao, M.-Y. Chow, and L. Cai, Privacy-Preserving Average Consensus: Fundamental Analysis and a Generic Framework Design, Submitted to *IEEE Transactions on Information Theory*, Revise and resubmit.
3. F. Ye, X. Cao, Z. Cheng, and M.-Y. Chow, CASL: A Novel Collusion Attack against Distributed Energy Management Systems, *IEEE Transactions on Smart Grid*, early access, 2023.

2. F. Ye, Z. Cheng, X. Cao, and M.-Y. Chow, A Random-Weight Privacy-Preserving Algorithm With Error Compensation for Microgrid Distributed Energy Management, *IEEE Transactions on Information Forensics and Security*, vol. 16, pp. 4352-4362, 2021.

1. Z. Cheng, F. Ye, X. Cao, and M.-Y. Chow, A Homomorphic Encryption-Based Private Collaborative Distributed Energy Management System, *IEEE Transactions on Smart Grid*, vol. 12, no. 6, pp. 5233-5243, 2021.

CONFERENCE PROCEEDINGS

2. F. Ye, Z. Cheng, X. Cao, and M.-Y. Chow, A Random-Weighted Privacy-Preserving Distributed Algorithm for Energy Management in Microgrid with Energy Storage Devices, *2020 2nd IEEE International Conference on Industrial Electronics for Sustainable Energy Systems (IESES)*, 2020, pp. 249-254.

1. N. Hang, F. Ye, Z. Cheng, X. Cao, and M.-Y. Chow, Simulating and Evaluating Privacy Issues in Distributed Microgrids: A Cyber-Physical Co-Simulation Platform, *IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society*, 2021.

SPECIAL ACHIEVEMENTS

Selected Awards

- *Meritorious Winner Award, Mathematical Contest in Modeling*, the Consortium for Mathematics and Its Applications, USA, Apr. 2018
- *Honorable Mention Award, Mathematical Contest in Modeling*, the Consortium for Mathematics and Its Applications, USA, Apr. 2017
- *Outstanding Student Cadres Award*, Northeastern University, Sept. 2017

Scholarships

- *Ph.D. Candidate Third-Class Scholarship*, Southeast University, 2022
- *Ph.D. Candidate Second-Class Scholarship*, Southeast University, 2021
- *Postgraduate Student Second-Class Scholarship*, Southeast University, 2019
- *National Encouragement Scholarship*, Ministry of Education, China, 2017
- *Undergraduate Student Third-Class Scholarship*, Northeastern University, 2017

PROFESSIONAL SERVICE

Peer Reviewer

- *IEEE Transactions on Industrial Informatics*, 2023 – present
- *IEEE Internet of Things Journal*, 2023 – present
- *IEEE/CAA Journal of Automatica Sinica*, 2022 – present
- *2021 China Automation Congress*