XUHUI (TRACY) CHEN

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College of Aeronautics and Engineering
Kent State University, Kent, Ohio 44240

RESEARCH INTERESTS

Cybersecurity (security and privacy in distributed machine learning, Blockchain technology), Artificial intelligence, with applications in the cyber-physical systems (UAV, Robot, Power Systems) and bioinformatics.

EDUCATION

- **Ph.D.** in Computer Engineering, GPA: 4.0/4.0 01/2016 - 08/2019
  Case Western Reserve University, Cleveland, OH, USA
  Advisor: Prof. Pan Li
- **M.S.** in Electrical and Computer Engineering, GPA: 4.0/4.0 08/2013 - 12/2015
  Mississippi State University, Mississippi State, MS, USA
  Advisor: Prof. Pan Li
- **B.S.** in Information Engineering, GPA: 87/100 09/2008 - 07/2012
  Xidian University, Xi'an, Shaanxi, China
  Advisor: Prof. Baoming Bai

RESEARCH EXPERIENCES

- **Assistant Professor**, 08/2019 - present
  College of Aeronautics and Engineering, Kent State University
- **Research Assistant**, 01/2016 - 08/2019
  Department of Electrical Engineering and Computer Science, Case Western Reserve University
- **Research Assistant**, 08/2013 - 12/2015
  Department of Electrical and Computer Engineering, Mississippi State University

TEACHING EXPERIENCES

- **Instructor**, Kent State University
  ENGR 20005 Intro to Cybersecurity Fall 2020
  ENGR 61095 Quantitative Methods Fall 2019, Spring 2020, Fall 2020, and Spring 2021
- **Guest Lecturer**, Case Western Reserve University
  ECE 414 Wireless Communication Fall 2017 and Fall 2018
- **Teaching Assistant**, Case Western Reserve University
  EECS 340 Algorithms Spring 2019
  EECS 414 Wireless Communication Fall 2017
  EECS 313 Signal Processing Spring 2017

EECS 315 Digital Systems Design Spring 2016

- **Teaching Assistant**, Mississippi State University
  ECE 3183 Electric Engineering Systems Fall 2013 and Spring 2014

PUBLICATIONS

Conference Papers

- **Xuhui Chen**, Xufei Wang, and Kun Yang, "*Asynchronous Blockchain-based Privacy-preserving Training Framework for Disease Diagnosis*," IEEE International Conference on Big Data, The First Workshop on Security and Privacy on Blockchain, Los Angeles, December 2019.
- Kun Yang, **Xuhui Chen**, and Pan Li, "*Data Streaming Analysis Framework for Through-time 3D Free-breathing Liver DCE-MRI*," IEEE International Conference on Big Data (IEEE BigData'19), Los Angeles, December 2019.
- Jinlong Ji, **Xuhui Chen**, Qianlong Wang, Lixing Yu, and Pan Li, "*Learning to Learn Gradient Aggregation by Gradient Descent*," the 28th International Joint Conference on Artificial Intelligence (IJCAI'19), Macao, China, August 2019. (Acceptance Ratio = 850/4752 = 17.9%)
- **Xuhui Chen**, Jinlong Ji, Changqing Luo, Weixian Liao, and Pan Li, "*When Machine Learning Meets Blockchain: A Decentralized, Privacy-preserving, and Secure Design*," IEEE International Conference on Big Data (BigData'18), Seattle, WA, December, 2018. (Acceptance Ratio = 99/518 = 19.1%)
- Weixian Liao, Yifan Guo, **Xuhui Chen**, and Pan Li, "*A Unified Unsupervised Gaussian Mixture Variational Autoencoder for High Dimensional Outlier Detection*," IEEE International Conference on Big Data (BigData'18), Seattle, WA, December, 2018. (Acceptance Ratio = 99/518 = 19.1%)
- **Xuhui Chen**, Jinlong Ji, Lixing Yu, Changqing Luo, and Pan Li, "*SecureNets: Secure Inference of Deep Neural Networks on an Untrusted Cloud*," the 10th Asian Conference on Machine Learning (ACML'18), Beijing, China, November, 2018. (Acceptance Ratio = 57/230 = 24.8%)
- **Xuhui Chen**, Jinlong Ji, Tianxi Ji, and Pan Li,"*Cost-Sensitive Deep Active Learning for Epileptic Seizure Detection*," the 9th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (BCB'18), Washington, DC, August, 2018.
- Jinlong Ji, Changqing Luo, **Xuhui Chen**, Lixing Yu, and Pan Li, "*Cross-Domain Sentiment Classification via A Bifurcation-LSTM*," the 22nd Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'18), June, 2018. (Acceptance Ratio = 59 (long papers)/590 = 10%, Best Application Award)
- Jinlong Ji, **Xuhui Chen**, Changqing Luo, and Pan Li, "*A Deep Multi-task Learning Approach for ECG Data Analysis*," IEEE Conference on Biomedical and Health Informatics (BHI'18), Las Vegas, NV, March, 2018.
- **Xuhui Chen**, Jinlong Ji, Kenneth A. Loparo, and Pan Li, "*Real-time Personalized Cardiac Arrhythmia Detection and Diagnosis: A Cloud Computing Architecture*," IEEE Conference on Biomedical and Health Informatics (BHI'17), Orlando, FL, February, 2017.
- Sergio Salinas, Changqing Luo, **Xuhui Chen**, and Pan Li, "*Efficient Secure Outsourcing of Large-scale Linear Systems of Equations*," IEEE International Conference on Computer Communications (INFOCOM'15), Hong Kong, China, April, 2015. (Acceptance ratio = 316/1640 = 19.3%)

Journal Papers

- Jinsong Wang, **Xuhui Chen**, Fan Zhang, Fangxi Chen, and Yi Xin, "*Building Load Forecasting Using Deep Neural Network with Efficient Feature Fusion*," IEEE Journal of Modern Power Systems and Clean Energy, January 2021.
- Qianlong Wang, Yifan Guo, Lixing Yu, **Xuhui Chen**, and Pan Li, "*Deep Q-Network based Feature Selection for Multi-Sourced Data Cleaning*," IEEE Internet of Things, August 2020.
- Qianlong Wang, Tianxi Ji, Yifan Guo, Lixing Yu, **Xuhui Chen**, and Pan Li, "*TrafficChain: A Blockchain based Secure and Privacy-Preserving Traffic Map*," IEEE Access, March 2020.
- Changqing Luo, Jinlong Ji, Qianlong Wang, **Xuhui Chen**, and Pan Li, "*Channel State Information Prediction in 5G Wireless Communications: A Deep Learning Approach*," IEEE Transactions on Network Science and Engineering, June 2018.
- Changqing Luo, Jinlong Ji, **Xuhui Chen**, Ming Li, Lawrence T. Yang, and Pan Li, "*Parallel Secure Outsourcing of Large-scale Nonlinearly Constrained Nonlinear Programming Problems*," IEEE Transactions on Big Data, March 2018.
- Sergio Salinas, Changqing Luo, **Xuhui Chen**, Weixian Liao, and Pan Li, "*Efficient Secure Outsourcing of Large-scale Sparse Linear Systems of Equations*," IEEE Transactions on Big Data, Vol. 4, No. 1, pp. 26-39, January-March 2018.
- 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*," IEEE Transactions on Mobile Computing, Vol. 17, No. 8, pp. 1806-1819, August 2018.
- Sergio Salinas, **Xuhui Chen**, Jinlong Ji, and Pan Li, "*A Tutorial on Secure Outsourcing of Large-scale Computations for Big Data*," IEEE Access, April 2016.

HONORS AND AWARDS

- Best Journal Paper Award, IEEE Communications Society 2020
- Bridge funding scholarship, Case Western Reserve Univerisity 2018
- Best Application Paper Award, PAKDD'18 2018
- 2nd Place in IEEE Big Data Analytics Competition at IEEE BHI 2017
- National Scholarship, the Ministry of Education of P. R. China 2011
- Special Scholarship (1 out of 161), Xidian University 2011

PROFESSIONAL ACTIVITIES

- **Conference Co-Chair:**
  14th EAI International Conference on Mobile Multimedia Communications (Publicity and Social Media Co-Chair)
- **Conference TPC member:**
  International Conference on Computing, Networking and Communications: Wireless Networks (ICNC'19'20)
  The 14th IEEE International Conference on Green Computing and Communications (GreenCom'19)

The First Workshop on Security and Privacy on Blockchain for Big Data Applications in conjunction with 2019 IEEE International Conference on Big Data (SPB) 2019

- **Reviewer for journals:**
  IEEE Access,
  IEEE Internet of Things Journal,
  IEEE Wireless Communications Letters,
  IEEE Journal of Journal of Biomedical and Health Informatics,
  IEEE Transactions on Big Data,
  IEEE Journal on Selected Areas in Communications,
  IEEE Transactions on Vehicular Technology, ELSEVIER Computers & Security,
  IEEE Transactions on Network Science and Engineering,
  Springer Journal of Computer Science and Technology,
  Elsevier Journal of Parallel and Distributed Computing

- **Reviewer for conferences:**
  IEEE International Conference on Big Data,
  International Joint Conferences on Artificial Intelligence (IJCAI'20),
  International Conference on Computing, Networking and Communications (ICNC'18'19'20),
  MobiQuitous'19'20, GreenCom'19, ICIT'15