



Title:

Cryptography, Blockchain and Cloud Security

Abstract:

Cryptography plays an essential role in ensuring many security properties required in data processing of various kinds. Blockchain is a distributed database maintained by all participants in a system, which is secured by cryptography and game theory. Blockchain has the following characteristics: decentralization, verifiability and immutability. They are disruptive technologies that impacts research, as well as industries. The advances of cryptography and blockchain technologies have contributed a great deal to change the way in traditional industries, ranging from finance to trade, manufacturing, and more. Cryptography and blockchain are also widely used in system security. The aim of this workshop is to publish high-quality papers with state-of-the-art solutions regarding cryptography and blockchain technologies to promote the adoption of the technologies in more areas.

Scope and Topics:

Potential topics include but are not limited to:

- ✧ Symmetric Cryptography
- ✧ Public-Key Cryptography
- ✧ Digital Signatures
- ✧ Secure Protocols including authentication, key agreement etc.
- ✧ Post Quantum Cryptography
- ✧ Zero-Knowledge
- ✧ Secure Multiparty Computation
- ✧ Game Theory and its Applications in Blockchain
- ✧ Secure Storage Solutions based on Blockchain
- ✧ Forensic issues based on Blockchain
- ✧ Digital Currency based on Blockchain
- ✧ Applications of Blockchain in Finance
- ✧ Applications of Blockchain in IOT
- ✧ Applications of Blockchain in Industry
- ✧ Applications of Blockchain in Smart City/Smart Grid/Smart Home
- ✧ Machine Learning for Blockchain
- ✧ System Security based on Blockchain
- ✧ Techniques of Secure Storage for Cloud Data
- ✧ Security and Privacy in Cloud Computing
- ✧ Security Evaluation and Benchmarks Based on Cloud
- ✧ Authentication, Authorization and Reliability Issues in Cloud
- ✧ Security Policy, Security Theory and Models Based on Big Data



- ✧ Security, privacy and trust in Big data
- ✧ Security and Privacy in IoT
- ✧ Security and Privacy in System Security
- ✧ Machine Learning for Security

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Bio: Bo Sheng is an Associate Professor in the Department of Computer Science at University of Massachusetts Boston. He received his B.S. from Nanjing University, and his Ph.D. from the College of William and Mary, both in Computer Science. His research interests include big data analytics, security of mobile computing, Internet of Things / RFID / sensor networks, wireless networks. He has published more than 60 research papers in premium conferences and journals. His research work has been supported by National Science Foundation (NSF) grants, Amazon Research Grant, Microsoft Research Grant, and Google IoT Technology Research Award. He has actively served as a Chair/Co-Chair at several international conferences and an editor for a few of international journals.

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Bio: Shouling Ji is a ZJU 100-Young Professor in the College of Computer Science and Technology at Zhejiang University and a Research Faculty in the School of Electrical and Computer Engineering at Georgia Institute of Technology (Georgia Tech). He received a Ph.D. degree in Electrical and Computer Engineering from Georgia Institute of Technology, a Ph.D. degree in Computer Science from Georgia State University, and B.S. (with Honors) and M.S. degrees both in Computer Science from Heilongjiang University. His current research interests include Data-driven Security and Privacy, AI Security and Big Data Analytics. He is a member of ACM, IEEE, and CCF and was the Membership Chair of the IEEE Student Branch at Georgia State University (2012-2013). He was a Research Intern at the IBM T. J. Watson Research Center. Shouling is the recipient of the 2012 Chinese Government Award for Outstanding Self-Financed Students Abroad. He was selected into the National 1000 Young Talents Program, the Zhejiang 1000-Talents Program, and the ZJU 100-Talents Program.

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Bio: Prof. Xinwei Xu graduated from the school of information science and technology of Nanjing University of Aeronautics & Astronautics in 2007. And he joined the Nanjing University as a postdoctoral research working. Now, he is the vice



dean of the school of management science and engineering of Anhui University of Technology. He is a member of CCF and a member of IEEE. He has been invited to serve as a reviewer in several journals and international conferences, e.g., Chinese Journal of Computers, Computer Research and Development, and Computer Science. Prof. Xu has hosted several projects sponsored by Natural Science Foundation of China and the Provincial Natural Science Foundation, the Provincial Science and Technology Innovation Fund. His research interests include security of cloud computing and big data, cyber security, and security of IoT. He has served on the technical program committees for several IEEE/ACM conferences on networking and security.

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Bio: Dr. Ren obtained the PhD degree in the computer and science department at the NanJing University of Aeronautics and Astronautics, China, in 2008. He received the MS degree in Computer Science from Hohai University, and his BS degree in Automation from Jiangxi University of Science and Technology. Now he is serving as an associate professor in the NanJing University of Information science and Technology. His research interests include security of cloud, blockchain and applied cryptography.

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