

Title:

Applications of Blockchain and Cloud Manufacturing Security

Abstract:

Cloud computing has been prevalent as one of the unprecedented technologies providing extremely huge storage for digital factories. In association with the cloud source repositories, smart manufacturing has been rolled out as a promising solution to forge the complementary and collaboration capability of digital economy through fostered organizational models. Hence, cloud manufacturing has been thought as the economic engine of this digital times; however, it has to suffer the problems like authorization, authentication, auditing as well as privacy, provenance and forensics for the data over cloud. We believe that Blockchain as a new distributed ledger technology would overcome these obstacles and strengthen the security of cloud manufacturing.

Scope and Topics:

The goal of this workshop is to put forward recent advances of security in both blockchain and cloud manufacturing security. Researchers are encouraged to submit original research contributions in all major areas, but not limited to:

- ✧ Blockchain-based IoT security
- ✧ Security and privacy of blockchain applications
- ✧ Attacks on blockchain technologies
- ✧ Anonymity, deanonymization and privacy in blockchain systems
- ✧ Provenance and trust in blockchain systems
- ✧ Trust models and management in blockchain systems
- ✧ Scalability and scalable services for blockchain systems
- ✧ Cyberinfrastructures for blockchain systems
- ✧ Application analytics for blockchain, including text mining, data mining, sentiment analysis, network analysis for privacy, security and trust assessment
- ✧ Sandboxing and VM-based enforcement
- ✧ Network security (DoS, IDS, etc.) for cloud
- ✧ Security & privacy for cloud programming models
- ✧ Privacy-enhancing and machine learning in the cloud
- ✧ Network virtualization technologies
- ✧ Safety and security of Cloud manufacturing
- ✧ Applications of cloud computing in modern manufacturing
- ✧ Applications of IoT in modern manufacturing

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Dr Mingzhe Liu received his BSc in Computer Application from Chengdu University of Technology, China, in 1994; MSc in Computer Science from Massey University, New Zealand, in 2006; as well as PhD in Computer Science from Massey University, New Zealand, in 2010. He is currently a Professor and the Head of School of Network Security, Chengdu University of Technology, China. His research interests include intelligent information processing, information security, and system control, etc.

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Dr. Wei Qi Yan is an Associate Professor with the Auckland University of Technology (AUT), New Zealand. His expertise is in digital security, surveillance, privacy and forensics; he is leading the Computing and Cyber Security (CCS) Research Group at AUT. Dr. Yan is the Editor-in-Chief (EiC) of the International Journal of Digital Crime and Forensics (IJDCF); he was an exchange computer scientist between the Royal Society of New Zealand (RSNZ) and the Chinese Academy of Sciences (CAS), China. He is the chair of ACM Multimedia Chapter of New Zealand, a member of the ACM, a senior member of the IEEE. Dr. Yan is a guest (adjunct) professor with PhD supervision of the State Key Laboratory of Information Security (SKLOIS), Chinese Academy of Sciences, China.

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Yining Liu is currently a Professor in School of Computer Science and Information Security, Guilin University of Electronic Technology, China. He received BSc in Applied Mathematics from Information Engineering University, Zhengzhou, China, in 1995, MSc in Computer Software and Theory from Huazhong University of Science and Technology, Wuhan, China, in 2003, and PhD in Mathematics from Hubei University, Wuhan, China, in 2007. His research interests include the analysis of information security protocol, Blockchain, and privacy-preserving data aggregation.

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Professor Ruili Wang received his PhD in Computer Science from Dublin City University, Dublin, Ireland. He is currently a Professor with the Institute of Natural and Mathematical Sciences, Massey University, Auckland, New Zealand, where he is the Director of Centre for Language and Speech Processing. His current research interests include speech processing, natural language processing, digital image processing, data mining, and intelligent systems, etc. Professor Wang serves as an Associate Editor of IEEE Transactions on Emerging Topics in Computational Intelligence, Knowledge and Information Systems (Springer), and Health Information

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