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### **Education**

PhD, City University of Hong Kong, China, 2009 MPhil, City University of Hong Kong, China, 2006 Bachelor of Science, City University of Hong Kong, China, 2004

### **Academic Appointments**

Associate Professor of Computer Science, School of Computing and Information Systems, SMU, Aug 2022 - Present

## **Academic Administrative Positions**

Coordinator, BSc (CS) Cybersecurity Track, School of Computing and Information Systems, SMU, Jul 2023 - Present

#### RESEARCH

#### **Publications**

# Journal Articles [Refereed]

STDA: Secure Time Series Data Analytics with practical efficiency in wide-area network, by LI, Xiaoguo; HUANG Zixi; ZHAO, Bowen; YANG, Guomin; XIANG, Tao; DENG, Robert H.. (2024). *IEEE Transactions on Information Forensics and Security, 19* 1440-1454. https://doi.org/10.1109/TIFS.2023.3336512 (Published)

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PPDF: A Privacy-Preserving Cloud-Based Data Distribution System with filtering, by ZHANG, Yudi; SUSILO, Willy; GUO, Fuchun; YANG, Guomin. (2023). *IEEE Transactions on Services Computing,* 16 (6), 3920-3930. https://doi.org/10.1109/TSC.2023.3297175 (Published)

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Privacy-Preserving Multi-User Outsourced Computation for Boolean Circuits, by LIU, Xueqiao.; YANG, Guomin.; SUSILO, Willy.; HE, Kai.; DENG, Robert H.; WENG, Jian.. (2023). *IEEE Transactions on Information Forensics and Security, 18* 4929-4943. (Published)

Balancing privacy and flexibility of cloud-based personal health records sharing system, by ZHANG, Yudi; GUO, Fuchun; SUSILO, Willy; YANG, Guomin. (2023). *IEEE Transactions on Cloud Computing, 11* (3), 2420-2430. https://doi.org/10.1109/TCC.2022.3208168 (Published)

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Privacy-preserving voluntary-tallying leader election for internet of things, by WU, Tong; YANG, Guomin; ZHU, Liehuang; WU, Yulin. (2021). *Information Sciences: Informatics and Computer Science Intelligent Systems Applications*, 574 461-472. (Published)

Unlinkable and Revocable Secret Handshake, by TIAN, Yangguang; LI, Yingliu; MU, Yi; YANG, Guomin. (2021). *Computer Journal*, 64 (8), 1303-1314. https://doi.org/10.1093/comjnl/bxaa181 (Published)

Privacy-Preserving Proof of Storage for the Pay-As-You-Go Business Model, by WU, Tong; YANG, Guomin; MU, Yi; GUO, Fuchun; DENG, Robert H.. (2021). *IEEE Transactions on Dependable and Secure Computing,* 18 (2), 563-575. https://doi.org/10.1109/TDSC.2019.2931193 (Published)

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On the Security of LWE Cryptosystem against Subversion Attacks, by YANG, Zhichao; CHEN, Rongmao; LI, Chao; QU, Longjiang; YANG, Guomin. (2020). *Computer Journal, 63* (4), 495-507. http://doi.org/10.1093/comjnl/bxz084 (Published)

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A secure IoT cloud storage system with fine-grained access control and decryption key exposure resistance, by XU, Shengmin; YANG, Guomin; MU, Yi; LIU, Ximeng. (2019). *Future Generation Computer Systems: The International Journal of eScience, 97* 284-294. https://doi.org/10.1016/j.future.2019.02.051 (Published)

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A New Revocable and Re-Delegable Proxy Signature and Its Application, by XU, Shengmin; YANG, Guomin; MU, Yi. (2018). *Journal of Computer Science and Technology, 33* (2), 380-399. https://doi.org/10.1007/s11390-018-1825-4 (Published)

Constant-size ciphertexts in threshold attribute-based encryption without dummy attributes, by SUSILO, Willy; YANG, Guomin; GUO, Fuchun; HUANG, Qiong. (2018). *Information Sciences: Informatics and Computer Science Intelligent Systems Applications*, 429 349-360. http://doi.org/10.1016/j.ins.2017.11.037 (Published)

Strong Identity-Based Proxy Signature Schemes, Revisited, by LIU, Weiwei; MU, Yi; YANG, Guomin; TIAN, Yangguang. (2018). *Wireless Communications and Mobile Computing,* 2018 1-11. https://doi.org/10.1155/2018/6925019 (Published)

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Sequence aware functional encryption and its application in searchable encryption, by PHUONG, Tran Viet Xuan; YANG, Guomin; SUSILO, Willy; GUO, Fuchun; HUANG, Qiong. (2017). *Journal of Information Security and Applications*, 35 106-118. https://doi.org/10.1016/j.jisa.2017.06.002 (Published)

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Dual-Server Public-Key Encryption With Keyword Search for Secure Cloud Storage, by CHEN, Rongmao; MU, Yi; YANG, Guomin; GUO, Fuchun; WANG, Xiaofen. (2016). *IEEE Transactions on Information Forensics and Security,* 11 (4), 789-798. http://doi.org/10.1109/TIFS.2015.2510822 (Published)

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A robust smart card-based anonymous user authentication protocol for wireless communications, by WEN, Fengton; SUSILO, Willy; YANG, Guomin. (2014). *Security and Communication Networks,* 7 (6), 987-993. http://doi.org/10.1002/sec.816 (Published)

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### **Book Chapters**

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Privacy-preserving k-time authenticated secret handshakes, by TIAN, Yangguang; ZHANG, Shiwei; YANG, Guomin; MU, Yi; YU, Yong. (2017.0). *Proceedings of the 22nd Australasian Conference, Auckland, New Zealand, 2017 July 3-5*, (pp. 281-300) Auckland, New Zealand: Springer Verlag. http://doi.org/10.1007/978-3-319-59870-3\_16 (Published)

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Efficient hidden vector encryption with constant-size ciphertext, by PHUONG, Tran Viet Xuan; YANG, Guomin; SUSILO, Willy. (2014.0). *Proceedings of the 19th European Symposium on Research in Computer Security, Wroclaw, Poland, 2014 September 7-11,* (pp. 472-487) Wrocław, Poland: Springer Verlag. http://doi.org/10.1007/978-3-319-11203-9\_27 (Published)

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Authenticated key exchange under bad randomness, by YANG, Guomin; DUAN, Shanshan; WONG, Duncan S.; TAN, Chik How; WANG, Huaxiong

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Dynamic group key exchange revisited, by YANG, Guomin; TAN, Chik How. (2010.0). *Cryptology and Network Security: 9th International Conference, CANS 2010, Kuala Lumpur, Malaysia, December 12-14: Proceedings*, (pp. 261-277) Cham: Springer. https://doi.org/10.1007/978-3-642-17619-7\_19 (Published)

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A more natural way to construct identity-based identification schemes, by YANG, Guomin; CHEN, Jing; WONG, Duncan S.; DENG, Xiaotie; WANG, Dongsheng. (2007.0). *Applied Cryptography and Network Security: 5th International Conference, ACNS 2007, Zhuhai, China, June 5-8: Proceedings ,* (pp. 307-322) Cham: Springer. https://doi.org/10.1007/978-3-540-72738-5\_20 (Published)

Malicious KGC attacks in certificateless cryptography, by AU, Man Ho; CHEN, Jing; LIU, Joseph K.; MU, Yi; WONG, Duncan S.; YANG, Guomin. (2007.0). *Proceedings of the 2nd ACM Symposium on Information, Computer and Communications Security, Singapore, 2007 March 20-22,* (pp. 302-311) Singapore: ACM. http://doi.org/10.1145/1229285.1266997 (Published)

Formal analysis and systematic construction of two-factor authentication scheme, by YANG, Guomin;

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Anonymous signature schemes, by YANG, Guomin; WONG, Duncan S.; DENG, Xiaotie; WANG, Huaxiong . (2006.0). *Public Key Cryptography: 9th International Conference on Theory and Practice of Public-Key Cryptography, PKC 2006, New York, April 24-26,* (pp. 347-363) Cham: Springer. https://doi.org/10.1007/11745853\_23 (Published)

Deposit-case attack against secure roaming, by YANG, Guomin; WONG, Duncan S.; DENG, Xiaotie . (2005.0). *Information Security and Privacy: 10th Australasian Conference, ACISP 2005, Brisbane, Australia, July 4-6: Proceedings*, (pp. 417-428) Cham: Springer. https://doi.org/10.1007/11506157\_35 (Published)

Efficient anonymous roaming and its security analysis, by YANG, Guomin; WONG, Duncan S.; DENG, Xiaotie. (2005.0). *Applied Cryptography and Network Security: 3rd International Conference, ACNS 2005, New York, June 7-10: Proceedings,* (pp. 334-349) Cham: Springer. https://doi.org/10.1007/11496137\_23 (Published)

#### **Research Grants**

# **Singapore Management University**

Trusted Decentralized Identities, Digital Trust Centre (DTC) Research Grant, National Research Foundation (NRF), PI (Project Level): YANG Guomin, Co-PI (Project Level): Robert H DENG

Privacy Preserving Self-Sovereign Digital Identity, SMU Internal Grant, Ministry of Education (MOE) Tier 1, PI (Project Level): YANG Guomin, 2022, S\$97,562.15

# Other Institutions

Securing Public Cloud Storage with Protection against Malicious Senders, ARC Discovery Project, Australia Research Council Co-PI (Project Level): YANG Guomin

Efficient Multi-key Homomorphic Encryption and Its Applications, ARC Linkage Project, Australia Research Council Co-PI (Project Level): YANG Guomin

On the Structure of Lattices for Post-Quantum Cryptography, Measurement Science and Engineering Research Grant Programme, National Institute of Standards and Technology Co-PI (Project Level): YANG Guomin

Real Time Visualisation of Intrusion Detection and Behavioural Analytics Data for Combatting Cyber Attacks, Pilot Grant Scheme, NSW Cyber Security Network Co-PI (Project Level): YANG Guomin

Leakage-resilient and Quantum-secure Authenticated Key Exchange Protocol, ARC DECRA Project, Australia Research Council PI (Project Level): YANG Guomin

Post-Quantum Cryptology: New Approach and Investigation, General Research Fund, Australia National Security Science and Technology Centre Co-PI (Project Level): YANG Guomin

## **TEACHING**

## **Courses Taught**

Singapore Management University

**Undergraduate Programmes:** 

Data Security and Privacy

Foundations of Cybersecurity
Introduction to Programming
IS/SMT/C&L Project Experience (Applications)

Postgraduate Research Programmes:

**Empirical Research Project 1** 

### THESES AND DISSERTATIONS

# **Theses and Dissertations Supervised**

# Other Institutions

Supervisor, "Searchable Encryption for Cloud and Distributed Systems", Thesis by LIU Xueqiao, University of Wollongong, 2017

Supervisor, "Privacy-preserving Cryptographic Solutions for Cloud Storage", Thesis by WU Tong, University of Wollongong, 2016

Supervisor, "Practical revocable cryptographic schemes for cloud-based applications", Thesis by XU Shengmin, University of Wollongong, 2015

Supervisor, "Privacy-enhanced key management for distributed systems", Thesis by TIAN Yangguang, University of Wollongong, 2013

Supervisor, "Contributions to Privacy-Preserving Digital Signatures and Their Applications", Thesis by WEI Jiannan, University of Wollongong, 2012

### Theses and Dissertations Assessed

## Other Institutions

Co Supervisor, "Contributions to Blockchain-Based Security Protocols", Thesis by LI Yannan, University of Wollongong, 2017

Co Supervisor, "New Conditional Privacy-preserving Encryption Schemes in Communication Network", Thesis by YAO Zhongyuan, University of Wollongong, 2014

Co Supervisor, "Practical functional encryption techniques and their applications", Thesis by ZHANG Shiwei, University of Wollongong, 2014

Co Supervisor, "Secure Data Storage and Retrieval in Cloud Computing", Thesis by CHEN Rongmao, University of Wollongong, 2013

Co Supervisor, "Attribute-Based Encryption Schemes", Thesis by PHUONG Tran Viet Xuan, University of Wollongong, 2013

Co Supervisor, "Contributions to Cryptography with Restricted Conditions", Thesis by LIU Weiwei, University of Wollongong, 2012

### **EXTERNAL SERVICE - PROFESSIONAL**

Committee Member, 6th IEEE Conference on Dependable and Secure Computing, 2023
Committee Member, 18th ACM ASIA Conference on Computer and Communications Security, 2023
Committee Member, 28th Australasian Conference on Information Security and Privacy, 2023
Conference Chair, 27th Australasian Conference on Information Security and Privacy, 2022
Committee Member, 27th European Symposium on Research in Computer Security, 2022
Committee Member, JTC 1/SC 27/WG 2, ISO/IEC, 2018 - 2022
Editor Associate Editor, Theoretical Computer Science Journal, 2018 - Present