

Di Ma

Associate Professor,
Department of Computer and Information Science

Interim Associate Dean for Graduate Education
and Research,
College of Engineering and Computer Science

Director,
Cybersecurity Center for Education, Research, and
Outreach

Phone: (313) 583-6737
Fax: (313) 593-4256
Email: dmadma@umich.edu
Web: www.madi.net

4901 Evergreen Road
University of Michigan-Dearborn
Dearborn, MI 48128

SHORT BIOGRAPHY

Di Ma is currently an Associate Professor in the Computer and Information Science (CIS) Department, College of Engineering and Computer Science (CECS), at the University of Michigan-Dearborn. She is also serving as the Interim Associate Dean for Graduate Education and Research and the director of the Cybersecurity Center for Education, Research, and Outreach, College of Engineering and Computer Science. Dr. Ma received her PhD degree from the University of California, Irvine, in 2009. She is the recipient of the Trevor O. Jones Outstanding Paper Award from the Society of Automobile Engineers (SAE) in 2019, the Distinguished Research Award from CECS in 2017, and the Tan Kah Kee Young Inventor Award in 2004. She is broadly interested in the general area of security, privacy, and applied cryptography. Her research spans a wide range of topics, including connected and autonomous vehicle security, smartphone and mobile device security, RFID and sensor security, data privacy, and so on. Her research is supported by NSF, NHTSA, AFOSR, Intel, Ford, and Research in Motion. She was with IBM Almaden Research Center in 2008 and the Institute for Infocomm Research, Singapore in 2000-2005.

RESEARCH INTERESTS

Connected and Automated Vehicle Security, Data Privacy, Wireless Network and Mobile System Security, Embedded System Security, Data and Storage Security, and Applied Cryptography

EDUCATION

Ph.D in Computer Science <i>University of California, Irvine</i> Dissertation topic: Intrusion Resilience for Unattended Devices Advisor: Prof. Gene Tsudik	2009
M.E. in Computer Engineering <i>Nanyang Technological University, Singapore</i>	2000
M.E. in Computer Engineering <i>Xi'an Jiaotong University, China</i>	1998
B.E. in Computer Science <i>Xi'an Jiaotong University, China</i>	1995

HONORS AND AWARDS

- 2019
 - Trevor O. Jones Outstanding Paper Award, Society of Automotive Engineering
 - Elevated to IEEE Senior Member grade
 - Provost ShoutOut for contributing to the Dearborn Discovery Core program evaluation
- 2018
 - Nominee of the 2019 Eugene Arden Interdisciplinary Research and Teaching Award
 - Provost ShoutOut for contributing to the Responsible Conduct of Research (RCR) training workshops
- 2017
 - Inaugural CECS Distinguished Research Award, CECS, UM-Dearborn
 - One of the five finalists in the Collegiate Student Safety Technology Design Competition (among teams from Asia-Pacific, Europe, and North America), affiliated to the 25th International Conference on the Enhanced Safety of Vehicles (ESV), 2017
- 2016
 - Appreciation Award, IEEE Southeastern Michigan
 - Nominee of University Distinguished Research Award, UM-Dearborn
 - Recognition for success in obtaining external grant funding, Office of Chancellor, UM-Dearborn
- 2015
 - Dearborn faculty representative in the May 2015 University of Michigan Board of Regents' meeting
 - Nominee of University Distinguished Teaching Award, UM-Dearborn
 - Recognition for success in obtaining external grant funding, Office of Chancellor, UM-Dearborn
- 2012
 - Air Force Summer Faculty Fellowship (SFFP), AFOSR
 - Travel Grant, ICDCS 2010
- 2011
 - NSF-TRUST Fellowship, NSF
 - Recognition for success in obtaining external grant funding, Office of Chancellor, UM-Dearborn
- 2009
 - Graduate Dean's Dissertation Fellowship, Graduate Division, UC Irvine
- 2008
 - Travel Grant, 10th Symposium on Stabilization, Safety and Security of Distributed Systems (SSS'08)
 - Travel Grant, Faculty Horizons at UMBC, supported by NSF
 - Travel Grants, IEEE S&P'07 and S&P'08, supported by NSF, IARPA and ARO
- 2007~
2009
 - Travel Grants, Graduate Division, UC Irvine
- 2007
 - Travel Grant, CRA-W Grad Cohort Workshop, supported by Google and Microsoft
- 2005~
2008
 - Dean's Fellowship, UC Irvine
- 2004
 - Tan Kah Kee Young Inventor's Award, Silver Medal, Tan Kah Kee Foundation

WORK EXPERIENCE

University of Michigan-Dearborn

Dearborn, MI, USA

Acting Associate Dean for Graduate Education and Research, College of Engineering and Computer Science
05/2019 ~ present

Director, Cybersecurity Center for Education, Research and Outreach
04/2018 ~ present

Associate Professor, Department of Computer and Information Science
09/2015 ~ present

Assistant Professor, Department of Computer and Information Science
09/2009 ~ 08/2015

Air Force Research Laboratory	Dayton, OH, USA
Air Force Summer Faculty Fellow	06/2012 ~ 08/2012
University of California, Irvine	Irvine, CA, USA
Graduate Student Research Assistant	09/ 2005 ~ 08/2009
IBM Almaden Research Center	San Jose, CA, USA
Research Intern	06/2008 ~ 09/2008
Institute for Infocomm Research	Singapore
Senior Research Engineer	06/2000 ~ 08/2005

TEACHING

NEW PROGRAMS DEVELOPED

- **Undergraduate Certificate in Practical Aspects of Computer Security (PACS)**, 15 credits, offered since Fall 2014, *I co-developed this program*
The PACS undergraduate certificate provides students with essential computer science concepts, basic security principles, and the tools and experience necessary for an entry-level position in IT-Security. It also provides a pathway for a student to receive a credential before transitioning into the degree program.
 - **BS in Cybersecurity and Computer Science (BS-CIA)**, 123 credits, offered since Fall 2017, *I developed this program*
The BS-CIA program aims to educate and train an elite, diverse cadre of students, who are ready to address real-world computer security and criminal justice challenges with an emphasis on ethics, innovation, and creativity. It provides students with a solid background in both computer science and cybersecurity, as well as activities and training services to help students excel in their education and prepare them to be responsible cyber engineers who are able to integrate technical and on-technical knowledge to secure the community and nation.
 - **MS in Cybersecurity and Computer Science (MS-CIA)**, 30 credits, offered since Fall 2019, *I developed this program*
The MS-CIA reflects the University's eagerness to address rising needs of cybersecurity professionals in both the private and public sectors. It educates and trains an elite, diverse group of students who want to pursue a career in cybersecurity, such as cybersecurity analysts/specialists, cybersecurity engineers, network engineers/architects, software developers, etc. The program may be completed entirely on campus, entirely online, or through a combination of on-campus and online courses.
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NEW COURSES DEVELOPED

- **CIS 316 Practical Computer Security (3 cr. hrs)** , *developed and first taught in Fall 2018*
This course provides a practical introduction to a broad range of computer security topics. Covered topics include: practical computer security principles to help empower students to secure their own connections to cyberspace; firewalls, malware, and intrusion detection; cryptography basics and its applications; mobile devices and related security issues; network technologies and their vulnerabilities.
 - **CIS 446 Wireless and Mobile Computing Security (3 cr. hrs)**, *developed and first taught in Winter 2019*
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The course focuses on security and privacy issues in the area of wireless networks and mobile computing such as cellular networks, wireless LANs, connected vehicles, smart and mobile devices, sensors and sensor networks, IoT, etc. The course will first present an overview of wireless communication and wireless systems, then focus on attacks, discuss proposed solutions and their limitations. Topics of this course include: (1) introduction to security primitives and wireless networks; (2) security issues in single-hop wireless networks that include cellular networks, RFID, modern vehicle, smartphone security; (3) security issues in multi-hop wireless network that include Mobile Ad Hoc network, wireless sensor network and vehicular network security

- **CIS 4851 Data Security and Privacy (3 cr. hrs)** , *developed in 2018*
This course covers basics of data security and privacy techniques, which can facilitate the use of data in a secure and privacy-sensitive way. Topics include security and privacy challenges due to data collection and analytics, technologies and strategies for data security and privacy (access control mechanism, integrity policy, cryptography and encryption, notice and consent, anonymization or de-identification, deletion and non-retention).
- **CIS 540 Foundation of Information Assurance (3 cr. hrs)**, *developed in 2018*
This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. The purpose of the course is to provide the student with an overview of the field of information security and assurance. Students will be exposed to the spectrum of security activities, methods, methodologies, and procedures. Coverage will include inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre-and post-incident procedures, technical and managerial responses, and an overview of the information security planning and staffing functions.
- **CIS 545 Data Security and Privacy (3 cr. hrs)**, *developed in 2018*
With the continuing proliferation of ways to collect and use information about people, there is a great concern whether such use of information about people affects privacy adversely. This course covers basics of data security and privacy techniques which can facilitate the use of data in a secure and privacy-sensitive way. Topics include security and privacy challenges due to big data collection and analytics, technologies and strategies for data security and privacy (access control mechanism, integrity policy, cryptography and encryption, notice and consent, anonymization or de-identification, deletion and non-retention).
- **CIS 546 Wireless Network Security and Privacy (3 cr. hrs)**, *developed and first taught in Winter 2012*
This course focuses on security issues in wireless networks, such as cellular networks, wireless LANs, mobile ad-hoc networks, vehicular networks, sensor networks, and RFID. The course will first present an overview of wireless networks, then focus on attacks and discuss proposed solutions and their limitations. The goal of this course is to impart state-of-the-art technologies of wireless network security, and thus motivate students to do research or pursue a career in this rapidly developing area.
- **CIS 548 Security and Privacy in Cloud Computing (3 cr. hrs)**. *developed and first taught in Fall 2013*
This course covers the major security and privacy topics in cloud computing. The goals of this course are to familiarize students with the major security and privacy issues and challenges associated with cloud computing, and to show them how to

address them. Topics include outsourced storage security and privacy, outsourced computation security and privacy, secure virtualization and cloud platform security, trusted cloud computing technology, key management in the cloud, cloud forensics, cloud-related regulatory and compliance issues, and business and security risk models.

- **CIS 584 Advanced Computer and Network Security (3 cr. hrs)**, *developed and first taught in Winter 2010*

This course consists of an in-depth examination of current technological advancements in computer and network security. Topics will include secure group communication (key generation, distribution, and management), secure routing and multicasting, identity-based encryption, digital signatures, broadcast authentication, device pairing, and malware/intrusion detection and mitigation.

COURSES TAUGHT

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- CIS 316 (3 credits) Practical Computer Security
 - CIS 387 (4 credits) Digital Forensics I
 - CIS 405 (4 credits) Algorithm Analysis and Design
 - CIS 427 (4 credits) Introduction to Computer Networks
 - CIS 437 (4 credits) Advanced Networking
 - CIS 446 (3 credits) Wireless and Mobile Computing Security
 - CIS 447 (3 credits) Introduction to Computer and Network Security
 - CIS 467 (4 credits) Digital Forensics II
 - CIS 505 (3 credits) Algorithm Analysis and Network Security
 - CIS 537 (3 credits) Advanced Networking and Distributed Systems
 - CIS 544 (3 credits) Computer and Network Security
 - CIS 546 (3 credits) Wireless Networks Security and Privacy
 - CIS 548 (3 credits) Cloud Computing Security and Privacy
 - CIS 584 (3 credits) Advanced Computer and Network Security

Courses taught at UM-Ann Arbor

- Engr 255 (3 credits) Introductory Multidisciplinary Engineering Project
- Engr 355 (3 credits) Intermediate Multidisciplinary Engineering Project
- Engr 455 (3 credits) Advanced Multidisciplinary Engineering Project

STUDENT COMPETITION AWARD

Finalist, the Collegiate Student Safety Technology Design Competition affiliated to the 25th International Conference on the Enhanced Safety of Vehicles (ESV), 2017

- Design and development of mechanisms which allow a vehicle platoon system maintain safety even under adversarial environment
- Compete with teams from Asia-Pacific, Europe, and North America
- Awarded with US\$2,000 for design, simulation, and demonstration preparation
- University news report: <https://umdearborn.edu/news/articles/students-earn-right-represent-north-america-international-vehicle-safety-competition>

PHD STUDENTS ADVISING

PhD Committee Chaired/co-chaired

Note: The Ph.D. Program in CIS at UM-Dearborn started in Fall 2017. Before the creation of individual department's Ph.D. Programs, the only two Ph.D. Programs available in the College of Engineering and Computer Science (CECS) were interdisciplinary in Information Systems Engineering and in Automotive Systems Engineering.

- Ahmad Nasser, "Securing safety critical automotive systems", PhD in Computer and Information Science, UM-Dearborn, 2019, chair
- Nevrus Kaja, "Artificial Intelligence and Cybersecurity: Building an Automotive

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- "Cybersecurity Framework Using Machine Learning Algorithms", PhD in Electrical, Electronics, and Computer Engineering Automotive IDS systems, UM-Dearborn, 2019, co-chaired with Dr. Adnan Shaout
 - Linxi Zhang, "DNN-based intrusion detection systems for in-vehicle networks", PhD in Computer and Information Science, UM-Dearborn, in progress, chair
 - Robert Kaster, "Efficient Attestation in Automotive ECUs", PhD in Computer and Information Science, UM-Dearborn, in progress, chair
 - Abir Bazzi, "Secure Firmware Update on Adaptive AutoSAR", PhD in Electrical, Electronics, and Computer Engineering, UM-Dearborn, in progress, co-chaired with Dr. Adnan Shaout

Member in PhD Committees

- John Baugh, "Enhancing cache robustness in named data networks", PhD in Computer and Information Science, UM-Dearborn, 2018
- Jun Li, "Optimizing the energy consumption of servers and networks in cloud data center", PhD in Information Systems Engineering, UM-Dearborn, 2015

MASTER'S STUDENTS ADVISING

MS Thesis Advisor:

- Francesco Mangano, "Manufacturing Cybersecurity", 12/2018
- Jeffrey Quesnelle, An analysis of anonymity in the Zcash cryptocurrency, 03/2018
- Huaxin Li, Developing advanced privacy protection algorithms for connected automotive user experiences, 04/2018
- Linxi Zhang, Smartphone app security: three vulnerabilities and experiments, 04/2018
- Yu Shuang, Smartphone automotive app vulnerability analysis, 12/2017
- Qianyi Wang, "Mobile data collection", 08/2016
- Salwa Tajuddin, "A Comprehensive Report on Cybersecurity in Automobile and Other Critical Infrastructure Industries", 12/2016
- Ying Zou, "Privacy leakage protection in pervasive visual sensing", 01/2017
- Youchao Dong, "Smartphone App Risk Analysis", 04/2017
- Jiafa Liu, "Secure and safe vehicle platooning", 04/2017
- Zheng Zhang, "Sensing-based User Access Intent Detection for Smart Phones", 01/2016.
- Eric Ulicny, "Secure firmware update", 04/2016.
- Haoyu Li, "SSL Implementation Vulnerability Analysis in Android and iOS Applications", 05/2015
- Padmini Venkatesh, "Improving user understanding of smartphone privacy risks", 04/2014
- Roxana Dashti-Tehrani, "Server virtualization attacks and defenses", 07/2014

MS Capstone Project Advisor:

- Brian Wirsing (04/2019)
- Justin Mendenhall (04//2018)
- Astric Baci (12/2016)
- Mohammad Alismail (12/2014)
- Pavitra Balekai (07/2012)

MS Thesis Committee Member:

- Yourui Tong, Real Time Pedestrian Protection System: Pedestrian Environmental Awareness Detection and Augmented Reality Warning System, 08/2018
- Muhamed Farooq, "Portable brain computer interface in the intensive care unit", 04/2018
- Shantanu Deshmukh, "Study of online driver distraction analysis using ECG-

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- dynamics", 04/2018
 - Yantao Qiao, "Detection and Recognition of Fatigue Driving by Smartphone", 04/2014
 - Aparna Garg, "Exhaustive Survey on the Economics of Net Neutrality", 08/2012.
 - Nan Wang, "Thermal Management for Periodic Real Tasks in 3D Multicore Systems", 07/2012
 - Luke Duncan, "Growing Measurement-Calibrated Graphs from Scraped Data Sources", 05/2012
 - Miroslav Selemkaba, "Security of CAN (Controller Area Network) - Current State and Possible Improvements, 02/2012.
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UNDERGRADUATE STUDENTS ADVISING

- Involved 5 undergraduate students through various sponsored projects as listed below
 - Attack visualization development (2 students), project funded by NSF SaTC education, 2014~2017
 - Automated vehicle platooning attack and defense simulation (2 students), project funded by MCity, 2016~2017
 - Proximity verification for wireless devices (1 student), project funded by NSF SaTC, 2015
 - Advised one capstone project on "DNN-based In-vehicle Intrusion Detection Systems", 4 students, 2018
 - Advised "Automotive Cybersecurity" Multidisciplinary Design Project teams in Ann Arbor, in Winter 2016 (15 students), Fall 2016 (7 students), Winter 2017 (7 students), and Winter 2017 (8 students)
 - Faculty advisor for Institute for Software Engineers student club, 2019~present
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SCHOLARLY CONTRIBUTION TO EDUCATION

- NSF SaTC Education grant on Enhancing Pervasive and Mobile Computing Security Education with Research Integration. This project developed 8 hands-on security labs and 8 transferable teaching objects (TTO) based on latest results on wireless security and mobile security research.
 - Three Faculty Development Workshop on Pervasive and Mobile Computing Security were organized to disseminate the project results as well as to develop faculty capacity in pervasive and mobile computing security education on 12/17/2016, 02/17/2017, and 07/24/2017
 - Two education research publications:
 - Y. Fu and D. Ma. *Applying mobile and pervasive computing security projects in cs courses*. International Conference on Foundations of Computer Science, FECS'15, July 27-30, 2015.
 - Y. Fu and D. Ma. *Mobile computing and security laboratory development with flip teaching*. 2016 ASEE Conference, June 26-29, 2016.
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RESEARCH

GRANTS

External Grants/Awards:

- **NHTSA**, "Automotive Cybersecurity Guidelines Development Support", co-PI, with David LeBlanc (PI) and Ronald Gaynier, National Highway Traffic Safety Administration, \$256,548, 08/22/2016~08/21/2017
- **MCity**, "Secure automated vehicle platooning", \$199,000, lead PI, with Andre Wimerskirch (PI, UMTRI), 05/01/2016 ~ 12/31/2017.

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- **Ford**, "Developing advanced privacy protection algorithms for connected automotive user experiences", \$191,528, PI, with Brahim Medjahed, 05/01/2016 ~ 04/30/2018.
 - **NHTSA**, "Cybersecurity of Firmware Updates", co-PI, with David LeBlanc (PI) and Andre Wimerskirch, National Highway Traffic Safety Administration, \$293,891, 09/28/2015 – 09/27/2016
 - **NSF, DGE-1419280**, "EDU: Collaborative: Enhancing Pervasive and Mobile Computing Security Education with Research Integration", lead PI, with Yujian Fu (PI, AAMU), Jinhua Guo (co-PI, UMD), National Science Foundation, Secure and Trustworthy Computing (SaTC) program, \$300,000 (UMD share: \$205,124), 09/01/2014-08/31/2017.
 - **NSF IIP-1342107**, "I-CORPS: Commercialization study of context-aware security and privacy techniques for RFID applications", sole PI, National Science Foundation, Industrial Innovation and Partnerships (IIP) program, \$50,000, 07/01/2013-01/2015
 - **NSF CNS-1153573**, "EAGER: Towards sensing-enabled RFID security and privacy", sole PI, National Science Foundation, Secure and Trustworthy Cyberspace (SaTC) program, \$110,000, 10/01/2011~09/30/2014
 - **Research Grant**, "Delay tolerant network security", sole PI, Ministry of Education, Culture, Sports, Science and Technology, Japan, \$15,000, 10/01/2011-09/30/2012
 - **Equipment Grant**, "Automotive CAN simulator", sole PI, VisualThreat, 2017
 - **Equipment Grant**, "Intel WISP Challenge: security applications of RFID sensors", sole PI, Intel Research, 2010
 - **Equipment Grant**, "Research in Motion education grant", sole PI, Research in Motion, 2010

Internal Grants/Awards:

- **IAVS Research Seed Grant**, "Towards Improving User Awareness of Smartphone Privacy Risks", PI, with Sang-Hwan Kim (co-PI), College of Engineering and Computer Science, UM-D, \$20,000, 06/01/2014-05/31/2015
- **IAVS Research Seed Grant**, "Optimizing Traffic Flow Management, Topology Control, and Placement in Cloud Data Centers", co-PI, with Jinhua Guo (PI), College of Engineering and Computer Science, UM-D, \$15,000, 01/01/2014-12/31/2014
- **Faculty Research Initiation and Seed Grant**, "Intrusion Resilient Cloud Storage", sole PI, Office of Sponsored Research, UM-D, \$6,000, 01/01/2010~06/30/2010

Student Awards:

- **NSF**, 2018 Women in Cybersecurity travel grant, \$600
- **NHTSA**, 2017 ESV Student Safety Technology Design Competition, \$2,000
- **NSF**, PerCom'12 Student Travel Grant, \$1,000

PUBLICATIONS

(Names labelled with * are students/postdocs advised by Ma.)

Book Chapters

- [B3] N. Kaja*, A. Nasser*, **D. Ma**, and A. Shaout. Automotive Security. In: X. Shen, X. Lin, K. Zhang (eds) Encyclopedia of Wireless Networks (Online ISBN: 978-3-319-32903-1). Springer, 2018.
- [B2] **D. Ma** and N. Saxena. Towards sensing-enabled RFID security and privacy. *Security and Trends in Wireless Identification and Sensing Platform Tags: Advancements in RFID*. Pp 65-88. IGI Global. Aug. 2012.
- [B1] R. Deng, Y. Wu, and **D. Ma**. Securing JPEG2000 code-streams. *Computer Security in the 21st Century* (ISBN: 0-387-24005-5). Springer, 2005.

Journal Papers

- [J31] H. Li*, Q. Chen, H. Zhu, **D. Ma**, H. Wen, and X. Shen. Privacy leakage via de-anonymization and aggregation in heterogeneous social networks. *IEEE Trans. on Dependable and Secure Computing (TDSC)*. Vol 17, No. 2, March 2020.
- [J30] A. Nasser* and **D. Ma**. SecMonQ: An HSM Based Security Monitoring Approach for Protecting AUTOSAR Safety-Critical Systems. *Elsevier Vehicle Communications*. Vol 21, Jan. 2020.
- [J29] Y. Zhu*, R. Yu*, and **D. Ma**. Cryptographic Attribute-based Access Control (ABAC) for Secure Decision-Making of Dynamic Policy with Multi-Authority Attribute Tokens. *IEEE Trans. on Reliability*. Vol 68, Issu. 4, Dec. 2019.
- [J28] H. Li*, **D. Ma**, B. Medjahed, Y. S. Kim, and P. Mitra. Data privacy in Emerging Connected Mobility Services: Architecture, Use Cases, Privacy Risks, and Countermeasures. *SAE International Journal of Transportation Cybersecurity and Privacy*, Vol 2(1), Jul. 2019.
- [J27] A. Nasser*, **D. Ma**, and W. Gumise. Accelerated Secure Boot for Realtime Embedded Safety Systems. *SAE International Journal of Transportation Cybersecurity and Privacy*, Vol 2(1), Jul. 2019.
- [J26] H. Li*, **D. Ma**, B. Medjahed, Y. S. Kim, and P. Mitra. "Analyzing and Preventing Data Privacy Leakage in Connected Vehicle Services," *SAE International Journal of Advances & Current Practices in Mobility* 1(3):1035-1045, Apr. 2019
- [J25] N. Kaja*, A. Shaout, and **D. Ma**. An intelligent intrusion detection system. *Journal of Applied Intelligence*. Springer, Volume 49 (9), Mar. 25, 2019.
- [J24] Y. Luo*, **D. Ma**, and Y. Chang. Spectral multi-manifold clustering based on PID parameter adjustment. *Journal of Frontiers of Computer Science and Technology*, Jan. 19, 2019, 0(0): 1-9
- [J23] H. Li*, H. Zhu, and **D. Ma**. Demographic information inference through meta-data analysis of Wi-Fi traffic, *IEEE Trans. on Mobile Computing (TMC)*, Vol. 17, Issu. 5, pp. 1033-1047, May. 2018.
- [J22] A. Nasser*, **D. Ma**, and P. Muralidharan, An approach for building security resilience in AUTOSAR based safety critical systems, *Journal of Cybersecurity and Mobility*, pp. 271-304 (34 pages), Vol. 6, Issu 3, Jul. 2017.
- [J21] J. Liu*, **D. Ma**, A. Weimerskirch, and H. Zhu. Secure and Safe Automated Vehicle Platooning, *IEEE Reliability*, Aug. 2016.
- [J20] H. Li*, **D. Ma**, N. Saxena, B. Shrestha, and Yan Zhu. Tap-Wave-Rub: Lightweight Malware Prevention for Smartphones using Intuitive Human Gestures. *IEEE Trans. on Information Forensics and Security (TIFS)*, pp. 2270-2283, Vol 10, Issu 11, May. 2015.
- [J19] Kui Ren, Qian Wang, **Di Ma**, and Xiaohua Jia, Securing emerging short range wireless communications: the state of the art. *IEEE Wireless Communications*. Pp. 153-159, Vol 21, Issu. 6, December 2014.
- [J18] **Di Ma** and Nitesh Saxena. A context-aware approach to defend against unauthorized reading and relay attacks in RFID systems. *Security and Communication Networks*. Vol. 7, Issu. 12, Dec. 2014.
- [J17] Yan Zhu*, **Di Ma**, Changjun Hu, Gail-Joon Ahn, and Hongxin Hu, Secure and efficient random functions with variable-length output. *Journal of Network and Computer Applications*. Vol 45, pp. 121-133, Oct. 2014.
- [J16] Shanbiao Wang, Yan Zhu*, **Di Ma**, and Rongquan Feng. Lattice-based key exchange on small integer solution problem. *SCIENCE CHINA Information Sciences*. Vol. 57, No. 11, Pages: 111~122, Sept. 2014.
- [J15] Bingsheng Zhang, Qin Zhan, Si Chen, Muyuan Li, Kui Ren, Cong Wang and **Di Ma**. PriWhisper: Enabling Keyless Secure Acoustic Communication for Smartphones.

- IEEE Trans. of Internet of Things*, Vol. 1, No. 1, pp. 33–45, February 2014.
- [J14] Yan Zhu*, Shanbiao Wang, Di Ma, and Rongquan Feng, Identity-based encryption on RSA without parings and key escrow. *Chinese Journal of Electronics*. Vol. 23, No. 4, pp. 842-850, Jan. 2014
- [J13] Tzipora Halevi, Haoyu Li*, **Di Ma**, Nitesh Saxena, Jonathan Voris, and Tuo Xiang*. Context-Aware Defenses to RFID Unauthorized Reading and Relay Attacks. *IEEE Transactions on Emerging Topics in Computing (TETC)*, Vol. 1, Issu. 2, pp. 307–318, December 2013.
- [J12] Yan Zhu*, Gail-Joon Ahn, Hongxin Hu, **Di Ma**, and Shanbiao Wang. Role-based cryptosystem: A new cryptographic RBAC system based on role-key hierarchy. *IEEE Trans. on Information Forensics and Security (TIFS)*, Vol. 8, Issu. 12, pp. 2138-2153, December 2013.
- [J11] **Di Ma**, Nitesh Saxena, Tuo Xiang*, and Yan Zhu*. Location-aware and safer cards: enhancing RFID security and privacy via location sensing. *IEEE Trans. on Distributed and Secure Computing (TDSC)*, Vol. 10, Issu. 2, pp 57-69, March-April 2013.
- [J10] Yan Zhu*, Shanbiao Wang, Hongxin Hu, Gail-Joon Ahn, and **Di Ma**. Secure collaborative integrity verification for hybrid cloud environments. *International Journal of Cooperative Information Systems (IJCIS)*, Vol. 21, No. 3, pp 165-197, 2012.
- [J9] Roberto Di Pietro, **Di Ma**, Claudio Soriente and Gene Tsudik. Self-healing in unattended wireless sensor networks. *ACM Tran. On Sensor Networks (ToSN)*, Vol. 9, No. 1, pp. 7:1--7:21, Nov. 2012.
- [J8] **Di Ma** and Gene Tsudik. Security and privacy in emerging wireless networks. *IEEE Wireless Communications*, Vol. 17, Issu. 5, pp. 12~21, Oct. 2010.
- [J7] **Di Ma**, Claudio Soriente and Gene Tsudik. New adversary and new threats in unattended sensor networks. *IEEE Network*, Vol. 3, Issu. 2, Mar. 2009.
- [J6] **Di Ma** and Gene Tsudik. A new approach to secure logging. *ACM Trans. on Storage (ToS)*, Vol. 5, Issu. 1, pp. 2:1--2:21, Mar. 2009.
- [J5] Yongdong Wu, **Di Ma** and Robert H. Deng. Flexible access control to JPEG2000 image code-streams. *IEEE Trans. on Multimedia*, Vol. 9, No. 6, pp. 1314-1324, Oct. 2007.
- [J4] Robert H. Deng, **Di Ma**, Weizhong Shao and Yongdong Wu. Scalable trusted online dissemination of JPEG2000 images. *ACM/Springer Multimedia Systems*, vol. 11, pp. 60-67, Nov. 2005
- [J3] F. Lin, H.S. Seah, Z. Wu and **Di Ma**. Voxelization and fabrication of freeform models. *Virtual and Physical Prototyping*, vol. 2, no. 2, pp. 65-73, Jun. 2007.
- [J2] **Di Ma**, F. Lin and C. K. Chua. Rapid prototyping applications in medicine, Part 1: NURBS-based volume modeling. *International Journal of Advanced Manufacturing Technology*, vol. 18, 2001.
- [J1] **Di Ma**, F. Lin and C. K. Chua. Rapid prototyping applications in medicine, Part 2: STL generation through volume modeling and iso-surface extraction. *International Journal of Advanced Manufacturing Technology*, vol. 18, 2001.

Conference Papers

- [C51] N. Kaja*, A. Shaout, and **D. Ma**. Fuzzy based threat assessment model (FTAM). ACIT 2019, Al Ain, UAE, Dec. 3-5, 2019.
- [C50] H. Li*, **D. Ma**, B. Medjahed, Y. S. Kim, and P. Mitra. Analyzing and Preventing Data Privacy Leakage in Connected Vehicle Services. AE202 - Cybersecurity for Cyber-Physical Vehicle Systems, *WCX19: SAE World Congress Experience*, Detroit, April 9-11, 2019. (Recipient of the 2018 SAE Trevor O. Jones Outstanding Paper Award)

- [C49] A. Nasser* and **D. Ma**. Defending AUTOSAR Safety Critical Systems Against Code Reuse Attacks. ACM AutoSec'19, Dallas, in conjunction with CODASPY'19, March 25~27, 2019.
- [C48] L. Zhang*, L. Shi*, N. Kaja*, **D. Ma**. A Two-Stage Deep Learning Approach for CAN Intrusion Detection System. Accepted by Ground Vehicle Systems Engineering and Technology Symposium (GVSETS), Novi, MI, USA, Aug. 7-8, 2018.
- [C47] Y. Zhu*, R. Yu*, Y. Qin, **D. Ma**, and C.-C. Chu. Provably Secure Cryptographic ABAC System to Enhance Reliability and Privacy using Real-time Token and Dynamic Policy. The 18th IEEE International Conference on Software Quality, Reliability, and Security (QRS2018). Lisbon, Portugal. July 16-20, 2018.
- [C46] N. Kaja*, A. Shaout, and **D. Ma**. A two-stage intrusion detection intelligent system. ACIT 2017.
- [C45] A. Nasser*, **D. Ma**, and S. Lauzon. Exploiting AUTOSAR safety mechanisms to launch security attacks. 11th International Conference on Network and System Security (NSS 2017). Helsinki, Finland, Aug. 21-23, 2017.
- [C44] A. Nasser*, **D. Ma**, S. Lauzon, Safety-Driven Cyber Security Engineering Approach Applied to OTA, The 15th International Conference on Embedded Systems, Cyber-physical Systems, and Applications (ESCS'17), July 17-20, 2017, Las Vegas, USA.
- [C43] H. Li*, Q. Chen, H. Zhu and **D. Ma**, Hybrid De-anonymization across Real-world Heterogeneous Social Networks. ACM TURC 2017, Shanghai, China, May 13~14, 2017.
- [C42] W. Yan, M. Kitchen, and **D. Ma**, Toward automated and black-box vehicle cybersecurity testing, 5th Automotive Cyber Security Conference (escar USA), June 21-22, 2017
- [C41] J. Liu*, **D. Ma**, H. Zhu and A. Weimerskirch. A Functional Co-Design towards Safe and Secure Vehicle Platooning, ACM Cyber-Physical System Security Workshop in conjunction with AsiaCCS'17, Abu Dhabi, UAE, Apr. 2, 2017.
- [C40] H. Li*, **D. Ma**, B. Medjahed, Q. Wang, Y. S. Kim, and P. Mitra. Secure and Privacy-preserving Data Collection Mechanisms for Connected Vehicles. *WCX17: SAE World Congress Experience*, Detroit, April 4-7, 2017.
- [C39] D. Dominic, S. Chhawri*, R. Eustice, **D. Ma**, and A. Weimerskirch. Risk assessment for cooperative automated driving. ACM Workshop on Cyber-Physical Systems Security and Privacy (in conjunct with ACM CCS), Oct. 2016, Vienna, Austria.
- [C38] J. Liu*, H. Li*, H. Zhu, N. Ruan, and **D. Ma**, Who moved my cheese: Towards automatic and fine-grained classification and modelling Ad network. GlobeCom'16, December 4-8, 2016, Washington DC.
- [C37] Y. Fu and D. Ma, Mobile Computing & Security Laboratory Development, 2016 ASEE Conference, June 26-29, 2016, New Orleans, Louisiana
- [C36] S. Chhawri*, D. Dominic, R. Eustic, **D. Ma**, and A. Weimerskirch, Threat analysis for cooperative automated driving. 4th escar USA 2016, Detroit Metropolitan, MI, USA.
- [C35] H. Li*, Z. Xu, H. Zhu, **D. Ma**, S. Li, and K. Xing, Demographics inference through Wi-Fi network traffic analysis, IEEE International Conference on Computer Communications (INFOCOM 2016), April 10-15 2016, San Francisco, CA, USA.
- [C34] J. Liu*, J. Guo, and **D. Ma**, Traffic aware virtual machine packing in cloud data centers, 2nd IEEE International Conference on High Performance and Smart Computing (HPSC 2016), April 9-10th, 2016, New York City, USA.
- [C33] Y. Fu and **D. Ma**. Applying mobile and pervasive computing security projects in CS courses. International Conference on Foundations of Computer Science, FECS'15, July 27-30, 2015.

- [C32] Y. Zhu*, L. Yang, S. Yau, and **D. Ma**, SecureSnaps: A new forward secrecy cryptosystem for self-destructing messages in mobile services, IEEE 4th International Conference on Mobile Services – Security and Privacy Track for Mobile Services, June 27 – July 2, 2015, New York, USA.
- [C31] Y. Zhu*, X. Wang, **D. Ma**, R. Guo. Identity-set-based broadcast encryption supporting cut-or-select with short ciphertext. 10th ACM Symposium on Information, Computer and Communications Security (AsiaCCS), Singapore, Apr. 2015.
- [C30] Y. Zhu*, **D. Ma**, and S. Wang. Enabling secure location-based services in mobile cloud computing. The 2nd Mobile Cloud Computing Workshop (MCC), in conjunction with ACM SIGCOMM, Hong Kong, China, Aug. 12-16, 2013.
- [C29] Y. Zhu*, **D. Ma**, and S. Wang. Efficient identity-based encryption without pairings and key escrow for mobile devices. The 8th International Conference on Wireless Algorithms, Systems, and Applications (WASA'13), Zhangjiajie, China, Aug. 7-10, 2013.
- [C28] Y. Zhu*, **D. Ma**, C. Hu, and D. Huang. 2013. How to use attribute-based encryption to implement role-based access control in the cloud. *ACM international workshop on Security in cloud computing (Cloud Computing '13)*, pp 33-40. In conjunction with ACM Symposium on Information, Computer and Communications Security (AsiaCCS), Hangzhou, China, May 7-10, 2013.
- [C27] **D. Ma**, Y. Zhu*, and M. Yu. End-to-end aggregate authentication of time-series data. *ACM Workshop on Asia Public-Key Cryptography (AsiaPKC'13)*, pp 51-56. In conjunction with ACM Symposium on Information, Computer and Communications Security (AsiaCCS), Hangzhou, China, May 7-10, 2013.
- [C26] H. Li*, **D. Ma**, N. Saxena, B. Shrestha, and Y. Zhu*. Tap-Wave-Rub: Lightweight Malware Prevention for Smartphones using Intuitive Human Gestures. *ACM Conference on Wireless Network Security (WiSec)*. Budapest, Hungary. April 2013.
- [C25] Y. Zhu*, S. Wang, **D. Ma**, H. Hu and G. Ahn. Secure and Efficient Constructions of Hash, MAC and PRF for Mobile Devices. *IEEE Global Communications Conference, Exhibition and Industry Forum (GlobeCom)*, Dec. 2012.
- [C24] T. Halevi, **D. Ma**, N. Saxena and T. Xiang*. Secure Proximity Detection for NFC Devices based on Ambient Sensor Data. *European Symposium on Research in Computer Security (ESORICS)*, Sept. 2012.
- [C23] Y. Zhu*, **D. Ma**, and S. Wang. Secure Data Retrieval of Outsourced Data with Complex Query Support. ICDCS Workshop on Security and Privacy in Cloud Computing (ICDCS-SPCC), Jun. 2012.
- [C22] **D. Ma**, A. K. Prasad*, N. Saxena, and T. Xiang*. Location-Aware and Safe Card: Enhancing RFID Security and Privacy via Location Sensing. *ACM Conference on Wireless Network Security (WiSec)*. Tucson, Arizona. April 2012
- [C21] T. Halevi, S. Lin, **D. Ma**, A. K. Prasad*, N. Saxena, J. Voris, and T. Xiang*. Sensing-enabled Defenses to RFID Unauthorized Reading and Relay Attacks without Changing the Usage Model. *International Conference on Pervasive Computing and Communications (PerCom)*, March 2012.
- [C20] **Di Ma** and Claudio Soriente. Building trust for λ -congenial secret groups. *6th International Conference on Broadband and Wireless Computing, Communication and Applications*. Barcelona, Spain. Oct. 2011.
- [C19] **Di Ma** and Anudath K Prasad*. A context-aware approach for enhanced security and privacy in RFID electronic toll collection systems. *5th Workshop on Wireless Mesh and Ad Hoc Networks (WiMAN), in conjunction with IEEE International Conference on Computer Communication Networks (ICCCN)*, Hawaii, Aug. 2011
- [C18] **Di Ma** and Hongxia Jin. Content usage tracking in superdistribution. *IEEE Consumer Communications and Networking Conference*, Las Vegas, Jan. 9-12, 2011.
- [C17] **Di Ma** and Gene Tsudik. IRRES: Intrusion Resilient Remote Email Storage. *First*

ICDCS Workshop on Security and Privacy in Cloud Computing, Gonoa, Italy, 2010

- [C16] Rex Chen, **Di Ma** and Amelia Regan. TARI: Meeting delay requirements in VANETs with efficient authentication and revocation. *Proc. International Conference on Wireless Access in Vehicular Environments (WAVE)*, Dec 2009.
- [C15] **Di Ma** and Gene Tsudik. DISH: distributed self-healing in unattended wireless sensor networks. *Proc. 10th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS'08)*, Detroit, MI, Nov. 2008.
- [C14] Roberto Di Pietro, **Di Ma**, Claudio Soriente and Gene Tsudik. POSH: Proactive co-operative self-healing in unattended wireless sensor networks. *Proc. IEEE 27th International Symposium on Reliable Distributed Systems (SRDS'08)*, Napoli, Italy, Oct. 2008.
- [C13] **Di Ma** and Gene Tsudik. A new approach to secure logging. *Proc. 22nd Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSEC'08)*, London, UK, Jul. 2008.
- [C12] **Di Ma**. Practical forward secure sequential aggregate signatures. *Proc. ACM Symposium on Information, Computer and Communications Security (ASIACCS'08)*, Tokyo, Japan, Mar. 2008.
- [C11] **Di Ma** and Gene Tsudik. Forward-secure sequential aggregate authentication. *Proc. IEEE Symposium on Security and Privacy (S&P'07)*, Oakland, CA, May 2007.
- [C10] **Di Ma**, Securing feedback service for wireless sensor networks. *Proc. 3rd Information Security Practice and Experience Conference (ISPEC'07)*, Hong Kong, China, May 2007.
- [C9] **Di Ma**, Robert H. Deng, Hweehwa Pang and Jianying Zhou. Authenticating query results in data publishing. *Proc. 7th International Conference on Information and Communications Security (ICICS'05)*, LNCS 3783, pp. 376-388. Beijing, China, Dec. 2005.
- [C8] **Di Ma**, Robert H. Deng, Yongdong Wu and Tiejian Li. Dynamic access control for multi-privileged group communications. *Proc. 6th International Conference on Information and Communications Security (ICICS'04)*, LNCS 3269, pp. 508-519, Malaga, Spain, Oct. 2004.
- [C7] Tiejian Li, Yongdong Wu, **Di Ma**, Huafei Zhu and Robert H. Deng. Flexible verification of MPEG-4 stream in peer-to-peer CDN. *Proc. 6th International Conference on Information and Communications Security (ICICS'04)*, LNCS 3269, pp. 79-91, Malaga, Spain, Oct. 2004.
- [C6] Yongdong Wu, **Di Ma**, Tiejian Li and Robert H. Deng. Classify encrypted data in wireless sensor networks. *Proc. IEEE Vehicular Technology Conference*, Los Angeles, CA, Sep. 2004.
- [C5] Yongdong Wu, **Di Ma** and Robert H. Deng. Progressive protection of JPEG2000 code-streams. *Proc. IEEE International Conference on Image Processing (ICIP'04)*, pp. 3439-3442, Singapore, Oct. 2004.
- [C4] Hongjun Wu and **Di Ma**. Efficient and secure encryption schemes for JPEG2000. *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2004)*, Montreal, Canada, May 2004.
- [C3] Robert H. Deng, Yongdong Wu and **Di Ma**. Securing JPEG2000 code-streams. *Proc. International Workshop on Advanced Developments in Software and Systems Security*, Dec. 2003.
- [C2] Yongdong Wu, **Di Ma** and Changsheng Xu. Efficient object-based stream authentication. *Proc. 3rd International Conference on Cryptology in India (IndoCrypto 2002)*, LNCS 2551, pp. 354-367, Hyderabad, India, Dec. 2003.
- [C1] **Di Ma**, F. Lin and C. K. Chua. Volume modeling for rapid prototyping. *Proc. 10th Annual Solid Freeform Fabrication Conference*, Austin, TX, Aug. 1999.

Patents

1. Di Ma and Andre Wimerskirch, Hash-chain based sender identification scheme, U.S. Provisional Application No.: 62/363,464, Jul. 18, 2016.
2. (granted) Yongdong Wu, Xiaofeng Wei, and **Di Ma**. Method and system for deterrence of unauthorized reuse of display content. WO 2004/019152, US 2006/0110004 A.
3. Di Ma and Hongxia Jin. Content Usage Tracking in Superdistribution. US Patent Pending, IBM Docket No. ARC920090088US1, Filed by IBM Almaden Research Center, 2010.

Contributions to Standards (ISO/IEC 15444-8, selected)

1. Yongyong Wu, **Di Ma**, Robert Deng. ImTrust: design and implementation. ISO/IEC JTC 1/SC 29/WG1/N3075.
2. **Di Ma**, Yongdong Wu, Robert Deng, ImAccess: design and implementation. ISO/IEC JTC 1/SC 29/WG1/N3312.
3. Junichi Hayashi, Keiichi Iwamura, Yongdong Wu, **Di Ma**, Robert Deng. Progressive access to JPEG 2000 codestream. ISO/IEC JTC 1/SC 29/WG1/N3204.

Posters and Others

1. Zachary Cavazos, Abigail Darmofal, Colton Holoday, Cody Liu, Lee Moore, Alisha Patel, Lyndon Shi, Linxi Zhang, and **Di Ma**. Controller Area Network Intrusion Detection and Response System. Women in CyberSecurity (WiCyS), Chicago, IL, USA, Mar. 23-24, 2018.
2. **Di Ma**, Claudio Soriente and Gene Tsudik. Self-defense in unattended wireless sensor networks. Poster paper, The 10th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS'08), Detroit, MI, Nov. 2008.
3. **Di Ma** and Gene Tsudik. Forward secure sequential aggregate authentication. CRA-W Graduate Cohort Workshop, San Francisco, 2007
4. **Di Ma**, Yongdong Wu and Robert Deng. Analysis of Canon encryption scheme," Communications in JPEG2000 Security group (JPSEC), Nov. 14, 2003.

INVITED TALKS (EXAMPLES)

- *Data Privacy in Emerging Connected Mobility Services*. Women in Data Science Conference, Detroit, Mar. 2, 2020
- *Trulium Security Panel talk: Preserving Safety and Data Privacy in Connected Vehicles*, CES'19, Las Vegas, Jan. 8, 2019.
- *Panel talk: Balancing safety with convenience features*, Detroit Auto Show, Jan. 2018
- *Cybersecurity of Automated Vehicle Platooning*. Michigan State University ECE Research Seminar, Nov. 2017.
- *Panel talk: Cybersecurity of Connected and Automated Vehicles, Navigating security and privacy in next-generation of mobility*. Automation Alley Tech Takeover, Aug. 2017.
- *Cybersecurity of Automated Vehicle Platooning*, 4th Annual Automotive Cyber Security Summit, San Francisco, Oct. 2016
- *Cybersecurity of Automated Vehicle Platooning*, IEEE Southeastern Michigan 2016 SPRING CONFERENCE, Apr. 2016
- *Ubiquitous Sensing: Risks and Opportunities*. Beijing Science and Technology University, Ford Motor Company. Apr, 2016.
- *Ubiquitous sensing: opportunities and challenges on the security and privacy of mobile devices*, CS Research Seminar, Wayne State University, January 2016
- *Ubiquitous sensing: opportunities and challenges on the security and privacy of mobile devices*

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- devices*, Beijing Science and Technology University, Beijing, China, May 2015
 - *Ubiquitous sensing: opportunities and challenges on the security and privacy of mobile devices*, Northwest University, Xi'an, China, May 2015
 - *Tap-Wave-Rub: Lightweight malware prevention for smartphones using intuitive human gestures*. Shanghai Jiaotong University, China. July 2013.
 - *Identity management in wireless networks*. Future of Identity Workshop. London, UK. Apr. 9, 2013.
 - *Sensing-enabled RFID security and privacy*. UMass-Lowell CIS Research Colloquium. Oct, 2012.
 - *Panel talk: Privacy in the smartphone age*. NSF US-MidEast Workshop. Istanbul, Turkey. June, 2012.
 - *Sensing-enabled RFID security and privacy*. UM-Dearborn ECE Research Colloquium. April, 2012.
 - *Panel talk: Cryptographic approach for delegation and authorization in cloud computing*. NSF Workshop on Security for Cloud Computing. Arlington, Virginia. March 2012.
 - *Intrusion Resilience for Unattended Sensor Networks*. SRM University, India, June 2010
 - *New adversary and new threats: security in unattended wireless sensor networks*, EECS, Syracuse University, May 2009
 - *New adversary and new threats: security in unattended wireless sensor networks*, Informatics, Indiana University Bloomington, March 2009
 - *New adversary and new threats: security in unattended wireless sensor networks*, CIS, Florida International University, March 2009
 - *New adversary and new threats: security in unattended wireless sensor networks*, CIS, University of Michigan Dearborn, March 2009
 - *On the unified revocation and traitor tracing system*. IBM Almaden Research Center, Sept. 2009
-

SERVICE

UNIVERSITY SERVICES

Department Committee Membership:

- CIS PhD Program, Director, 2019~present
- CIS PhD Committee, 2017~2019
- CIS Research Committee, 2017~2018
- CIS Vision Committee, 2017~2018
- CIS Chair Search Committee, 2016~2017
- CIS Undergraduate Curriculum Committee, 2010~2015, 2017~2018
- Faculty Search Committee, 2011~2012, 2014~2015, 2015~2016, 2016~2017, 2017~2018.
- Faculty Secretary, 2009~2011
- Information session for students interested in BS CIA, 2017~present
- CIS Open House 2018
- New students reception 2018

College Committee Membership:

- Interim Associate Dean for Graduate Education and Research, 2019~present
 - CECS Graduate Curriculum Committee, chair, 2019~present
 - CECS Graduate Curriculum Committee, 2018~2019
 - ECE T&P Committees, 2017, 2019
 - IMSE T&P Committee, 2017, 2020
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- CECS Executive Committee, 2017~2018
 - ELB Core Research Labs Committee, 2016~2017
 - CECS Dean Search Committee, 2013~2014
 - Engineering Lab Building Project – Office Sub-Committee, 2014
 - Experiential Learning Committee, 2014

University

- UCDC Graduate SubCommittee, 2019~present
- Council of Graduate Enrollment Management, 2019~present
- Council of Associate Deans, 2019~present
- Dearborn Discovery Core Sub Committee, 2017~2019
- RCR Workshop 2017~2018
- Faculty Mentoring and Development Committee, 2013~2015
- Commission for Women, 2015~2018
- Academic program reviews for the Provost's Office

Mentoring activities involving junior faculty

- Panelist, Faculty Tenure and Promotion Panel, 05/2017
- Panelist, New Faculty Orientation Panel, 08/2016
- Faculty Mentoring and Development Committee, 2013~present
- Actively involved in mentoring several junior faculty member in the Department of Computer and Information Science.

PROFESSIONAL SERVICES

Panelist or Judge:

- Program Review, CINA Biennial Review, DHS, 2019
- External NSF MRI Grant Reviewer, Oak Ridge Associated Universities, 2019
- Grant Proposal Reviewer, National Institute of Standards and Technology (NIST), 2019
- Grant Proposal Review Panelist, National Science Foundation*, 2011(1), 2012(2), 2013(1), 2014(1), 2015(5), 2016 (9), 2017(3), 2018 (5), 2019(4), 2020 (2)
* year (number of review panels served)
- Grant Proposal Reviewer, Natural Sciences and Engineering Research Council of Canada, 2018
- Grant Proposal Reviewer, Department of Homeland Security, 2016
- Grant Proposal Reviewer, Army Research Office, 2016
- Grant Proposal Reviewer, University of Michigan, 2014
- Fellowship Review Panelist, DoD, 2014
- Judge, Global Security Challenge – Midwest Regional Final, Sept. 21, 2010

Journal Editorial Board:

- Editor, Journal of Surveillance, Security and Safety, 2019~present
- Editor, Springer International Journal of Information Security, 2018~2020
- Editor, Elsevier Journal of Computer Communications (COMCOM), 2014~ 2016.
- Editor, Journal of Computer Networks (JCN), 2014 ~ 2016.
- Guest Editor, The Scientific World Journal, Special Issue on "Recent Advances in BYOD and Mobile Security", 2014.
- Book Editor, Innovative Methods and Design Solutions for Secure Smart Grid Systems, 2014.
- Guest Editor, International Journal of Distributed Sensor Networks. Special Issue on "Ad Hoc Network Architectures and Protocols in Smart Cities", 2014.

Conference/Workshop Organization

- Panel organizer, Navigating security and privacy in next-generation of mobility, Automation Alley Tech Takeover, Aug. 2017.
- Chair, 1st, 2nd, and 3rd Faculty Workshop on Pervasive and Mobile Computing Security (webinar). 2016~2017
- Security Track Chair, TrustCom-16: 15th IEEE International Conference on Trust, Security, and Privacy in Computing and Communications, Tianjin, China, 23-26 August, 2016.
- Publicity Chair, SCC'14: 2nd International Workshop on Security in Cloud Computing, in conjunction with ASIACCS'14, Kyoto, Japan, Jun 3, 2014
- Publicity Chair, CrossCloud'14, in conjunction with InfoComm'14, Toronto, Canada, Apr 28, 2014
- Program Vice Co-Chair, CSS'13: 5th International Symposium on Cyberspace Safety and Security, Dec. 12-13, 2012

Technical Program Committee Member:

2021(1)

- ACNS 2021: Applied Cryptography and Network Security, June 21-~24, 2021, Kamakura, Japan.

2020(4)

- ACSAC 2020: 2020 Annual Computer Security Applications Conference, Dec. 7~11, 2020, Austin, Texas, USA.
- NSS 2020: 14th International Conference on Network and Systems Security. Nov. 24~27, 2020, Melbourne, Australia.
- ACM ASIACCS 2020: 15th ACM ASIA Conference on Computer and Communication Security, Oct. 5~9, 2020, Taipei, Taiwan.
- escar USA 2020: Embedded Security in Cars, May 20~21, 2020, Plymouth, MI, USA.

2019(6)

- ACSAC 2019: 2019 Annual Computer Security Applications Conference, Dec. 9~13, 2019, San Juan, Puerto Rico, USA
- CANS 2019: 18th International Conference on Cryptology and Network Security, Oct. 25~27, 2019, Fuzhou, China
- ISPEC'2019: 15th International Conference on Information Security Practice and Experience, Nov. 26~28, 2019, Kuala Lumpur, Malaysia
- ACNS 2019: 17th International Conference on Applied Cryptography and Network Security, Bogota, Colombia, June 5~7, 2019
- ACM WiSec'19: 12th International Conference on Security and Privacy in Wireless and Mobile Networks, May 15-17, 2019, Miami, FL, USA
- ACM AutoSec'19: ACM Workshop on Automotive Cybersecurity, March 27, 2019, Dallas, Texas

2018(4)

- ISPEC'2018: 14th International Conference on Information Security Practice and Experience, Sept. 25-27, 2018, Tokyo, Japan
- ACM WiSec'18: 11th ACM Conference on Security and Privacy in Wireless and Mobile

Networks, June 18-20, 2018, Stockholm, Sweden

- ASIACCS'18: 13th ACM ASIA Conference on Computer and Communications Security, June 4-8, 2018, Songdo, Incheon, Korea.
- WiCys 2018, National Women in Cybersecurity, Mar. 23-24, 2018, Chicago, IL

2017(5)

- ASIACCS'17: 11th ACM Asia Conference on Computer and Communications Security, April 2-6, 2017, Abu Dhabi, UAE.
- TUR-C 2017: ACM Turing 50th Celebration Conference – China, May 12-14, 2017, Shanghai, China.
- DSC 2017: 2017 IEEE Conference on Dependable and Secure Computing, August 7-10, 2017, Taipei, Taiwan.
- NaNA 2017: 2017 International Conference on Networking and Network Applications, Oct. 13-16, Kathmandu City, Nepal.
- CYBCONF-2017: 3rd IEEE International Conference on Cybernetics, June 21-23, 2017, Exeter, UK

2016(8)

- SSCI2016: IEEE Symposium on Computational Intelligence in Vehicles and Transportation Systems, Athens, Greece, Dec 6-9, 2016.
- ISPEC 2016: 12th International Conference on Information Security Practice and Experience, Zhangjiajie, China, Nov. 16-18, 2016.
- NSS 2016: 10th International Conference on Network and System Security, Taipei, Taiwan, September 28-30, 2016.
- ISC 2016: 19th Information Security Conference, Sept. 7-9, 2016, Honolulu, HI, USA.
- ICCCN 2016: 25th International Conference on Computer Communication and Networks, August 1-4, 2016, Waikoloa, Hawaii, USA.
- NaNA2016: International Conference on Networking and Network Applications, July 23-25, 2016, Hakodate City, Hokkaido, Japan.
- AuthTech 2016: Authentication Techniques Workshop, in conjunction with ASIACCS'16, May 30, 2016, Xi'an, China.
- ASIACCS'16: 11th ACM Symposium on Information, Computer and Communications Security, May. 30-June 3, 2016, Xi'an, China.

2015(9)

- NSS 2015: 9th International Conference on Network and System Security, New York City, November 3-5, 2015
- Trustcol 2015: 10th IEEE International Workshop on Trusted Collaboration, October 29, 2015, Hangzhou, China.
- Inscrypt'16: 11th International Conference on Information Security and Cryptology, November 1-3, 2015, Beijing.
- MILCOM 2015: International Conference for Military Communications. Tampa, Florida, Oct. 26~28, 2015.
- ISC 2015: Information Security Conference, Trondheim, Norway, Sept. 9~11, 2015
- TrustCom'15: 14th IEEE International Conference on Trust, Security, and Privacy in Computing and Communications, Helsinki, Finland, Aug. 20~22, 2015.
- WiSec'15: 8th ACM Conference on Security and Privacy in Wireless and Mobile Networks, New York City, USA, June 24~26, 2015.

- ISPEC'15: 11th Information Security Practice and Experience Conference, Beijing, China, May 5-8, 2014
- ASIACCS'15: 10th ACM Symposium on Information, Computer and Communications Security, Apr. 14-17, 2015, Singapore

2014(5)

- ICICS 2014: 16th International Conference on Information and Communication Security. Hong Kong, December 16-17, 2014.
- M2MSec'14: 1st International Workshop on Security and Privacy in Machine-to-Machine Communications, San Francisco, USA, Oct 29, 2014
- WISA'14: 15th International Conference on Information Security Applications, Juju Island, Korea, Aug 25-27, 2014
- WiSec'14: 7th ACM Conference on Security and Privacy in Wireless and Mobile Networks, Oxford, UK, Jul 23-25, 2014
- ISPEC'14: 10th Information Security Practice and Experience Conference, Fuzhou, China, May 5-8, 2014

2013(15)

- GlobeCom 2013: IEEE Global Communications Conference, Miami, Florida, December 9-13, 2013
- CloudCom'13: IEEE International Conference on Cloud Computing Technology and Science, Bristol, UK, Dec 2-5, 2013
- INSCRPT'13: 9th China International Conference on Information Security and Cryptology, Nov 27-30, Guangzhou, China
- RFIDSec'13 Asia: Workshop on RFID and IoT Security. Guangzhou, China, Nov 27, 2013.
- SPCC'13: 4th International Workshop on Security and Privacy in Cloud Computing, in conjunction with IEEE CNS 2013, Washington DC, USA, Oct 14-16, 2013
- D-SPAN'13 – IEEE International Workshop on Data Security and Privacy in Wireless Networks, Madrid, Spain, June 4, 2013.
- ASIACCS'13-SCC – International Workshop on Security in Cloud Computing. Hanzhou, China. May 8-10, 2013.
- ASIACCS'13-SESP – International Workshop on Security in Embedded Systems and Smartphones. May 8-10, 2013.
- EUSPN'13 – International Conference on Emerging Ubiquitous Systems and Pervasive Networks. Niagara Falls, Ontario, Canada. Oct. 21-24, 2013.
- ICNC 2013 – IEEE International Conference on Computing, Networking and Communications. San Diego. Jan. 28-31, 2013.
- ICC'2013 – IEEE International Conference on Communications, Budapest, Hungary, Jun. 9-13, 2013
- ICCCN'13 – 22nd International Conference on Computer Communications and Networks, Nassau, Bahamas, Jul. 30-Aug. 2, 2013
- FC'2013 – Financial Cryptography and Data Security, Okinawa, Japan, Apr. 1-5, 2013
- ISPEC'13 – 9th Information Security Practice and Experience Conference, Lan Zhou, China, May 12-14, 2013
- ICNC'13 – International Conference on Computing, Networking and Communications. San Diego, Jan.28-31, 2013.

2012(7)

- ICICS'12 – International Conference on Information and Communications Security. Hong Kong. October 29-31, 2012.
- RFIDSec'12 Asia – Workshop on RFID and IoT Security. Taipei, Taiwan. Nov. 8-9, 2012.
- WiSec'2012 – 5rd ACM Conference on Security and Privacy in Wireless and Mobile Networks, Tucson, Arizona, Apr. 16-18, 2012
- SPCC'12 – 3rd International Workshop on Security and Privacy in Cloud Computing, in conjunction with ICDCS 2012, Macau, China, June 18-21, 2012.
- Milcom'12 – 2012 Military Communications Conference. . Orlando, Florida. October 29 – November 1, 2012.
- MUSIC 2012 – The 2012 FTRA International Conference on Mobile, Ubiquitous, and Intelligent Computing, Ubiquitous Computing track. Vancouver, Canada, June 2012
- CCNC 2012 - The 9th Annual IEEE Consumer Communications and Networking Conference - Security and Content Protection, Las Vegas, January, 2012.

2011(9)

- CANS 2011 – The 5th International Conference on Cryptology And Network Security, Sanya, China, December 2011
- EUC 2011: The 9th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing, Melbourne, Australia, October 2011
- GlobeCom 2011: IEEE Global Communications Conference, Houston, Texas, December 2011
- VTC2011-Fall: IEEE 74th Vehicular Technology Conference, San Francisco, September 2011
- WiMAN'11: 5th Workshop on Wireless Mesh and Ad Hoc Networks (WiMAN), in conjunction with IEEE International Conference on Computer Communication Networks (ICCCN), Hawaii, Aug. 2011.
- SPCC'11 – 2nd International Workshop on Security and Privacy in Cloud Computing, in conjunction with ICDCS 2011, Minneapolis, Minnesota, USA, June 20-24, 2011.
- ACNS'11 – 9th International Conference on Applied Cryptography and Network Security, Nerja, Spain, June 7-10, 2011.
- WiSec'2011 – 3rd ACM Conference on Wireless Network Security, Hamburg, Germany, June 14-17, 2011
- CCNC'2011 - The 8th Annual IEEE Consumer Communications and Networking Conference - Security and Content Protection, Las Vegas, January, 2011.

2010(5)

- ISC 2010: 13th Information Security Conference, Boca Raton, Florida, October 2010
- CCSW 2010: ACM Cloud Computing Security Workshop, in conjunction with ACM CCS 2010, Chicago, Illinois, October 2010
- MINES 2010: IEEE International Conference on Multimedia Information Networking and Security, Nanjing, China, November 2010
- VTC2010-Fall: IEEE 72nd Vehicular Technology Conference, Ottawa, Canada, September 2010
- GlobeCom 2010: IEEE Global Communications Conference, Miami, Florida, December 2010.

2009(2)

- WAVE2009: IEEE International Conference on Wireless Access in Vehicular Environments, Shanghai, China, December 2009
- UbiSafe-09: IEEE International Symposium on Ubisafe Computing, Chengdu, China, December 2009

External Conference Reviewer: IWSEC 2010, CANS 2009, IFIP SEC 2009, ASIACCS 2007~2009, ACSAC 2008, ACM DRM 2008, ICICS 2008, ICNP 2008~2009, EuroPKI 2008, PET 2008, IEEE S&P 2008, ACM CCS 2007, HealthNet 2007, SCN 2006, CISC 2006, ISCAS 2006

Journal Reviewer: VLDB Journal, ACM Trans. on Information and System Security, ACM Trans. on Sensor Networks, ACM/Springer Multimedia Systems, IEEE Journal on Selected Areas in Communications, IEEE Trans. on Information Forensics and Security, IEEE Trans. Reliability, IEEE Wireless Communications, IEEE Trans. on Smart Grid, IEEE Communication Letters, IET Information Security, EURASIP Journal on Information Security, EURASIP Journal on Wireless Communications and Networking, EURASIP Journal on Signal Processing, Wiley Wireless Communications and Mobile Computing, Wiley's Security and Communication Networks, Journal of Communication System, Journal of Systems and Software, Ad Hoc Networks, International Journal of Information Systems, Elsevier Journal of Computer Communications, Elsevier Journal of Computers and Security