

Part I - Call for Papers

Call for Papers Special Issue Proposal

Special Issue on Recent Advances on Security and Privacy of Multimedia Big Data in the Critical Infrastructure

Aim and Scope:

Cyber security and privacy is an essential need for modern society where information technology and services pervade every aspect of our lives. Specially, security and privacy of critical infrastructure (a nation's strategic national assets, i.e. banking and finance, communications, emergency services, energy, food chain, health, water, mass gatherings, transport, etc) which is an essential part of our daily life to access different systems, services and applications is a serious issue, today. However, it is challenging to achieve, as technology is changing at rapid speed and our systems turn into ever more complex. Moreover, cyber space is considered as fifth battle-field after land, air, water and space. The explosion of multimedia big data has created unprecedented opportunities and fundamental security challenges as they are not just big in volume, but also unstructured and multi-modal.

The aim of this special issue is to provide a premier international platform for wide range of professions including scholars, researchers, academicians and Industry people to discuss and present the most recent security and privacy challenges and developments in Multimedia 'big data in critical infrastructure' from the perspective of providing security awareness and its best practices for the real world.

We invite researchers to contribute original research articles as well as review articles that will seek the continuing efforts to understand the novel techniques that lead to future improvements for security and privacy of multimedia big data in Critical infrastructure.

Topics of Interest:

The topics relevant to this special issue include but are not limited to:

- Security and privacy of multimedia big data in banking systems
- Security and privacy of multimedia big data in telecommunication systems
- Security and privacy of multimedia big data in finance systems
- Security and privacy of multimedia big data in communication systems
- Security and privacy of multimedia big data in eCommerce
- Security and privacy of multimedia big data in emergency services, energy, food chain
- Security, privacy and forensics of multimedia big data in critical infrastructure
- Security and privacy of multimedia big data in mobile cloud computing
- Security and privacy management of big data in Cloud Computing
- Security and privacy of Industrial control systems
- Security, privacy and forensics of multimedia big data in stock trade
- Mobile cloud computing intrusion detection systems
- Cryptography, authentication, authorisation and usage control for big data in cloud
- Security and privacy of multimedia big data in smartphone devices
- Security of Mobile, peer-to-peer and pervasive services in clouds
- Security of big data in Mobile commerce and mobile internet of things
- Security and privacy of multimedia big data in sensor networks
- Big data-enabling social networks on Clouds
- Resource management for multimedia big data on Clouds
- Cryptography, authentication and authorisation for big data in mobile devices
- Security and privacy of multimedia big Data in Web service
- Evolutionary algorithms for mining social networks for decision support
- Artificial neural network and neural system applied to social media and mitigating the privacy risks in critical infrastructure

Coherent list of topics:

Papers must be tailored to the emerging fields of security and privacy of multimedia big data in Critical infrastructure and explicitly consider recent deployments models, challenges and novel solutions. The editors maintain the right to reject papers they deem to be out of scope of this special issue. Only originally unpublished contributions and invited articles will be considered for the issue. The papers should be formatted according to the journal guidelines.

Important Dates

Submission of manuscripts: **April 15, 2017**

Review Notification to authors: **July 01, 2017**

Submission of Revised Papers: **September 01, 2017**

Notification of Final Review Results: **October 30, 2017**

Guest Editors:

1. Prof. B.B. Gupta, National Institute of Technology, Kurukshetra, India
Email: bbgupta.nitkkr@gmail.com
2. Prof. Nadia Nedjah, State University of Rio de Janeiro, Brazil
Email: nadia@eng.uerj.br
3. Prof. Shingo Yamaguchi, Yamaguchi University, Japan
Email: shingo@yamaguchi-u.ac.jp
4. Prof. Zhiyong Zhang, Henan University of Science & Technology, China
Email: xidianzzy@126.com
5. Prof. Konstantinos E. Psannis, University of Macedonia, Greece
Email: kpsannis@uom.gr

Part II - Biographies

Dr. B.B. Gupta

Dr. B. B. Gupta received PhD degree from Indian Institute of Technology Roorkee, India in the area of Information and Cyber Security. In 2009, he was selected for Canadian Commonwealth Scholarship and awarded by Government of Canada Award (\$10,000). He spent more than six months in University of Saskatchewan (UofS), Canada to complete a portion of his research work. Dr. Gupta has excellent academic record throughout his carrier, was among the college toppers, during Bachelor's degree and awarded merit scholarship for his excellent performance. In addition, he was also awarded Fellowship from Ministry of Human Resource Development (MHRD), Government of India to carry his Doctoral research work. He has published more than 70 research papers (including 01 book and 08 chapters) in International Journals and Conferences of high repute including IEEE, Elsevier, ACM, Springer, Wiley Inderscience, etc. He has visited several countries, i.e. Canada, Japan, Malaysia, Hong-Kong, etc to present his research work.

His biography was selected and published in the 30th Edition of Marquis Who's Who in the World, 2012.

He is also working principal investigator of various R&D projects. He is also serving as reviewer for Journals of IEEE, Springer, Wiley, Taylor & Francis, etc. Currently he is guiding 08 students for their Master's and Doctoral research work in the area of Information and Cyber Security. He also served as Organizing Chair of Special Session on Recent Advancements in Cyber Security (SS-CBS) in IEEE Global Conference on Consumer Electronics (GCCE), Japan in 2014 and 2015. Earlier he served as co-convener of National Conference on Emerging Trends in Engineering, Science Technology & Management (ETESTM-12), India, April, 2012. In addition, Dr Gupta received Best Poster presentation award and People choice award for Poster presentation in CSPC-2014, Aug., 2014, Malaysia. He served as Jury in All IEEE-R10 Young Engineers' Humanitarian Challenge (AIYEHUM-2014), 2014. He has also served as founder and organizing chair of International Workshop on Future Information Security, Privacy and Forensics for Complex Systems (FISP-2015) in conjunction with ACM International Conference on Computing Frontiers (CF-2015), Ischia, Italy in May 2015. He is also serving as guest editor of various Journals. He is also serving as guest editor of various Journals.

Dr. Nadia Nedjah

Nadia Nedjah graduated in 1987 in Systems Engineering and Computation and in 1990 obtained a M.Sc. degree also in Systems Engineering and Computation. Both degrees were obtained from University of Annaba, Algeria. Since 1997, she holds a Ph.D. degree from University of Manchester - Institute of Science and Technology, UK. She joined the Department of Electronics Engineering and Telecommunications of the Engineering Faculty of the State University of Rio de Janeiro as an Associate Professor in 2005. She is currently a member of the Intelligent System research area in the Electronics Engineering Post-graduate Course of the State University of Rio de Janeiro, Brazil. She is the Editor-in-Chief of the International Journals of High Performance System Architecture and of Innovative Computing Applications, both published by Inderscience, UK. She published three authored books and more than 40 organized books on computational intelligence related topics. She authored more than 90 journal papers and more than 150 conference papers. She is Associate Editor of more than 10 international

journals, such as the Francis & Taylor's International Journal of Electronics, Elsevier's Integration, The VLSI Journal and Microprocessors and Microsystems and IET's Computer & Digital Techniques. She organized two major conferences related to computational intelligence. (More details can be found at her homepage: <http://www.eng.uerj.br/nadia/english.html>)

Dr. Shingo Yamaguchi

Prof. Shingo Yamaguchi is currently an Associate Professor in the Graduate School of Science and Engineering, Yamaguchi University, Japan. He received the B.E., M.E. and D.E. degrees from Yamaguchi University, Japan, in 1992, 1994 and 2002, respectively. He was an Assistant Professor (Research Associate) in the Faculty of Engineering, Yamaguchi University, from 1997 to 2007. He was also a Visiting Scholar in the Department of Computer Science at University of Illinois at Chicago, United States, in 2007. Since 2008 he has been at the present post. His research interest is in the area of theoretical computer science, software engineering, including their application to consumer electronics, Cyber Security and Cloud Computing. He has published 80 transaction papers and proceeding papers of IEEE, IEICE, IPSJ, and so on.

He is also a senior member of IEEE and IEICE. He also plays many important roles. He is a Conference Chair of 2014 IEEE 3rd Global Conference on Consumer Electronics (GCCE 2014). He was a TPC Vice-Chair of GCCE 2013. Currently, he is an Area Editor of IEICE Transactions on Fundamentals. And he is also TPC members of 5 international conferences. He is also a Secretary of IEEE Consumer Electronics Society West Japan Joint Chapter.

Dr. Zhiyong Zhang

Prof. Zhiyong Zhang received his Master, Ph.D. degrees in Computer Science from Dalian University of Technology and Xidian University, respectively. He has been ever Post-Doctoral Research Fellowship at Xi'an Jiaotong University, China. Nowadays, he is a full Henan Province Distinguished Professor and Dean with Department of Computer Science, College of Information Engineering, Henan University of Science & Technology. And also, he is a visiting professor of Computer Science Department, Iowa State University. He is ACM Senior Member, IEEE Senior Member, IEEE Systems, Man, Cybernetics Society Technical Committee on Soft Computing, World Federation on Soft

Computing Young Researchers Committee, Membership for Digital Rights Management Technical Specialist Workgroup Attached to China National Audio, Video, Multimedia System and Device Standardization Technologies Committee. Prof. Zhang and research interests include multimedia social networks and digital rights management, applied soft computing, trusted computing, as well as security risk management. Recent years, he has published over 80 scientific papers and four books on the above research fields, and held 8 authorized patents

Dr. Konstantinos E. Psannis

Dr. Konstantinos E. Psannis received a degree in Physics (Department of Physics, founded in 1928), Faculty of Sciences, from Aristotle University of Thessaloniki (AUTH, founded in 1925) (Greece), and the Ph.D. degree from the School of Engineering and Design, Department of Electronic and Computer Engineering of Brunel University (UK). From 2001 to 2002 he was awarded the British Chevening scholarship. In parallel with his Ph.D., he has also worked as a joint Research Assistant in several funded R&D projects (EU-ICT) as a member of Wireless Networks & Communications Research Group. He was awarded, in the year 2006, a research grant by IISF (Grant No. 2006.1.3.916), competent authority: Cabinet Office, Government of Japan. Since 2004 he has been a (Visiting) Assistant Professor in the Department of Technology Management, University of Macedonia, Greece, where currently he is Assistant Professor (& Departmental LLP/Erasmus-Exchange Students Coordinator and Higher Education Mentor) in the Department of Applied Informatics, School of Information Sciences, University of Macedonia, Greece. Dr. Psannis has extensive experience in multidisciplinary course development, directorship and delivery, in the area of Information and Communication Technology (ICT) Systems.

From 2014 he has been teaching, Information Technology Infrastructure, in the Graduate Program of the Department of Applied Informatics, Specialization: E-Business and Innovation Technology and Ubiquitous Communications and Data, Specialization: Computer Systems and Network Technologies at postgraduate level. From 2015 he has been (co-) teaching, Computer Networks and Informatics Technologies in the Interdepartmental Programme of Postgraduate Studies in Information Systems, University of Macedonia, Thessaloniki, Greece. He has also extensive research, development, and consulting experience in the area of telecommunications technologies. He has been

actively involved with research in various aspects of digital signals\media delivery and communications systems. Dr. Psannis' research spans a wide range of Digital Media Communications, media coding/synchronization and transport over a variety of networks, both from the theoretical as well as the practical points of view. His recent work has been directed toward the demanding digital signals and systems problems arising from the various areas of ubiquitous big data/media and communications. This work is supported by research grants and contracts from various government organisations. Dr. Psannis has published several papers in learned journals (Publishers: USA/JAPAN) in the area of digital signals\media delivery and communications systems and its applications. Since 1999 he has participated in several R&D funded projects in the area of Creative/Social/Industrial ICT - Information Sciences and Technology -System Information Sciences- Convergence ICT Systems (EU and JAPAN). His current professional research interests are Creative/Social/Industrial ICT - Information Sciences and Technology - System Information Sciences- Convergence ICT Systems: Ubiquitous Communications and Big Data/Advanced Cloud Infrastructures/Connects Everyone and Everything- Mobile Cloud Transmission/Streaming/Synchronization, Haptic Communication between Humans and Robots, Technologies for Creative Industries, Social media and Convergence- Future Media/Data Broadcasting/Steaming-Internet- Future Net! Works, Experiments on International Connections (E-ICONS) over TEIN3 (Pan-Asian), Science Information Network (SINET, Japan), GRNET (Greece)Okeanos Cloud, and GEANT (European Union) dedicated high capacity connectivity [DANTE - Letter OF SUPPORT to Experiments on International Connections for Haptic Transmission (E- ICONS HAPTIC MISSION) proposal- for Horizon 2020 ICT- Future Internet Research and Experimentation]. He has several publications, as a lead author and joint papers, in international Conferences, books chapters and peer reviewed journals (Publishers: USA/JAPAN). He is currently GOLD member committee of IEEE Broadcast Technology Society (BTS) and a member of the IEEE Industrial Electronics Society (IES). He is Guest Editor for the Special Issue on Architectures and Algorithms of High Efficiency Video Coding (HEVC) Standard for Real-Time Video Applications (2014), Journal of Real Time Image Processing (Special Issue). He is Guest Editor for the Special Issue on Emerging Multimedia Technology for Smart Surveillance System with IoT Environment (2016), The Journal of Supercomputing (Special Issue). He is Guest Editor for the Special Issue on Emerging Multimedia Technology for Multimedia-centric Internet of Things (mm-IoT) (2016), Multimedia Tools

and Applications (Special Issue). He is also a member of the European Commission (EC) EURAXESS Links JAPAN and member of the EU-JAPAN Centre for Industrial Cooperation.

Part III - Additional Material

The security and privacy of multimedia big data in critical infrastructure research is considered as one of the most important and challenging as it is receiving a lot of interest from the research community. We are pretty sure that many good articles will be submitted for this SI. Another important point about this SI is that it is among the very few SIs published in this domain; which makes this SI as an attractive venue for the authors who want to publish their papers in this domain. Hence, publishing their papers in this prestigious journal will help in getting large number of citations for the SI papers.

The Editors team represents a group of researchers from different Geographical locations across the globe who are active in the field of the proposed Special Issue with an extensive experience in organizing workshops, conferences, and SI organization. Moreover, they have a large network of colleagues and collaborators.



<http://www.springer.com/journal/11042>

Multimedia Tools and Applications

An International Journal

Editor-in-Chief: Furht, B.

ISSN: 1380-7501 (print version)

ISSN: 1573-7721 (electronic version)

Journal no. 11042