

The 2018 World Congress on Information Technology Applications and Services

**"Advanced Mobile, Communications, Security,
Multimedia, Vehicular, Cloud, IoT, and Computing"**

February 20-22, 2018
Jeju, Korea

Organized by

World IT Congress & KIPS SWRG



2018 International Conferences
(Sponsored / Technically Sponsored by KIPS / KIPS SWRG)

**The 12th International Conference on Multimedia and Ubiquitous Engineering
(MUE 2018)**

- April 23-25, Salerno, Italy
- <http://www.mue-conference.org/2018>

**The 13th International Conference on Future Information Technology
(FutureTech 2018)**

- April 23-25, Salerno, Italy
- <http://www.futuretech-conference.org/2018>

**The 2018 International Conference on Big data, IoT, and Cloud computing
(BIC 2018) (The UCAWSN conference name has been changed.)**

- August, 21-23, 2018, Jeju, Korea
- <http://www.bic-conference.org/2018>

**The 10th KIPS International Conference on Computer Science and its Applications
(CSA 2018)**

- December, 17-19, 2018, Okinawa, Japan
- <http://www.csa-conference.org/2018>

**The 13th KIPS International Conference on Ubiquitous Information Technologies and Applications
(CUTE 2018)**

- December, 17-19, 2018, Okinawa, Japan
- <http://www.cute-conference.org/2018>



Message from the World IT Congress 2018 General Chairs

The 2018 World Congress on Information Technology Applications and Services "Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing" will be held in Jeju, Korea on Feb 20~22, 2018. The World IT Congress 2018 Jeju is aimed at address key themes on "Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing". World IT 2018 will be the most comprehensive conference focused on Information Technology, computing, and applications, and will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of Advances in IT, Applications, and Services (AITA). In addition, the conference will publish high quality papers which are closely related to the various theories and practical applications in advanced IT. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject.

Accepted and presented papers highlight new trends and challenges of Computer Science and its Applications. The presenters showed how new research could lead to novel and innovative applications. We hope you will find these results useful and inspiring for your future research.

We would like to express our sincere thanks to Steering Committee: James J. (Jong Hyuk) Park (SeoulTech, Korea), Hamid R. Arabnia(The University of Georgia, USA), Han-Chieh Chao (National Ilan University, Taiwan), Yi Pan (Georgia State University, USA), Jianhua Ma (Hosei University, Japan), Young-Sik Jeong (Dongguk University, Korea), Jianhua Ma (Hosei University, Japan), Qun Jin (Waseda University, Japan). Our special thanks go to the Program Chairs, all Program Committee members and all the additional reviewers for their valuable efforts in the review process, which helped us to guarantee the highest quality of the selected papers for the conference.

We cordially thank all the authors for their valuable contributions and the other participants of this conference. The conference would not have been possible without their support. Thanks are also due to the many experts who contributed to making the event a success.

World IT Congress 2018
General Chairs

Yi Pan, Georgia State University, USA
Gangman Yi, Dongguk University, Korea
Ka Lok Man, Xi'an Jiaotong-Liverpool University, China



Message from the World IT Congress 2018 Program Chairs

Welcome to the 2018 World Congress on Information Technology Applications and Services "Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing" which will be held in Jeju, Korea on Feb 20~22, 2018. This congress will be the most comprehensive conference focused on the various aspects of Advances in IT, Applications, and Services (AITA).

The World IT 2018 provides an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of Computer Science. In addition, the conference contains high quality papers which are closely related to the various theories and practical applications in Computer Science. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject. The World IT 2018 contains high quality research papers submitted by researchers from all over the world. Each submitted paper was peer-reviewed by reviewers who are experts in the subject area of the paper. Based on the review results, the Program Committee accepted papers.

For organizing an International Conference, the support and help of many people is needed. First, we would like to thank all authors for submitting their papers. We also appreciate the support from program committee members and reviewers who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to give my special thanks to James J. (Jong Hyuk) Park (SeoulTech, Korea), Hamid R. Arabnia(The University of Georgia, USA), Han-Chieh Chao (National Ilan University, Taiwan), Yi Pan (Georgia State University, USA), Jianhua Ma (Hosei University, Japan), Young-Sik Jeong (Dongguk University, Korea), Jianhua Ma (Hosei University, Japan), Qun Jin (Waseda University, Japan) as the Steering Committee of World IT for their strong encouragement and guidance to organize the conference. We would like to thank World IT 2018 General Chairs for their advices to make possible organization of The World IT 2018. We would like to express special thanks to execute members for their timely unlimited support.

World IT Congress 2018
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Jin Wang, Yangzhou University, China
Muhammad Khurram Khan, King Saud University, Kingdom of Saudi Arabia



Organization

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Invited Speaker I



Internet of Battlefield Things: Challenges and Research Opportunities

Kim-Kwang Raymond Choo, Ph.D.

Professor,

Cloud Technology Endowed Professorship

Department of Information Systems and Cyber Security

The University of Texas at San Antonio, USA

Abstract

Internet of Things (IoT) deployed in military and adversarial settings, such as battlefields, generally consist of a diverse range of Internet-connected devices and nodes (e.g. medical devices, wearable combat uniforms, unmanned aerial vehicles and military vehicles), which are a valuable target for cyber criminals, particularly state-sponsored or nation state actors. While IoT and Internet of Battlefield Things (IoBT) share many of the underpinning cyber security risks, the sensitive nature of IoBT deployment (e.g. military and warfare) makes IoBT architecture and devices more likely to be targeted by cybercriminals. In addition, actors who target IoBT devices and infrastructure are more likely to be state-sponsored, better resourced, and professionally trained. This presentation will highlight some of the security and privacy challenges associated with IoBT as well as research opportunities (e.g. what can be done to address IoBT cybersecurity challenges?).

Biography

Kim-Kwang Raymond Choo received the Ph.D. in Information Security in 2006 from Queensland University of Technology, Australia. He currently holds the Cloud Technology Endowed Professorship at The University of Texas at San Antonio. Prior to moving to USA in August 2016, he spent five years working for the University of South Australia, and five years working for the Australian Government Australian Institute of Criminology. He was also a visiting scholar at INTERPOL Global Complex for Innovation between October 2015 and February 2016, and a visiting Fulbright scholar at Rutgers University School of Criminal Justice and Palo Alto Research Center (formerly Xerox PARC) in 2009. He serves on the editorial board of Computers & Electrical Engineering, Cluster Computing, Digital Investigation, IEEE Access, IEEE Cloud Computing, IEEE Communications Magazine, Future Generation Computer Systems, Journal of Network and Computer Applications, PLoS ONE, Soft Computing, etc. He also serves as the Special Issue Guest Editor of ACM Transactions on Embedded Computing Systems (2017), ACM Transactions on Internet Technology (2016), Computers & Electrical Engineering (2017), Digital Investigation (2016), Future Generation Computer Systems (2016, 2018), IEEE Cloud Computing (2015), IEEE Network (2016), IEEE Transactions on Cloud Computing (2017), IEEE Transactions on Dependable and Secure Computing (2017), Journal of Computer and System Sciences (2017), Multimedia Tools and Applications (2017), Personal and Ubiquitous Computing (2017), Pervasive and Mobile Computing (2016), Wireless Personal Communications (2017), etc. In 2016, he was named the Cybersecurity Educator of the Year – APAC (Cybersecurity Excellence Awards are produced in cooperation with the Information Security Community on LinkedIn), and in 2015 he and his team won the Digital Forensics Research Challenge organized by Germany's University of Erlangen-Nuremberg. He is the recipient of ESORICS 2015 Best Paper Award, 2014 Highly Commended Award by the Australia New Zealand Policing Advisory Agency, Fulbright Scholarship in 2009, 2008 Australia Day Achievement Medallion, and British Computer Society's Wilkes Award in 2008. He is also a Fellow of the Australian Computer Society, and an Honorary Commander of the 502nd Air Base Wing, Joint Base San Antonio-Fort Sam Houston.

Invited Speaker II



Intelligent Decision Computing Paradigms in Sustainable Computing

Dr. Arun Kumar Sangaiah, Ph.D.
Professor,
VIT University, Vellore, India

Abstract

In sustainable computing, Intelligent Decision Support Systems (IDSS) has been adopted for prediction, optimization and decision making challenges under variable number constraints based on un-structured data. The traditional systems are lack of efficiency, limited computational ability, inadequate and impreciseness nature of handling sustainable problems. Despite, Computational Intelligence (CI) paradigms have used for high computational power of intelligence system to integrate, analyze and share large volume of un-structured data in a real time, using diverse analytical techniques to discover sustainable information suitable for better decision making. In addition, CI has the ability to handle complex data using sophisticated mathematical models, analytical techniques. This key note talk provides a brief overview of computational intelligence (CI) paradigms and its noteworthy character in intelligent decision support and analytics of sustainable computing problems. The objective of this talk is to study and analyze the effect of CI for overall advancement of emerging sustainable computing technologies.

Biography

Dr. Arun Kumar Sangaiah received his Ph.D from VIT University and Master of Engineering from Anna University, in 2007 and 2014, respectively. He is currently Associate Professor at School of Computing Science and Engineering, VIT University, Vellore, India. He was a visiting professor at School of computer engineering at Nanhai Dongruan Information Technology Institute in China (September. 2016-Jan. 2017). He has published more than 100 scientific papers in high standard SCI journals like IEEE-TII, IEEE-Communication Magazine, IEEE systems, IEEE-IoT, IEEE TSC, IEEE ETC and etc. In addition he has authored/edited over 8 books (Elsevier, Springer, Wiley, Taylor and Francis) and 50 journal special issues such as IEEE-Communication Magazine, IEEE-IoT, IEEE consumer electronic magazine etc. His area of interest includes software engineering, computational intelligence, wireless networks, bio-informatics, and embedded systems. Also, he was registered a one Indian patent in the area of Computational Intelligence. Besides, Prof. Sangaiah is responsible for Editorial Board Member/Associate Editor of various international SCI journals.

PROGRAM SCHEDULE FOR WORLD IT CONGRESS 2018

Day 1, Feb. 20, 2018				
Time	Min	HALL -A	HALL B	HALL C
10:00-12:00	120	Session A-0 ANMT 2018 (Closed Workshop) Chair : JoonMin Gil		
13:00-15:00	120	Organizing Committee Meeting (Only for Invited Members)		
16:00-17:30	90	Local Arrangement Committee Meeting (Only for Invited Members)		

Day 2, Feb. 21, 2018				
Time	Min	HALL -A		
08:40-09:00	20	Registration		
09:00-10:30	90	Session A-1 Chair : TBA	Session B-1 Chair : TBA	Session C-1 Chair : TBA
10:30-10:40	10	Coffee Break		
10:40-12:00	80	Session A-2 Chair : TBA	Session B-2 Chair : TBA	Session C-2 Chair : TBA
12:00-13:10	70	Lunch		
13:10-14:00	50	<p style="text-align: center;"> Keynote I: Internet of Battlefield Things: Challenges and Research Opportunities Kim-Kwang Raymond Choo, Ph.D. Professor at the University of Texas at San Antonio, USA </p> <p style="text-align: center;"> Keynote II: Intelligent Decision Computing Paradigms in Sustainable Computing Arun Kumar Sangaiah, Ph.D. Professor at VIT University, Vellore, India </p> <p style="text-align: center;"> Chair: Kyung-Soo Lim </p>		
14:00-14:10	10	Coffee Break		

14:10-15:30	80	Session A-3 Chair : TBA	Session B-3 Chair : TBA	Session C-3 HRH 2018 (Closed Workshop) Chair : Jun-Ho Huh
15:30-15:40	10	Coffee Break		
15:40-17:00	80	Session A-4 Chair : Sangkee Suk	Session B-4 VASSI 2018 (Closed Workshop) Chair : Hwankuk Kim	Session C-4 ISWP 2018 (Closed Workshop) Chair : Yunsick Sung
18:00-		Banquet (HALL B)		

Day 3, Feb. 22, 2018

Time	Min	HALL -A
10:00-12:00	120	Session A-5 IWIoE 2018 (Closed Workshop) Chair : Daewon Lee
13:00-15:00	120	Executive Meeting - Organized by World IT 2017 (Only for Invited Members)
16:00-17:30	90	Organizing Committee Meeting II (Only for Invited Members)

1. A paper presentation should be made by one of authors of the paper for 20 minute. (10 minutes for the presentation itself and 5 minutes for Q/A)
2. All speakers of each session should meet the session chair at their room 10 minutes before the session begins.
3. Windows 7 laptops running the Adobe Reader and Microsoft Office for paper presentations will be prepared. Please prepare for your presentation.

**DETAILED SCHEDULE FOR
THE 2018 WORLD CONGRESS ON
INFORMATION TECHNOLOGY, APPLICATIONS
AND SERVICES**

(WORLD IT CONGRESS 2018)

Day 1, Feb. 20, 2018 (Tuesday)

10:00-12:00 Session A-0 ANMT 2018 (Closed Workshop)
(HALL A)
(Chair: JoonMin Gil)

- 1. Application of Weighted Bayesian Algorithm in Spam Messages Detection**
Quanzhu Yao, Huimin Fan, Rong Fei, Jin Wang, Yuhui Zheng
- 2. End to End Performance Maximization through Data Transfer Node in a High-speed Network**
Jongseon Park, Jinhyung Park, Seunghae Kim, Minki Noh
- 3. How to detect and respond to the malicious website modified by a drive-by download attack**
Seung-Yup Jun, Young-Ho Shin, Eun-ju Hong
- 4. IT Security compliance issues in public sector and response plans**
Gwangil Ju, Jinhyung Park, Wanyoung Heo, HarkSoo Park
- 5. An Intelligent Residual Resource Monitoring Scheme in Cloud Computing Environments**
JongBeom Lim, Heonchang Yu, Joon-Min Gil
- 6. Accelerated Bulk Memory Operations on Heterogeneous Multi-Core Systems**
JongHyuk Lee, Weidong Shi, JoonMin Gil
- 7. Automatic Enhancement of Spatial Resolution to Local Area for Satellite Imagery Using Projection Transform**
Jea hee Kim, Wanyoung Heo, Jinhyung Park

13:00-15:00 Organizing Committee Meeting I

16:00-17:30 Local Arrangement Committee Meeting

Day 2, Feb. 21, 2018 (Wednesday)

08:40-09:00 Registration

09:00-10:30 Session A-1 World-IT 2018

(HALL A)

(Chair: TBA)

- 1. Development of Extended-STIL Pattern Compiler for Test Programming Environment**
Seong-Jin Kim, Kwang-Man Ko, Yung-Wey Chong, Su-Chong Joo
- 2. Recent Advances and Challenges of Energy Harvesting for Wearables**
Yung-Wey Chong, Khong-Lim Yap, Widad Ismail
- 3. MediTV: A Technology Platform for Elderly Person**
Kennedy Ho, Yung-Wey Chong
- 4. Recovery Techniques for Bigdata in Distributed File Systems**
Kim Jeong-Joon, Shin Dong-Jin
- 5. Visualizing Reusable Code patterns based on Object-Oriented Reusability Metrics**
Eun Young Byun, Young Chul R. Kim
- 6. An Estrus Detection Method based on Impulse and Fingerprint Indoor Location Information**
Jemin Song, Bong-Ki Son, Keun Ho Ryu
- 7. New Undetectable Malicious Attack via Operationg System Scheduler Freezing**
Soung-Ho Choi, Kyeong-Joo Jung, Ky-Hyun Jung
- 8. A novel Digital Auscultation Method using a Skin Image**
Sang Il Jo, Kwang Seok Hong
- 9. Timeliness Guarantee Method of Electronic Record Based on Digital Continuity**
Yongjun Ren, Yuyi Huo, Xiaohua Wang, Jin Wang

09:00-10: 30 Session B-1 World-IT 2018

(HALL B)

(Chair: TBA)

- 1. A Performance Model for CAN over Noisy Channels**
JinYeong Um, JongSuk Ahn
- 2. Design of mutual authentication protocol among NFC devices using NDEF digital signature**
Seung-Su Yang, Seung-Ho Han, Hyung-Joon Kim, Seok-Cheon Park
- 3. A Relay-Selection Technique Based on Near Future Location to Solve Broadcast Storm Problem in Vehicle Ad-hoc Networks**
Taehwan Choi, JongSuk Ahn, JinYeong Um
- 4. A Backoff Algorithm with a Traffic-Driven Contention Window Shrinking Algorithm for WLAN**
DongJun Jang, Hye-Rang Keum, Jong-Suk Ahn, Minhoong Rim, Jin Yeong Um
- 5. One Lightweight Security Authentication Protocol Based on Static ID Mechanism**
Ying Zheng, Longhai Jin, Yu Jiang, Hongtao Bai, Lili He
- 6. A Link Prediction Algorithm Based on Information Propagation in Uncertain Protein-protein Interaction Network**
Wei Liu, Liangyu Ma, Ling Chen, Jin Wang, Yili Wang, Byeungwoo Jeon

7. **IoT Service Solution: Real-time Radiometric Thermal Data Analysis Using Machine Learning Algorithms**
Aaron Nichie, Sukyung Kang, Younghyun Kim, Myung-hye Park, Hong-Geun Kim
8. **Design of Preference based Recommendation System through Eye-Tracking and Analysis of Social Behavior**
Hyejin Song, Nammee Moon
9. **Experimental Study on the Impact of Electrical shock in Vehicle Wireless Charging Environments**
Taejun Park, Kwang-il Hwang

09:00-10: 30 Session C-1 World-IT 2018
(HALL C)
(Chair: TBA)

1. **Module Design for Secure Communication between Telematics Systems and External Systems**
Kiyoung Jang, Byoungsoo Koh
2. **Differential Privacy Protection Based on Sensitivity Control**
Chunyong Yin, Yuhang Zhu, Jin Wang, Suk-min Kang, Jeong-Uk Kim
3. **SMS-based database security system for smart hospital**
Byung Wook Kwon, Jong Hyuk Park
4. **Openholo : Architecture Design of Open Source License Verification System for Copy Right Protection**
Tae-ho Lee, Byung-soo Goh
5. **A Cost Optimization Scheme based on AAG considering Cloud Security Environment**
Jun Young Park
6. **Implementation of automatic verification system for open source licenses supporting Git**
Tae-ho Lee, Byung-soo Goh
7. **A Study on Malicious Code Similarity Analysis using Function Call Sequence**
Kangsik Shin, Yoojae Won
8. **Personalized (α , l)-Anonymity Method Based on Granularity Division**
Chunyong Yin, Shilei Ding, Jin Wang
9. **Improved Deep Packet Inspection in Data Stream Detection**
Chunyong Yin, Hongyi Wang, Jin Wang, Suk-min Kang, Jeong-Uk Kim

10:30-10:40 Coffee break

10:40-12:00 Session A-2 World-IT 2018
(HALL A)
(Chair: TBA)

1. **Based on priority data with Adaptive IFS Channel Hopping in IoT Environment**
Gayoung Kim, Min-Su Seok, Jin-Yeong Um
2. **Design of Improved Data Quality Management System for Providing Reliable Data**
Min-Hyung Park, Hyung-Joon Kim, Seung-Ho Han, Seok-Cheon Park
3. **Code-based Preservation Mechanism of Electronic Recordin Electronic RecordCenter of Cloud Storage**
Yongjun Ren, Zixuan Shen, Yaping Cheng, Jin Wang
4. **Incentive Mechanism of Data Storage for Wireless Sensor Network**

Yongjun Ren, Sai Ji, Jin Wang, Suk-min Kang, Jeong-Uk Kim

5. **Design of Movie Information Service System Based on Augmented Reality**
Seung-Ho Han, Seung_Su Yang, Hyung-Joon Kim, Seok-Cheon Park
6. **A Method to Identify the High Significance Input Factors in Strawberry Growth and Production**
Vasanth Ragu, Myeongbae Lee, Salman Rahman, Jangwoo Park, Yongyun Cho, Changsun Shin
7. **An Application of linear regression and Correlation for the prediction of Strawberry Growth**
Saravana Kumar Venkatesan, Saraswathi Sivamani, Myeongbae Lee, Jangwoo Park, Changsun Shin, Yongyun Cho
8. **Multithreaded Execution Method on Non-Volatile Memory File System for Object Storage and Cloud/Data-center Storages**
Jung-Geun Kim, Sang-Jae Nam, Su-Kyung Yoon, Shin-Dug Kim

10:40-12:00 Session B-2 World-IT 2018

(HALL B)

(Chair: TBA)

1. **2-Hop Label Size Reduction for Directed Acyclic Graph**
Jinhyun Ahn, Dong-Hyuk Im
2. **Analyzing Big Data Issues in IIoT Environment Using Topic Modeling**
Ji Yeon Cho, Hye Sun Lee, Bong Gyou Lee
3. **A Signal CFAR Detection Algorithm Based on Generalized S Transform**
Jie Wang, Yun Lin, Xiaowan Yu
4. **Fuzzy Rule Mining by Clustering Approach to Estimate the Difficulty of Programming Problems**
Intisar Chowdhury, Yutaka Watanobe
5. **Motion Adaptive Recursive Denoising Filter for Low-dose X-ray Fluoroscopy**
Sang Wook Park, Hui Jin Joo, Sung Suk Oh, Jeongwoo Sohn
6. **Textile Fabric Defect Detection Via Sparse Subspace Clustering**
Peng Li, Junli Liang, Minghua Zhao, Xubang Shen, Jin Wang
7. **Personalized Diet Recommendation Algorithm Based on Probabilistic Matrix Factorization with Adaboost for Diabetes**
Hongtao Bai, Xuan Li, Jin Wang, Ming-hao Zhao, Lili He, Yu Jiang
8. **A Novel Feature Clustering and Weighting for Sentiment Estimation**
Yili Wang, Jin Wang, Heeyong Youn

10:40-12:00 Session C-2 World-IT 2018

(HALL C)

(Chair: TBA)

1. **A workqueue based interrupt handling mechanism for improving delay time of a real-time operating system**
Tae-eun Yoon, Jeaho Hwang
2. **Design and Implementation of Smart-Mirror supporting Apparel Image Collection Function and Costume Matching Recommendation Service**
Hyeon-woo An, Jae-hyeon Cho, Ki-hoon Kim, Nammee Moon
3. **Design and Implementation of Board Management Controller for High Performance Computing**

Cheol Shim, Min Choi

4. Cognitive Model for Sentimental Service Based on Multi-Modal Sensing

Svetlana Kim, Yong-Ik Yoon

5. Parallel Hybrid Algorithms for Tridiagonal Equations on a GPU

Xuan Li, Longhai Jin, Ximing Li, Yu Jiang, Hongtao Bai

6. Improved Superpixel based Graph Kernel Method for Hyperspectral Classification

Chenyang Ma, Yunjie Chen, Yili Wang, Le Sun

7. Plan Recognition Method based on Intuitionistic Fuzzy Theory and Event-Driven

Xiaofan Wang, Lei Wang, Yuhui Zheng, Jin Wang

8. Design of a De-identification Framework for Utilizing Various Clinical Research Data in a General Hospital

Jae Dong Lee, Jipmin Jung, Phillip Park, Ki Chung Ryu, Seunghyun Chung, Hyosoung Cha

12:00-13:10 Lunch break

13:10-14:00 Keynote Speech

(HALL A)

(Chair: Kyung-Soo Lim)

“Internet of Battlefield Things: Challenges and Research Opportunities”

Kim-Kwang Raymond Choo, Ph.D.

The University of Texas at San Antonio, USA

“Intelligent Decision Computing Paradigms in Sustainable Computing”

Dr. Arun Kumar Sangaiah

VIT University, Vellore, India

14:00-14:10 Coffee break

14:10-15:30 Session A-3 World-IT 2018

(HALL A)

(Chair: TBA)

1. Balancing Between Replication and Deduplication for Flash Storage Systems

Seung-Ho Lim

2. A Study on the Data Analysis of Environmental Sensors Using Machine Learning Algorithms

Kyong-Hee Lee, Hui Kim, Do-Hyun Kim

3. Super things reinforcement learning model for the management of small things

Hana Jo, Yong Ik Yoon

4. A Low Cost IoT-based Traceability System for Perishable Food Supply Chain

Ganjar Alfian, Muhammad Fazal Ijaz, Muhammad Syafrudin, Jaeho Lee, Jongtae Rhee

5. An Internet of Things System Architecture for Aiding Firefighters in the Scene of Disaster

Hyesun Lee, Sang Gi Hong, Myungham Bae, Kyo-Hoon Son, Mingi Jeong, Kang Bok Lee

6. A New Anomaly Detection Method of Spectrum Based on Deep Neural Networks

Qingsong Feng, YaBin Zhang, Zheng Dou, Yun Lin, Jin Wang

14:10-15:30 Session B-3 World-IT 2018

(HALL B)



(Chair: TBA)

1. **A Study of Nuclear cyber security regulation guideline inspection automation and information providing list derivation using ICT vulnerability check tool**
Jaejong Kim, Yangseo Choi, Jungchan Na
2. **Consensus Building Algorithm with BFT for Permissioned Blockchain**
Takumi Yamashita, Yuataka Watanobe
3. **Blockchain-based Multiple AAA System in Edge Computing for IoT Networks**
Nam Yong Kim, Jong Hyuk Park
4. **Detection scheme of man in the middle attack on smart devices**
Seung-Hak Kim, Sang-Hoon Yoon, Ki-Hyun Jung
5. **Design of Blockchain-Based Decentralized Integrity Preservation In Digital Investigation**
Jung Hyun Ryu, Jong Hyuk Park
6. **A Secure and Efficient KSI System based on Threshold-Signature for Electronic Document Protection**
GyeongJin Ra, ImYeong Lee

14:10-15:30 Session C-3 HRH 2018 (Closed Workshop)

(HALL C)

(Chair: Jun-Ho Huh)

1. **Case Studies on the Measures on Efficient Processes in Overseas Procurement of Military Supplies: With a focus on Daewoo Shipbuilding & Marine Engineering Co., Ltd**
Jun-Ho Huh
2. **Policing for Open Innovation of Defense Science and Technology : Focusing on the Projects led by Government Funded Research Institute**
Jun-Ho Huh
3. **A Study on the effects of Code Review on Software Quality based on an environmental Case Study of Google and Samsung Electronics' code review**
Jun-Ho Huh
4. **Efficient LMS System Development and Its Test Bed for e-Learning and Mobile Based Learning**
Sooyoung Jung, Jun-Ho Huh
5. **Design System and Method of Server Based Firefighting Sprinkler Equipment**
Sooyoung Jung, Jun-Ho Huh
6. **A Study on the Device that Controls Power Dispersion of Distribution Line and Its Method**
Sooyoung Jung, Jun-Ho Huh
7. **A Study on the Remote Monitoring of Distribution Line for Micro Grid**
Sooyoung Jung, Jun-Ho Huh
8. **The Social Coding of Software Development: Focused on the Case Examples of Git-Hub and Stackoverflow**
Wonseop Lee, Jun-Ho Huh
9. **Journalism Based Summary Algorithm in Python**
Wonseop Lee, Jun-Ho Huh
10. **OSS Core Component: A Case of Korean IT Company Open Source Group**
Wonseop Lee, Jun-Ho Huh
11. **A Study on Export Control Policies of Strategic Materials in Korea**
YK Jung, Jun-Ho Huh

15:30-15:40 Coffee break

15:40-17:00 Session A-4 World-IT 2018

(HALL A)

(Chair: Sangkee Suk)

1. **An Applied practice on Process Asset Library (PAL) for Small & Medium Sized Software Companies**
So Young Moon, Bo Kyung Park, Woo Sung Jang, R. Young Chul Kim
2. **A Systematic Method to Design Automation for Enterprise System based on .NET with MDA**
Deuk Kyu Kum
3. **Signal Outages in CSMA/CA Wireless Networks with Different PPP Densities**
Soo Hyun Cho
4. **An approach to enhance data transfer performance utilizing a DTN in cloud environment**
Wontaek Hong, Jeonghoon Moon, Woojin Seok, Jinwook Chung
5. **Time Synchronization Method for LPWA Using Simple Sync Procedure in IoT Wireless Network**
Sunghwan Kang, Minseok Seo, Joonyoung Eom, Bong-Hwan Lee
6. **Personalized Journalism Platform Model based on Distributed System**
Byeo-Wool Kim, Young-Ik Yoon

15:40-17:00 Session B-4 VASSI 2018 (Closed Workshop)

(HALL B)

(Chair: Hwankuk Kim)

1. **Study on Binary Auto-Analysis Tools for Finding Vulnerability**
Soojin Yoon, Geonbae Na, Taeun Kim, Hwankuk Kim
2. **A study on vulnerable function based binary patch model for memory corruption vulnerability**
Geonbae Na, Sanghwan Oh, Taeun Kim, Jungho Kang, Hwankuk Kim
3. **Design of Binary Complexity Based on Hybrid Fuzzing**
JeeSoo Jurn, TaeEun Kim, HwanKuk Kim
4. **A study on improvement of existing vulnerability assessment system for IoT environment**
Daeil Jang, ChangHun Yu, HwanKuk Kim
5. **Keyword Generation for Vulnerability Information Using Multiple Topic models**
Sarang Na, Taeun Kim, Hwankuk Kim
6. **A study on the scanning engine for discovering vulnerable Internet-connected devices**
Hwankuk Kim, Taeun Kim, Daeil Jang

15:40-17:00 Session C-4 ISWP 2018 (Closed Workshop)

(HALL C)

(Chair: Yunsick Sung)

1. **Cognitive Decision Engine Based on Binary Particles Swarm Optimization with Non-linear Decreasing Inertia Weight**
Chengzhuo shi, Zheng Dou, Yun Lin
2. **Real-time 3D Reconstruction for Objects using Sparse Point Clouds**
Seoungjae Cho, Kyungeun Cho

3. **Collected Data Analysis-based RSSI Revision Method for UAVs**
Woonam Kim, Yunsick Sung
4. **Method for Object Removal from Ground Mesh and Billboard for Multi-sensor Fusion System**
Mingyun Wen, Seoungjae Cho, Kyungeun Cho
5. **A Ground Smoothing Method based on Median Filter in 3D Environment Reconstruction System**
Mingyun Wen, Seoungjae Cho, Kyungeun Cho
6. **Efficient Hierarchical Scheme for Sensor Data Management on Internet of Things with Cloud Computing**
Seungchul Kim, Hyun-Woo Kim, Gangman Yi, Young-Sik Jeong

18:00- Banquet [HALL-B]

Day 3, Feb. 22, 2018 (Thursday)

10:00-12:00 **Session A-5 IWIoE 2018 (Closed Workshop)**
(HALL A)
(Chair: Daewon Lee)

1. **Parallel Hough Transform Method Based on GPU**
Qianlong Yang, Lili He, Longhai Jin, Ting Li, Hongtao Bai
2. **Job Submit Manager for Modeling and Simulation in Integrated Computing Environment**
Daeyong Jung, Myungil Kim, Jungha Lee, Daewon Lee
3. **Context-Aware Multimodal Authentication for FIDO Authenticator**
Seung-Hyun Kim, Jong-Hyuk Roh, Seok-Hyun Kim, Soo-Hyung Kim, Kyung-Soo Lim
4. **Cooperative Situation Awareness for User Authentication Using Smart Wearable**
Seung-Hyun Kim, Soo-Hyung Kim, Kyung-Soo Lim
5. **An Implicit Privacy Risk Assessment Based on Accumulated Exposure of Private Information for Unmodified Android**
Seung-Hyun Kim, Soo-Hyung Kim, Kyung-Soo Lim
6. **A Survey on Mobile Edge Cloud Computing**
Thanongsak Xayasouk, DaeWon Lee, HwaMin Lee
7. **Data deduplication system in cloud storage environment**
Won-Bin Kim, Im-Yeong Lee
8. **A Functional Consideration for Intelligent Video Surveillance using Cloud Computing**
Kyung-Soo Lim, Jong Wook Han, Geon-Woo Kim

13:00-15:00 Executive Meeting - Organized by World IT 2018

16:00-17:30 Organizing Committee Meeting II

Conference Venue



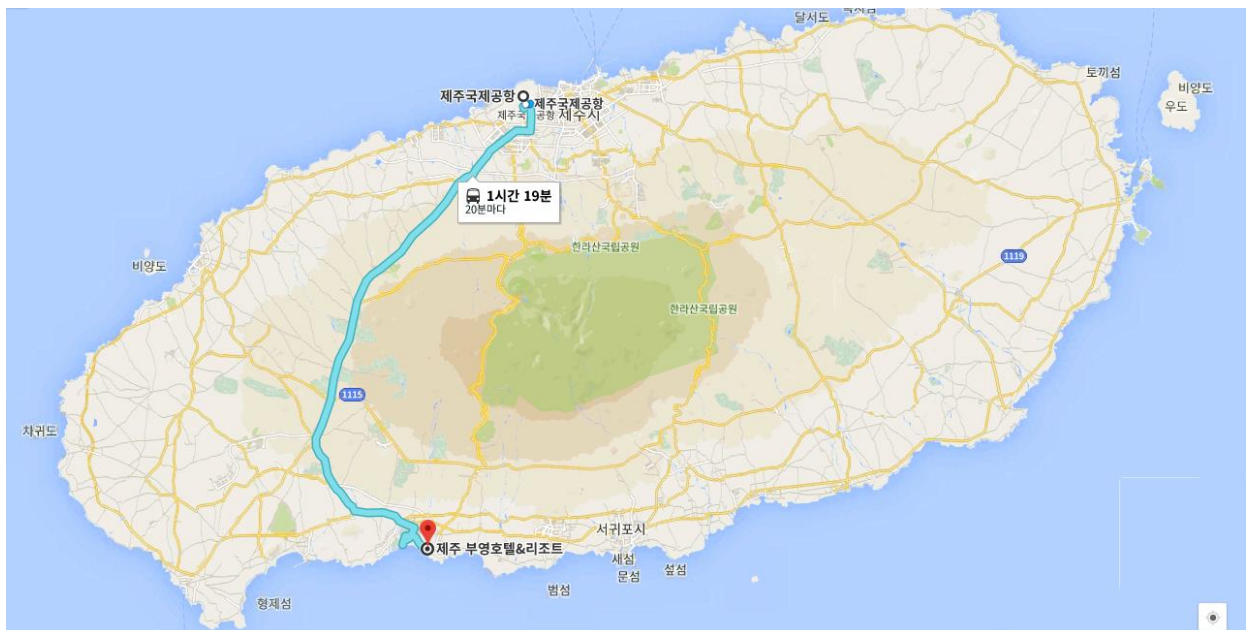
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MUE 2018 & FutureTech 2018

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- Introduction **MUE2018:** The new multimedia solutions and ubiquitous computing environments facilitate the seamless integration of diverse kinds of intelligent devices based on multiple modalities into interoperable multimedia frameworks. These key technologies of multimedia solutions and ubiquitous computing environments interact and collaborate with each other in increasingly effective ways across a wide spectrum of consumer, business, healthcare, education, and governmental domains.
FutureTech2018: Future technology information technology would stand for all of continuously evolving and converging information technologies, including digital convergence, multimedia convergence, intelligent applications, embedded systems, mobile and wireless communications, bio-inspired computing, grid and cloud computing, semantic web, user experience and HCI, security and trust computing and so on, for satisfying our ever-changing needs.
In the future world, IT will play a very important role in convergence of computing, communication, and all other computational sciences and application and IT also will influence the future world's various areas, including science, engineering, industry, business, law, politics, culture, medicine, and so on. Our conference is intended to foster the dissemination of state-of-the-art research in all future IT areas, including their models, services, and novel applications associated with their utilization.
- Paper Submission Schedule Submission Due: **Feb. 14, 2018**
Author Notification: Feb. 23, 2018
Registration Due: March 2, 2018
Camera Ready Due: March 9, 2018
- Publication & Special Issue All accepted papers will be published by LNEE (**indexed by SCOPUS / EI**) as Pre/Post Proceeding. After closing conference, the accepted and presented papers will be recommended to Special Issues of the Intl' Journals indexed by **SCI/SCIE/SCOPUS**.



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