



ICONI



KOREAN SOCIETY FOR INTERNET INFORMATION

The 9th International Conference on Internet (ICONI 2017)

Dec. 17-20, 2017, Landmark Mekong Riverside Hotel, Vientiane, Laos
<http://www.iconi.org>

Symposium Program

| Organized by |

Korean Society for Internet Information (KSII)

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Message from Honorary Chair

We express our warm welcome to all of attendants of the 9th International Conference on Internet (ICONI) that will be held from December 17~20, 2017, in the Landmark Mekong Riverside Hotel, Vientiane, Laos

Over the past 9 years, ICONI has increased its academic impact and influence in the area of Information Science, Computer Engineering and Internet Technology by bringing together international researchers from academia, industry, and government to exchange novel ideas, explore enabling technologies, discuss innovative designs, and share field trial experiences and lessons learned.

This year, ICONI 2017 again covers broad range of topics which are related with Internet technologies and applications such as smart phone applications and services, mobile computing, Internet of Things, Big Data, and wireless communications. It is firmly believed that each paper to be presented will be a basis for further constructive discussion.

We would like to express our heartfelt gratitude to every one who makes this conference successful. First of all, we are so grateful to all contributors who submit their valuable papers, review the papers, and chair the sessions. We also thank many sponsors for their enormous support. Our special thanks must go to the Keynote Speaker, Mr. Keonakhone Saysuliane from Director General, Dept. of Information Technology Laos People's Democratic Republic.

Last, but not least, we deeply appreciate limitless devotion of Organizing Committee members. Without their contribution, this conference would not be realized.

We truly welcome you all to this beautiful country and wish you pleasant and joyous stay in Laos!



Dr. Seung Ryul Jeong
Kookmin University,
Rep. of Korea

Dr. Seung Ryul Jeong
Honorary Chair of ICONI 2017

Message from Conference Chairs

On behalf of the organizing committee of ICONI 2017 and on our own behalf, we welcome you to the 9th International Conference on Internet (ICONI) and to Vientiane, Laos. We would like to extend a special welcome to new participants also as it is their first time attending this remarkable international conference. It is our sincere hope that we shall be seeing more of you in future ICONI meetings.

As many of you have witnessed, ICONI has continued its growth since its inception. The amount of interest towards the Internet is never decreasing among both the international academic and practitioners' communities. This year, our conference has attracted more than 152 papers in the 16 Internet-related areas including Mobile Internet Computing, Internet Security, Internet of Things (IoT), and Management of Internet Applications. Topics covered in ICONI 2017 truly represent the comprehensiveness of this conference. We are sure that ICONI 2017 will provide you with a wealth of information and many opportunities for future discussion.

We owe a great amount of gratitude to the organizing committee members and all contributors for the extraordinary work they have done in organizing this conference.

We wish you all a very pleasant time here in Laos and a productive and successful conference.



Dr. Jaehyoun Kim
Sungkyunkwan University,
Rep. of Korea



Dr. Somphone Kanthavong
National Univ. of Laos,
Laos People's Democratic
Republic

Dr. Jaehyoun Kim Dr. Somphone Kanthavong
Conference Chair & Co-Chairs of ICONI 2017

Message from Program Chairs

It is a pleasure to welcome you to the 9th International Conference on Internet, 2017 (ICONI 2017) to be held in the Landmark Mekong Riverside Hotel, Vientiane, Laos.

Over the past 9 years, ICONI has grown to be the major international conference in Internet Technology area. The conference is organized as a set of 16 tracks in the Internet Technology area. ICONI continues the endeavor of high-quality, broad international participation in all areas of Internet Technology.



Dr. Junchul Chun
Kyonggi University
Rep. of Korea

The successful organization of ICONI has required the talents, dedication and time of many volunteers from China, USA, Malaysia, Norway, Japan, Laos, Turkey, Bulgaria and Rep. of Korea. Special gratitude and appreciation go to all of organizing committee members as they are primarily responsible for the conference.



Dr. Imran Ghani
Monash University
Malaysia



Dr. Sangmin Lee
CHA University
Rep. of Korea

Dr. Junchul Chun Dr. Imran Ghani Dr. Sangmin Lee
Program Chairs of ICONI 2017

Keynote Speaker

Keynote Speaker KEONAKHONE SAYSULIANE

**Director General, Dept of Information Technology,
Ministry of Science Technology
Laos People's Democratic Republic**



Title: DC Development in Lao PDR

Abstract:

Data Center Development in Lao PDR will be presented by Keonakhone S. Lao PDR (Lao People's Democratic and Republic) has started informatization efforts since early 90's, the evolution of computerization strategy went through the different phases. It's started from 1995 we carried out the number of programmes to promote the establishment of telecommunication infrastructure, where the national fiber optic backbone is connected almost 17 provinces from the north to south of the country and In term of application development and Services we need to establish the suitable Data Center in the country , however the development Data Center Development in our country is rather new area, we doesn't' not have lesson learnt to be able to identify the specific requirement for the Government Administration Information System, but there are 8 areas that would be aware to effective and improve the efficiency of our Data Center. such as Utilization of Servers, Proper Energy Utilization, Reduction in Consumption of Energy, Reduction in Emission of Green House Gases, Reduction in Global Warming Effects, Simplified Management, Data Protection and Security and Data Integration.

Congratulatory Remarks



Yongseok Lee, Ph.D.

**President
ICT Polytech Institute, Rep. of Korea**

- Director-General of Ministry of Science, ICT and Future Planning

Organizing Committee

| Honorary Chair |

Seung Ryul Jeong, Kookmin University, Rep. of Korea

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Jaehyoun Kim, Sungkyunkwan University, Rep. of Korea

| General Co-Chair |

Somphone Kanthavong, National University of Laos, Laos People's Democratic Republic

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Mingoo Kang, Hanshin University, Rep. of Korea

Organizing Committee

| International Program Committee |

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Seng-Phil Hong, Sungshin Women's University, Rep. of Korea

Sung Y. Shin, South Dakota State University, U.S.A **Ahyoung Lee**, Univ. of South Dakota, USA

Vimontha Khieovongphachanh, National University of Laos, Laos People's Democratic Republic

Wangcheol Song, Jeju National University , Rep. of Korea

Yoosin Kim, Univ. of Seoul, Rep. of Korea

Xaythavy Louangvilay, National University of Laos, Laos People's Democratic Republic

Conference Program

Dec. 17, 2017		
15:00-18:00	Greeting & VIP Reception	
Dec. 18, 2017	Ruby Room	Diamond Room
08:00-	Registration	
08:20-10:10	Session 1	Session 2
10:20-11:00	Opening Ceremony / Keynote Speech (Diamond Room)	
11:00-13:00	Session 3	Session 4
13:00-14:00	Lunch	
14:00-16:00	Session 5	Session 6
16:10-18:10	Session 7	Session 8
18:40-20:30	Award Ceremony & Banquet	

Conference Program

Dec. 19, 2017	Ruby Room 1	Ruby Room 2
08:30-	Registration	
09:20-10:30	Session 9	Session 10
10:50-13:00	Session 11	Session 12
13:00-14:00	Lunch	
14:00-16:00	Panel Discussion: Collaborative Research	
Dec. 20, 2017	Ruby Room	
10:00-12:00	Panel Session	
12:00-14:00	Lunch	
14:00-15:00	Discussion Session	

Conference Program

Sun, Dec. 17, 2017

15:00-18:00	Greetings & VIP Reception
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Mon, Dec. 18, 2017

08:20-10:10	Session 1 Smart Phone Applications and Service / Mobile Internet Computing & Future Information Security Session 2 Smart Learning / e-Learning / Learning Contents Management Systems & Management of Internet Application/E-Business/E-Commerce
10:20-11:00	Opening Ceremony Keynote Speech / Mr. Keonakhone Saysuliane
11:00-13:00	Session 3 Interdisciplinary Research for the 4th Industrial Revolution Session 4 Interactive Presentation Session
13:00-14:00	Lunch
14:00-16:00	Session 5 Multimedia / Image Processing / HCI /Intelligent Systems Session 6 Wireless and Sensor Network / Security & Privacy in Internet & Software Engineering & Architecture / Cloud Computing

Conference Program

16:10-18:10	<p>Session 7 Database / Data Mining / Big Data / Mobile Object Database</p> <p>IoT (Internet of Things) / Machine to Machine & Database / Data Mining / Big Data / Mobile Object Database & SNS & Communications / Digital media use & effect & Interdisciplinary Research for the 4th Industrial Revolution</p>
18:40-20:30	<p>Award Ceremony & Banquet</p> <p>Keynote Speech "Dr. Younghwa Cho"</p>

Tue, Dec. 19, 2017

09:00-10:30	<p>Session 9: Smart Phone Applications and Service / Mobile Internet Computing & Future Information Security & Future Information Security & Database / Data Mining / Big Data / Mobile Object Database</p> <p>Session 10 Interactive Presentation Session & KETI WS session</p>
14:00-15:30	<p>Session 11 Systems & Smart Learning / e-Learning / Learning Contents Management Systems & Interdisciplinary Research for the 4th Industrial Revolution</p> <p>Session 12 Interactive Presentation Session</p>

Conference Program

Tue, Dec. 19, 2017

13:00-14:00

Lunch

14:00-16:00

Panel Discussion: Collaboration Between

Wed, Dec. 20, 2017

10:00-12:00

Panel Session

12:00-14:00

Lunch

14:00-15:00

Discussion Session

Conference Program

| 08:20-10:10, Mon, Dec.18, 2017 |

Session 1: Smart Phone Applications and Service / Mobile Internet Computing & Future Information Security

Chair: Dr. Roy Morien

(Naresuan Univ., Thailand)

08:20-10:10, Mon, Dec. 18, 2017

1-1	Extended MAEC Scheme for Information Sharing in Mobile Malware Analysis
	Jaehyeon Yoon, Seongeun Kang, Souhwan Jung (Soongsil Univ., ROK)
1-2	Design and Implementation of Native Code Hooking System for Android Malware Dynamic Analysis
	Taehoon Kim, Souhwan Jung (Soongsil Univ., ROK)
1-3	A Rule-based File Management Tool
	Minjae Park, Junhyung Park (Daelim Univ., ROK), Hyun Ahn, Kwanghoon Pio Kim (Kyonggi Univ., ROK)
1-4	What is Next September 11? Risk Measurement of Hybrid Warfare about Boeing 787 Dreamliner using FAIR Model
	Mookyu Park, Jaehyeok Han (Korea Univ., ROK), Moosung Park (Agency for Defense Development, ROK), Kyungho Lee (Korea Univ., ROK)
1-5	Analysis model for Digital Forensic Intelligence in case of the Confidential Leaks
	Jaehyeok Han, Mookyu Park (Korea Univ., ROK), Moosung Park (Agency for Defense Development, ROK), Kyungho Lee, Sangjin Lee (Korea Univ., ROK)
1-6	Detecting Strong Features from Face for Generating Fixed-Length Representation
	Jinho Han (Korean Bible Univ., ROK)
1-7	Designing ID Deception-Preventing Mechanism
	Cheul Rhee (Ajou Univ., ROK)

Conference Program

| 08:20-10:10, Mon, Dec.18, 2017 |

Session 2: Smart Learning / e-Learning / Learning Contents Management Systems & Management of Internet Application/E-Business/E-Commerce

Chair: Dr. Khanthanou Luangxaysana
(National Univ. of Laos, Laos PDR)

08:20-10:10, Mon, Dec. 18, 2017

2-1	Understanding the Fundamentals for Creating an Engaging Lecture for the Online Video on-Demand Platform
	Jemin Justin Lee, Seong Bin Jeong (Yonsei Univ., ROK), Kyu Tae Kwak (Soonchunhyang Univ., ROK)
2-2	An Analysis Study on Correlation between Emotional Intelligence and Programming Ability
	Yesun Bae (Seoul Buksung Elementary School, ROK), Woochun Jun (Seoul National Univ. of Education, ROK)
2-3	A Study on Development and Application of a Programming Teaching Model Using Emotional Intelligence
	Yesun Bae (Seoul Buksung Elementary School, ROK), Woochun Jun (Seoul National Univ. of Education, ROK)
2-4	A study on secure overseas remittance model based on Blockchain
	Heejung Kang, Hyeri Kim, Seng-phil Hong (Sungshin Univ., ROK)
2-5	A study on the relationship between customers' online shopping behavior and personal information disclosure
	Yin Wang, Jongchang Ahn (Hanyang Univ., ROK), Keum Bi Kim, Jun Hwang (Seoul Women's Univ., ROK)
2-6	Factors affecting Chinese customers' choices between B2C or C2C model in the electronic commerce
	Beiqi Gu, Jongchang Ahn, Youngho Kwon (Hanyang Univ., ROK)
2-7	Recommendations using Cognitive Map considering both Sellers and Buyers
	Hyun Jung Lee (Goyang Research Institute, ROK), Yong Sik Chang (Hanshin Univ., ROK)

Conference Program

| 11:00-13:00, Mon, Dec.18, 2017 |

Session 3: Interdisciplinary Research for the 4th Industrial Revolution

Chair: Dr. Xaythavy Louangvilay

11:00-13:00, Mon, Dec. 18, 2017

(National Univ. of Laos, Laos PDR)

3-1	Mobile Edge Computing System Architecture for Connected Car Media Services on Highway
	Sangyub Lee, Jaekyu Lee, Inhye Park (KETI, ROK), Hyeonjoong Cho (Korea Univ., ROK)
3-2	Extending the understanding of MOOCs continuance
	DongHyuk Jo, Jong Woo Park (Soongsil Univ., ROK)
3-3	Understanding the Omni-Channel acceptancel
	DongHyuk Jo, Jong Woo Park (Soongsil Univ., ROK)
3-4	An Investigation and Analysis Method for Suspicious Zero-day Malicious Emails
	Sanouphab Phomkeona, Koji Okamura (Kyushu Univ., Japan), Yushitatsu Ban (Human Techno System Inc, Japan)
3-5	Interpretive Structural Modeling in Adoption of IoT Services
	Yonghee Kim, Youngju Park, Yijoong Kim, Gwangduk Song (Soongsil Univ., ROK)
3-6	How to Increase Virtual team's Cohesiveness and Identity: Specific Leadership, Participative Goal Setting and Team-Member Exchange
	Sangwoo Hahm (Soongsil Univ., ROK)
3-7	Negative Effects of Mobile Communication during Non-worktime: Moderating Effects of Personality and Leader-Member Exchange
	SangWoo Hahm, HyeJin Kwon (Soongsil Univ., ROK)
3-8	A Study on Personal Credit Evaluation System through Voice Analysis: By Machine Learning Method
	Hyung Woo Park (Soongsil Univ., ROK)
3-9	Effects of the Manufacturer's Market Orientation on Innovative activity and Business Performance
	Gwangduk Song, Yonghee KIM (Soongsil Univ., ROK)

Conference Program

| 11:00-13:00, Mon, Dec.18, 2017 |

Session 4: Interactive Presentation Session

11:00-13:00, Mon, Dec. 18, 201

Chair: Dr. Kwanghoon Pio Kim
(Kyonggi Univ., Rep. of Korea)

4-1	Role of social capital in R&D projects DongHyuk Jo, Jong Woo Park (Soongsil Univ., ROK)
4-2	Determinants of Technology Transfer Performance DongHyuk Jo, Jong Woo Park (Soongsil Univ., ROK)
4-3	A Defect Detection Method of LED panel based on Image Analysis Seohee Park, Myung geun JI, Junchul Chun, Byoung-Dai Lee (Kyonggi Univ., ROK)
4-4	The Public Perception of the Fourth Industrial Revolution Jeong-Ho Kwak (Hoseo Univ., ROK), Jemin Justin Lee, Bong Gyoo Lee (Yonsei Univ. ROK)
4-5	Finding Optimal Power Splitting Ratio for Cooperative SWIPT NOMA Systems Tri Nhu Do, Beongku An (Hongik Univ., ROK)
4-6	A Study on the Digitalization of Worksheets in Forging Process Hyunsuk Hwang, YoungWon Seo, Taegun Jeon, Tae-Yeon Kim (New Communication Infotech Co., Ltd., ROK), Changsoo Kim (PuKyong National Univ., ROK)
4-7	A New Feature Extraction Method for Insider Threat Detection Based on HMM Model Xiaoyun Ye, Myung-Mook Han (Gachon Univ., ROK)
4-8	A study on the implementation meter data management and monitoring system based in Cloud Computing Environment Chang Gyoong Lim (Chonnam National Univ., ROK)

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Conference Program

| 11:00-13:00, Mon, Dec.18, 2017 |

Session 4: Interactive Presentation Session

Chair: Dr. Kwanghoon Pio Kim

(Kyonggi Univ., Rep. of Korea)

11:00-13:00, Mon, Dec. 18, 2017

4-9	Development of Smart Outlet with Power Line Communication for Remote Power Monitoring and Device Control
	Chang Gyoong Lim (Chonnam National Univ., ROK)
4-10	Embedded Face Identification System for a Smart Home
	Jang-Hee Yoo, Youngjae Lim, Ho-Sub Yoon, Jae Hong Kim (ETRI, ROK)
4-11	An Overview of Automated Vulnerability Detection Techniques
	JeeSoo Jurn, Taeeun Kim, Hwankuk Kim (KISA, ROK)
4-12	Vehicle Classification using a Thermal Camera
	Chungman Kim, Chanki Moon, Yunyoung Nam (Soonchunhyang Univ., ROK)
4-13	Development of Application System based on Mobile Smart Device
	Youngae Kim, Jihee Yang, Gooman Park (Seoul National Univ. of Science and Technology, ROK)
4-14	Everycoding : Intelligent Programming Tutoring System
	Dongeun Sun, Hyeoncheol Kim (Korea Univ., ROK)
4-15	Estimation of Camera Pose and Position for Free-Viewpoint Video
	Jihee Yang, Youngae Kim, Soyeon Jeon, Heekyoung Lim, Gooman Park (Seoul National Univ. of Science and Technology, ROK)
4-16	A Study about Town Bus Presidents' Information Sharing
	SangWoo Hahm, SungHan Kim (Soongsil Univ., ROK)

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Conference Program

| 11:00-13:00, Mon, Dec.18, 2017 |

Session 4: Interactive Presentation Session

11:00-13:00, Mon, Dec. 18, 2017

Chair: Dr. Kwanghoon Pio Kim
(Kyonggi Univ., Rep. of Korea)

4-17	Influence of Leader Humility on Members' Trust in Leader
	SangWoo Hahm, GunDong Choi (Soongsil Univ., ROK)
4-18	A Study on the Reduction of Interior Noise in Vehicle using Bone Conduction Device
	Hyungbae Park, Hyung Woo Park (Soongsil Univ., ROK)
4-19	A Study on the Shape of Sound Absorbing Material for Traffic Noise Reduction
	Hyungbae Park (Mathematics, Univ. of Missouri-Kansas, USA), Hyung Woo Park (Soongsil Univ., ROK)
4-20	A Study on the Method of Enhancing Bank Security in the 4th Industrial Revolution
	Edward M. Lee (Bank of America, USA), Oakyoung Han (Sungkyunkwan Univ., ROK)
4-21	An Activity Recognition System Using Wearable Sensors
	Md. Zia Uddin (Univ. of Oslo, Norway), Jaehyoun Kim (Sungkyunkwan Univ., ROK)

Conference Program

| 14:00-16:00, Mon, Dec.18, 2017 |

Session 5: Multimedia/Image Processing/HCI/Intelligent Systems

Chair: Dr. Somphone Kanthavong

14:00-16:00, Mon, Dec. 18, 2017

(National Univ. of Laos, Laos PDR)

5-1	Parallel Collision Detection Algorithm with GLSL 4.3
	Nak-Jun Sung, Min Hong, Min Sang Kim (Soonchunhyang Univ., ROK), Yoo-Joo Choi (Seoul Media Institute of Technology, ROK)
5-2	Coherent Behavior Level-of-detail in Mass-spring Simulations
	Shane Transue, Yi Li (Univ. of Colorado at Denver, USA), Nak-Jun Sung (Soonchunhyang Univ., ROK), Yoo-Joo Choi (Seoul Media Institute of Technology, ROK), Min Hong (Soonchunhyang Univ., ROK), Min-Hyung Choi (Univ. of Colorado at Denver, USA)
5-3	Lane Marker Detection by Pixel Intensity and Edge Extraction
	Jihye Lee, Chan Mi Lee, Kang Yi (Handong Global Univ., ROK)
5-4	Laos' Vehicle License Plate Recognition System
	Khampheth Bouonnady, Xaythavy Louangvulay, Khomdeth Chitpasonn (National Univ. of Laos, Lao PDR)
5-5	Buildings Value Prediction based Fully Connected Network
	Woosik Lee, Namgi Kim (Kyonggi Univ., ROK), Yoon-Ho Choi (Pusan National Univ., ROK), Byoung-Dai Lee (Kyonggi Univ., ROK)
5-6	Comparison in Performance of Parallel Deformable Object Simulation between OpenGL and Unity
	Min-Hyung Choi (Univ. of Colorado at Denver, USA), Min Sang Kim, Nak-Jun Sung (Soonchunhyang Univ., ROK), Yoo-Joo Choi (Seoul Media Institute of Technology, ROK), Min Hong (Soonchunhyang Univ., ROK)
5-7	Design of Requirements and Encapsulation Method for Real-Time Free-Viewpoint Video Streaming Service
	Minjae Seo, Song Yeon Lee, Jong Ho Paik (Seoul Women's Univ., ROK)
5-8	Discovering a Work Transference Network from a Workflow Model of Library Book Acquisition Procedures
	Minhyuck Jin (Kyonggi Univ., ROK), Kyoungsook Kim (Kyunghee Univ., ROK), Kwanghoon Pio Kim (Kyonggi Univ., ROK)

Conference Program

| 14:00-16:00, Mon, Dec.18, 2017 |

Session 6: Wireless and Sensor Network / Security & Privacy in Internet & Software Engineering & Architecture / Cloud Computing

Chair: Dr. Vimontha Khieovongphachanh

14:00-16:00, Mon, Dec. 18, 2017

(National Univ. of Laos, Laos PDR)

6-1	A Study on Detection Method of Malicious Code Based on Artificial Intelligence Machine Learning
	Kihwan Kim (ETRI, ROK), Dongil Lee (Codeone Corp, ROK), Yongtae Shin (Soongsil Univ., ROK)
6-2	Criteria of free photography of personal drones for a privacy
	Youngin You, Dahee Choi, Kyungho Lee (Korea Univ., ROK), Sohyeon Park (Lotte Card, ROK)
6-3	What is No.1 attacked by Ransomware? : Grade of Ransomware Target through FAIR Model
	Minhee Joo, Mookyu Park (Korea Univ., ROK), Moosung Park (Agency for Defense Development, ROK), Kyungho Lee (Korea Univ., ROK)
6-4	Intrusion Detection in High-Speed Big Data Networks: A Comprehensive Approach
	Kamran Siddique (Dongguk Univ., ROK), Zahid Akhtar (Univ. of Quebec, Canada), Yong-Hwan Jung (KISTI, ROK), Yangwoo Kim (Dongguk Univ., ROK)
6-5	Learning Binary Code with Deep Learning to Detect Software Weakness
	Yong Jun Lee, Sang-Hoon Choi (Sejong Univ., ROK), Chulwoo Kim (Pace Univ., USA), Seung-Ho Lim (Hankuk Univ. of Foreign Studies, ROK), Ki-Woong Park (Sejong Univ., ROK)
6-6	Symbol-based Advanced Static Malware Analysis Model
	EunJi Lee, DeukHun Kim (Ajou Univ., ROK), Taejin Lee (Hoseo Univ., ROK), JIN KWAK (Ajou Univ., ROK)
6-7	Secure Authentication Framework for Inter-cloud Service
	Won-il Bae, Seul-Ki Choi, Jin KwaK (Ajou Univ., ROK)
6-8	Consideration Analysis of Cache-Based Timing Attack in Multiprocessor-Based Cloud Environment
	InKyu Park, Jin Kwak (Ajou Univ., ROK)

Conference Program

| 16:10-18:10, Mon, Dec.18, 2017 |

Session 7: Database / Data Mining / Big Data / Mobile Object Database

Chair: Dr. Lathsamy CHIDTAVONG

16:10-18:10, Mon, Dec. 18, 2017

(National Univ. of Laos, Laos PDR)

	A Study on an Urban Safety Index Model Using Public Big Data and SNS Data
7-1	YoungWon Seo, Hyunsuk Hwang (New Communication Infotech Co., Ltd., ROK), Splash Jayant Sontakke, Shao Xiaorui (PuKyong National Univ., ROK), Taegun Jeon, Tae-Yeon Kim (New Communication Infotech Co., Ltd., ROK), Changsoo Kim (PuKyong National Univ., ROK)
7-2	A Solar Energy Predictor with Nonlinear Support Vector Regression
7-2	Yongsoo Park, Wonseok Jung (Namseoul Univ., ROK), Moon-Ghu Park (Sejong Univ., ROK), Chang-Kyo Lee (GERI, ROK), Young-Hwa Jeong, Jeongwook Seo (Namseoul Univ., ROK)
7-3	Health status prediction model using biological signal and data mining
7-3	Manyoung Park (Korea Institute of Oriental Medicine, ROK)
7-4	Mechanism Design for ConceptNet Localization
7-4	SoYeop Yoo (Gachon Univ., ROK), JungHoon Jang (WISEnut, ROK), OkRan Jeong (Gachon Univ., ROK)
7-5	A Social Web Crawler using ConceptNet
7-5	Dae-Ho Kim (Gachon Univ., ROK), Jung-Hoon Jang (WISEnut, ROK), Ok-Ran Jeong (Gachon Univ., ROK)
7-6	Semantic Extraction Model based on Knowledge Graph
7-6	Je-In Song (Gachon Univ., ROK), Jung-Hoon Jang (WISEnut, ROK), Ok-Ran Jeong (Gachon Univ., ROK)
7-7	Personalized Book Recommender System Using Cosine Similarity Measure and Clique-based Clustering
7-7	Phonexay Vilakone, JinSoo Park (Soonchunhyang Univ., ROK), Fei Hao (Shaanxi Normal Univ., China), Doo-Soon Park (Soonchunhyang Univ., ROK), Tha Bounthanh (National Univ. of Laos, Lao PDR), Jang Koon Shin (Korea Military Academy Emeritus, ROK)

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Conference Program

| 16:10-18:10, Mon, Dec.18, 2017 |

Session 7: Database / Data Mining / Big Data / Mobile Object Database

16:10-18:10, Mon, Dec. 18, 2017

Chair: Dr. Lathsamy CHIDTAVONG
(National Univ. of Laos, Laos PDR)

	Personalized Book Recommendation System Using Collaborative Filtering and k -Nearest Neighbor Algorithm
7-8	Khamphaphone Xinchang, JinSoo Park (Soonchunhyang Univ., ROK), Fei Hao (Shaanxi Normal Univ., China), Doo-Soon Park (Soonchunhyang Univ., ROK), Vimontha Khieovongphachanh (National Univ. of Laos, Lao PDR), Jang Koon Shin (Korea Military Academy Emeritus, ROK), You Boo Jeon (Soonchunhyang Univ., ROK)
7-9	A Maximum Relevance Approach based on SVM-RFE for Feature Selection in RNA-Seq Big-Data
	Chayoung Kim, Woosik Lee (Kyonggi Univ., ROK)

Session 8: IoT (Internet of Things) / Machine to Machine & Database / Data Mining / Big Data / Mobile Object Database & SNS & Communications / Digital media use & effect & Interdisciplinary Research for the 4th Industrial Revolution

Chair: Dr. Winai Wongthai
(Naresuan Univ., Thailand)

16:10-18:10, Mon, Dec. 18, 2017

	Discrimination of Major Factors Affecting Tomato Production Using Big Data Analysis Techniques
8-1	Yu-ha Park, Myung-hwan Na, Wan-hyun Cho, Soon-ja Kang, In-seop Na (Chonnam National Univ., ROK)
8-2	Experience Based Ticketing Website Model: Value Creation and Purchase Intention
	Jiho Kim (Wingate Univ., USA), Minyoung Lee (N. Carolina A&T State Univ., USA), Sangmin Lee (CHA Univ., ROK)
8-3	Big Data based Analysis of PM 10 and PM 2.5 in Seoul (South Korea)
	Thanongsak Xayasouk, Hee-Woo Park, HwaMin Lee (Soonchunhyang Univ., ROK)

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Conference Program

| 16:10-18:10, Mon, Dec.18, 2017 |

Session 8 : IoT (Internet of Things) / Machine to Machine & Database / Data Mining / Big Data / Mobile Object Database & SNS & Communications / Digital media use & effect

16:10-18:10, Mon, Dec. 18, 2017

**Chair: Dr. Winai Wongthai
(Naresuan Univ., Thailand)**

8-4	A Study on the Device Authentication Method on the Internet of Things using Blockchain Su Min Park, Ji Yun Lee, Seng-phil Hong (Sungshin Univ., ROK)
8-5	A Design of System Architecture and Protocols for Formation Flight of Drones Jong Ho Bang, So Hyun Byun, Sae Rom Lee (Seoul Women's Univ., ROK), Byung Wook Lee (Gachon Univ., ROK), Tae In Park (Nice Future Inc., ROK), Jun Hwang (Seoul Women's Univ., ROK)
8-6	A Study on Group Authentication and Key Exchange Scheme Dae-Hwi Lee, Im-Yeong Lee (Soonchunhyang Univ., ROK)
8-7	A Study on Efficient Group Key Management Scheme in CCTV Gun-Wook Choi, Im-Yeong Lee (Soonchunhyang Univ., ROK)
8-8	A Cyber Command and Control Framework for Psychological Operation Using Social Media Kyoungmin Kim, Junwoo Seo, Mookyoo Park (Korea Univ., ROK), Moosung Park (Agency for Defense Development, ROK)
8-9	Examining the Relationship Between Social Support on SNS and Psychological Well-Being Ha Sung Hwang (Dongguk Univ., ROK)

Conference Program

| 09:00-10:30, Tue, Dec.19, 2017 |

Session 9: Smart Phone Applications and Service / Mobile Internet Computing & Future Information Security & Future Information Security & Database / Data Mining / Big Data / Mobile Object Database

Chair: Dr. Min Hong

09:00-10:30, Tue, Dec. 19, 2017 (Soonchunhyang Univ., Rep. of Korea)

9-1	Determinants of innovation performance of technology-based start-ups
	DongHyuk Jo, Jong Woo Park (Soongsil Univ., ROK)
9-2	Transformational Organization System and Workers' Capacity in the Fourth Industrial Revolution
	Sangwoo Hahm (Soongsil Univ., ROK)
9-3	A Study on Improvement of Speech Quality of Variable Bitrate Vocoder Using Hybrid SNR Estimator
	Hyung Woo Park (Soongsil Univ., ROK)
9-4	A Study on the Measurement Tool for Evaluating Non-Face-to-Face Service Quality in the Bank Industry
	GwangSuk Song, Yonghee KIM (Soongsil Univ., ROK)
9-5	Estimating Economies of Scale in the Cable TV Market
	Yonghee Kim, Song Yun Kang, Jeongil Choi (Soongsil Univ., ROK)
9-6	A Study on Dynamic Analysis-Based Malware Feature Extraction from Smartphone Apps
	Dong-Wook Kim, Sung-Sam Hong (Gachon Univ., ROK), Mijoo Kim, Woong Go, Jun Hyung Park (KISA, ROK), Myung-Mook Han (Gachon Univ., ROK)

Conference Program

| 09:00-10:30, Tue, Dec.19, 2017 |

Session 10: Interactive Presentation Session & KETI WS Session

Chair: Dr. Kiwon Kwon

09:00-10:30, Tue, Dec. 19, 2017 (Korea Electronics Technology Institute, ROK)

10-1	Artificial Intelligence-based IoT Platform based on Deep Learning Engine Jinuk Back, Woosik Lee, Namgi Kim (Kyonggi Univ., ROK)
10-2	A Design of Intelligent Learning System for Slow Electric Vehicle Distributed Charge Youngsu Ryu, Seulki Song, Kyungwon Park, Kiwon Kwon (Korea Electronics Technology Institute, ROK)
10-3	A Smoothing method for hand gesture recognition using wearable device Inhye Park, Sangyub Lee, Jaejin Ko (Korea Electronics Technology Institute, ROK)
10-4	Implementation of MF band Wireless Power Transfer System based on Adaptive Impedance Matching Technology Hyunseuk Ahn, Changseok Yoon, Young-Han Kim, Yongseok Lim (Korea Electronics Technology Institute, ROK)
10-5	Transmission Power Control Scheme based on Condition Variation Values in Wireless Body Area Networks Woosik Lee, Namgi Kim, Byoung-Dai Lee (Kyonggi Univ., ROK)
10-6	Implementation of AVN Software using vehicle information for hand gesture recognition Gyutae Oh, Sangyub Lee, Inhye Park, Jaejin Ko (Korean Electronic Technology Institute, ROK)
10-7	Efficient Human Activity Recognition in Body Sensor Network System Woosik Lee, Hojin Heo, Namgi Kim (Kyonggi Univ., ROK)
10-8	Development of Jog Shuttle Controller for Infotainment System Control of Premium Express Bus Based on MOST150 Network Jaekyu Lee, Duckkeun Park, Sangyub Lee (Korea Electronics Technology Institute, ROK)

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Conference Program

| 09:00-10:30, Tue, Dec.19, 2017 |

Session 10: Interactive Presentation Session & KETI WS Session

Chair: Dr. Kiwon Kwon

09:00-10:30, Tue, Dec. 19, 2017

(Korea Electronics Technology Institute, ROK)

10-9	Human Activity Signal Analysis using Short-time Fourier transform Young-Min Song, Woosik Lee, Namgi Kim (Kyonggi Univ., ROK)
10-10	Design of Multi-Band Trapezoidal Log Periodic Antenna for Wi-Fi Backscatter Communication Tag Young-Han Kim, Hyun-Seok Ahn, Changseok Yoon, Yongseok Lim, Seung-ok Lim (Korea Electronics Technology Institute, ROK)
10-11	Automated Vision Inspection and Detection of Parts Missing Using Adaptive Foreground Image Registration in Part Assembly Process Yongju Park (KETI, ROK), Sanghun Yoon (ETXWORKS Co., Ltd, ROK), Sangyun Kim (KETI, ROK)
10-12	Fingerprint Recognition Using Small Area Sensors Yong-Suk Park, Hyun-Sik Kim (Korea Electronics Technology Institute, ROK)
10-13	Enhancement of Endoscope Field of View Yong-Suk Park, Hyun-Sik Kim (Korea Electronics Technology Institute, ROK)
10-14	Security Assessment of Partial Fingerprint Based Authentication Yong-Suk Park, Hyun-Sik Kim (Korea Electronics Technology Institute, ROK)
10-15	Design of Free-viewpoint Relationship Description based on MPEG-DASH Seulki Song, Yongsuk Park, Jungwook Wee (Korea Electronics Technology Institute, ROK)
10-16	For Public Transport with Multiple Multimedia Platform, Implementing Multi MOST Network on Embedded Virtualization Inpyo Cho, Sangyub Lee (Korean Electronic Technology Institute, ROK)

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Conference Program

| 09:00-10:30, Tue, Dec.19, 2017 |

Session 10: Interactive Presentation Session & KETI WS Session

Chair: Dr. Kiwon Kwon

09:00-10:30, Tue, Dec. 19, 2017 (Korea Electronics Technology Institute, ROK)

10-17	Design and Implementation of Profiling System based on Malware Behavior
	Hong-Koo Kang, Dae-Hoon Yoo, Bo-Min Choi, Jun-Hyung Park (Korea Internet & Security Agency, ROK)
10-18	Vehicle License Plate Detection Using Density-Based Spatial Clustering of Applications with Noise Algorithm
	Soung-Sill Park, Yoon Ju Lee, Seho Park (Korea Electronics Technology Institute, ROK)
10-19	Design of Personal Identification Platform Using Two types of Bio-Signals
	Donghyun Kim, Kyungwon Park (Korea Electronics Technology Institute, ROK)
10-20	Development of Scheduler for Fine-Grained Resource Sharing and Extending Usage Model of Co-processor based Supercomputer
	Seungmin Lee (Korea Institute of Science and Technology Information, ROK)

Conference Program

| 10:50-13:00, Tue, Dec.19, 2017 |

Session 11: Systems & Smart Learning / e-Learning / Learning Contents Management Systems & Interdisciplinary Research for the 4th Industrial Revolution

Chair: Dr. Sung Y. Shin

10:50-13:00, Tue, Dec. 19, 2017

(South Dakota State Univ., USA)

11-1	A study on direct sound field of flat panel display for use in Augmented Reality Hyung Woo Park (Soongsil Univ., ROK)
11-2	An Analysis of Productivity of Global Mobile Telecommunications Operators Young ju Park, Yonghee KIM (Soongsil Univ., ROK), Changkyun Pyo (KICI, ROK), Sangmin Lee (CHA Univ., ROK)
11-3	A Study on the Effectiveness of SW Coding Education based on Computational Thinking Jungin Kwon, Jaehyoun Kim (Sungkyunkwan Univ., ROK)
11-4	Development of Virtual Reality Games for Motor Rehabilitation Ge Jin, Keyuan Jiang (Purdue Univ., Northwest, USA), Sangmin Lee (CHA Univ., ROK)
11-5	Mass Surveillance and Mobile Asylum Chulhwan Chris Bang, Jongheon Kim (Auburn Univ., at Montgomery, USA), Sangmin Lee (CHA Univ., ROK)

Conference Program

| 10:50-13:00, Tue, Dec.19, 2017 |

Session 12: Interactive Presentation Session

Chair: Dr. Beomjin Kim

10:50-13:00, Tue, Dec. 19, 2017 (Indiana Univ.-Purdue Univ. Fort Wayne, USA)

12-1	WoundView: Prototype Telemedicine System for Real-time, Off-site Diagnosis Maxwell Fowler, Mikah Sunderman, Megi Shtika, Brett Galloway, Austin Kuhn, Nivetha Pandian, Katrina Eby (Indiana Univ.-Purdue Univ. Fort Wayne, USA), Tammy Toscos (Parkview Health, USA), Beomjin Kim (Indiana Univ.-Purdue Univ. Fort Wayne, USA)
	A Study on Self-Directed Learning Using Big Data in the 4th Industrial Revolution Oakyoung Han, Jaehyoun Kim (Sungkyunkwan Univ., ROK)
12-3	Touch Fingerprint Sensor for Mobile Applications Deepanjal Shrestha (Pokhara Univ., Nepal), Hyeopgoo Yeo, Seung-Min Jung (Hanshin Univ., ROK), Hak-Choel Yang (SenViS Co. Ltd., ROK), Min-Goo Kang (Hanshin Univ., ROK)
	A Study on the HDMI Resolution for Miracast Tx according to WiFi Channel State of PS-LTE Frank I. Elijorde (West Visayas State Univ., Philippines), J.W., Lee (Kunsan National Univ., ROK), M.G., Kang, G.S., Nam (Hanshin Univ., ROK)
12-5	Convergence Condition of Algorithms based on Cross-Information Potential and Delta functions Anna Andonova (Technical Univ. of Sofia. Bulgaria), Namyong Kim (Kangwon National Univ., ROK), Mingoo Kang (Hanshin Univ., ROK)
	The Current Status of Wireless Internet Environment in Elementary and Secondary Schools Woochun Jun (Seoul National Univ. of Education, ROK)
12-7	A Study on Usefulness of Educational Programming Language in Programming Education Woochun Jun (Seoul National Univ. of Education, ROK)

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Conference Program

| 10:50-13:00, Tue, Dec.19, 2017 |

Session 12 Interactive Presentation Session

Chair: Dr. Beomjin Kim

10:50-13:00, Tue, Dec. 19, 2017 (Indiana Univ.-Purdue Univ. Fort Wayne, USA)

12-8	An Image Correlation Platform of 3D Displacement Measurement for Public Safety
	Shafqat Ur Rehman (Yildirim Beyazit Univ., Turkey), Wang-Cheol Song (Jeju National Univ., ROK), M.G., Kang (Hanshin Univ., ROK), J.B., Park (KT&C Co.LTD., ROK)
12-9	A Study on the Security Application of FOTA/DM Server for PS-LTE Devices
	Deepanjal Shrestha (Nanjing Univ. of Aeronautics and Astronautics, China), M.G., Kang (Hanshin Univ., ROK), YJ., Yoo (Amtelecom Co.LTD., ROK)
12-10	V2X-based Public Safety System
	Shafqat Ur Rehman (Yildirim Beyazit Univ.,Turkey), Wang-Cheol Song (Jeju National Univ., ROK), M.G. Kang (Hanshin Univ., ROK), S.Y. Nam (Kookje Univ., ROK), J.K. Hong (Youngsan Univ., ROK), Min-Goo Kang (Hanshin Univ., ROK)

Venue Information

| Landmark Mekong Riverside Hotel, Vientiane, Lao PDR |

<https://landmarkmekongriversidehotel.com>



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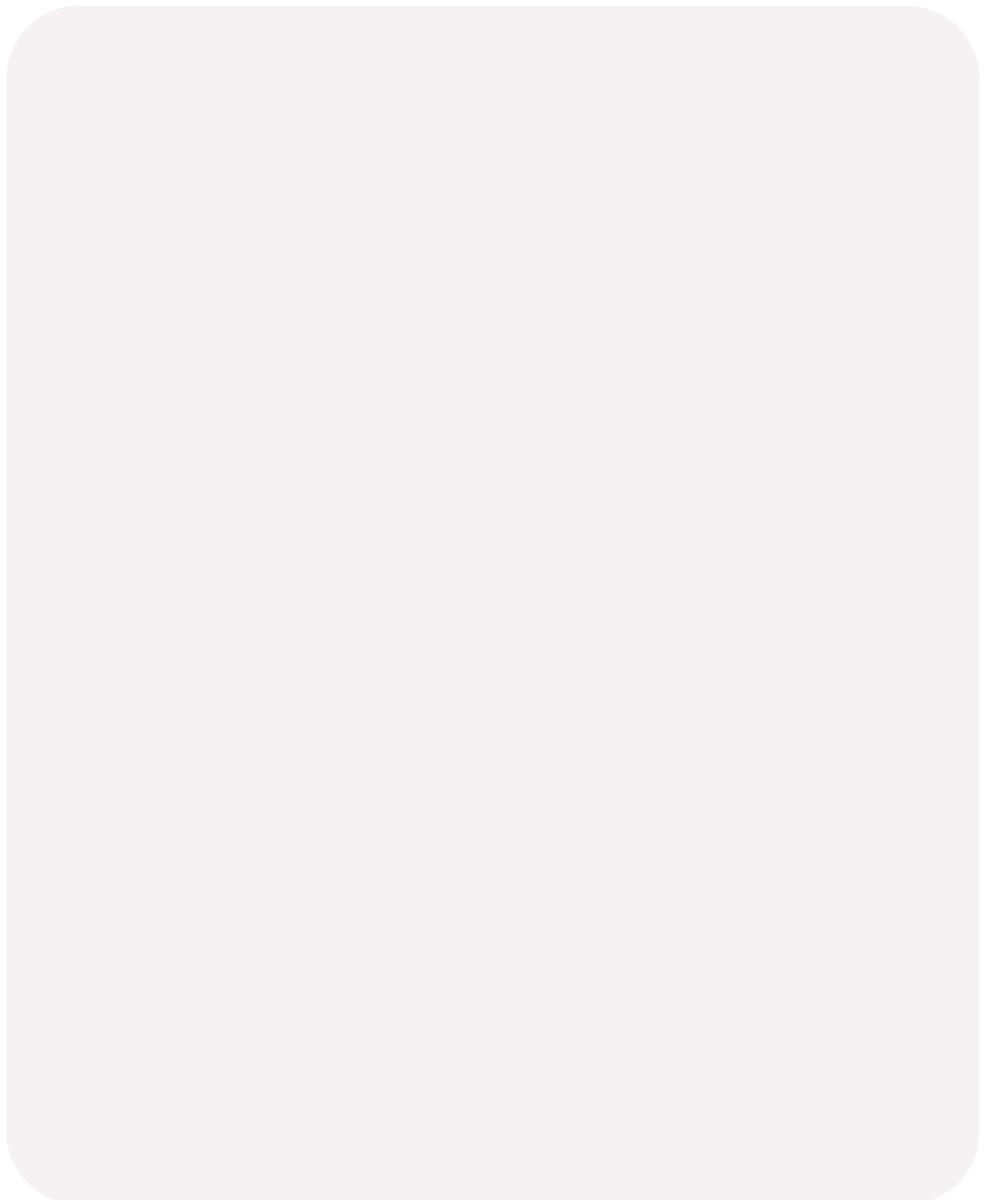
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