The International Conference on Big data, IoT, and Cloud Computing (BIC 2018)

August 20-22, 2018
Jeju, Korea

Organized by

KIPS CSWRG

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Korea Information Processing Society
Computer Software Research Group

2018 International Conferences

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

- December, 17-19, 2018, Kuala Lumpur, Malaysia
- http://www.csa-conference.org/2018

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

- December, 17-19, 2018, Kuala Lumpur, Malaysia
- http://www.cute-conference.org/2018

Message from the BIC 2018 General Chairs

The 2018 International Conference on Big data, IoT, and Cloud Computing will be held in Jeju, Korea, August 20-22, 2018. The BIC 2018 is the newly renamed conference from highly successful series of the International Conference on Ubiquitous Computing Application and Wireless Sensor Network (UCAWSN) - 4th UCAWSN (July, 2016), 3rd UCAWSN (July, 2015), 2nd UCAWSN (July, 2014), and 1st UCAWSN (July, 2013) since 2013.

The BIC 2018 will be the most comprehensive conference focused on Big data, IoT, and Cloud Computing (BIC). The BIC 2018 will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of BIC such as model, algorithms, applications, services, performance and reliability for Big data, IoT, Cloud Computing. Also, the conference will publish high-quality papers which are closely related to the various theories and practical applications in Big data, IoT, and Cloud computing. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in those important subjects. 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 Doo-soon Park (SoonChunHyang University, Korea), James J. (Jong Hyuk) Park (SeoulTech, Korea), and Young-Sik Jeong (Dongguk University, Korea). 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.

BIC 2018
General Chairs

Han-Chieh Chao, National Ilan University, Taiwan
Jungho Kang, Baewha Women's University, Korea
Qun Jin, Waseda University, Japan
Yi Pan, Georgia State University, USA

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Message from the BIC 2018 Program Chairs

Welcome to the BIC 2018 which will be held in Jeju, Korea on Aug 20~22, 2018. The BIC 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 BIC 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 Doo-soon Park (SoonChunHyang University, Korea), James J. (Jong Hyuk) Park (SeoulTech, Korea), Young-Sik Jeong (Dongguk University, Korea) as the Steering Committee of BIC for their strong encouragement and guidance to organize the conference. We would like to thank BIC 2018 General Chairs for their advices to make possible organization of The BIC 2018. We would like to express special thanks to execute members for their timely unlimited support.

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Jin Wang, Changsha University of Science & Technology, China
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Keynote Speaker I

Empowering Cognitive Security Systems with Computational Intelligence & Granular Computing

Vincenzo Loia Ph.D.
Chair Professor
Department of Management and Innovation Systems
University of Salerno, Italy

Abstract
To solve the pressing security challenges of our era, we need more creative approaches capable to detect connections between relations, events concepts, in evolving context characterized by an explosive mixture of structered and unstructered data coming up from multiple sensor and human based networks. In this talk we explore how to integrate Granular Computing and Computational Intelligence with security based systems in order to enrich the cognitive power. We present the evolution of a framework where different application scenarios are described, evidentiating the benefits arising from such an integration. This novel integration can be viewed as a novel paradigm useful to design, build, and deploy distributed systems suitable for Smart Cities.

Biography
Professor Vincenzo Loia received B.S. degree in computer science from University of Salerno, Italy in 1985 and the M.S. and Ph.D. degrees in computer science from University of Paris VI, France, in 1987 and 1989, respectively. From 1989 he is Faculty member at the University of Salerno where he teaches Safe Systems, Situational Awareness. His current position is as Chair and Professor of Computer Science at Department of Management and Innovation Systems. He is the editor-in-chief of Evolutionary Intelligence and the editor-in-chief of Ambient Intelligence and Humanized Computing, both from Springer. He is an Associate Editor of various journals, including the IEEE Transactions on System, Man and Cybernetics: Systems; IEEE Transactions on Fuzzy Systems; IEEE Transactions on Industrial Informatics; IEEE Transactions on the IEEE Transactions on Cognitive and Developmental Systems. His research interests include soft computing, agent technology for technologically complex environments Web intelligence, Situational Awareness He was principal investigator in a number of industrial R&D projects and in academic research projects. He is author of over 400 original research papers in international journals, book chapters, and in international conference proceedings. He hold in the last years several role in IEEE Society in particular for Computational Intelligence Society (Chair of Emergent Technologies Technical Committee, IEEE CIS European Representative, Vice-Chair of Intelligent Systems Applications Technical Committee).

Keynote Speaker II

Blockchain for Smart Communities: Opportunities and challenges

Neeraj Kumar, Ph.D.
Professor,
Department of Computer Science & Engineering
Thapar Institute of Engineering and Technology
Punjab, India

Abstract
From the last few decades there has been an exponential increase in the usage of Internet-enabled devices which raises the issues of security and privacy of the data among the end users. The traditional existing cryptographic primitives are not sufficient to solve these problems due to their heavy computation and communication costs. However, during this era, there is an evolution of new distributed ledger based technology called as Blockchain. Blockchain is a specific distributed shared database, which has been illustrated to possess salient advantages including security, immutability, and decentralization. It allows every transaction to be recorded in a verifiable and permanent way, which is essential to create a distributed, transparent, and secure energy-trading environment.
However, various issues in blockchain are still in their infancy and need novel contribution from the research community to address these issues. For example, proof of work used for block verification requires heavy cryptographic primitives computation. Hence, efficient decisions need to be taken that whether this proof of work needs to be executed on resource constrained smart devices or powerful servers. Secondly, blocks in the blockchain use storage space before any operation to be carried out. Hence, efficient usage of various data structures is prerequisite for successful implementation of any solution in this environment. So, the issues such as searching and indexing play a vital role with respect to efficient implementation. Verification and validation of the blocks created also is important issues need to be analysed before any block to be included in the chain of blocks. So, verification and validation time for the blocks verification is also an important issue to be discussed. Hence, in this talk we will explore the applicability of blockchain for various IoT application, challenges to implement blockchain for real world critical applications, and future scope of this emerging technology.

Biography
Neeraj Kumar (M16, SM) received the Ph.D. degree in computer science and engineering from Shri Mata Vaishno Devi University, Jammu and Kashmir, India, and worked as a Postdoctoral Research Fellow with Coventry University, Coventry, U.K. He is working as an Associate Professor with the Department of Computer Science and Engineering, Thapar Institute of Engineering and Technology (Deemed to be University), Patiala, India. Dr. Kumar has coauthored more than 200 technical research papers in leading journals and conferences from IEEE, Elsevier, Springer, John Wiley etc. Some of his research findings are published in top cited journals such as IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, IEEE TRANSACTIONS ON DEPENDABLE AND SECURE COMPUTING, IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, IEEETRANSACTIONS ON CONSUMER ELECTRONICS, TRANSACTIONS ON INDUSTRIAL INFORMATICS, IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, IEEE INTELLIGENT TRANSPORTATION SYSTEMS MAGAZINE, IEEE NETWORK, IEEE COMMUNICATIONS MAGAZINE, IEEEWIRELESS COMMUNICATIONS, IEEE INTERNET OF THINGS JOURNAL, IEEE SYSTEMS JOURNAL, Future Generation Computing Systems, Journal of Network and Computer Applications, and ComCom. He has

guided many research scholars leading to Ph.D. and M.E./M.Tech degree. His research is supported by funding from UGC, DST, CSIR, and TCS. He is an Associate Technical Editor of IEEE Communication Magazine and an Associate Editor of IJCS, Wiley, JNCA, Elsevier, and Security & Communication, Wiley.
He is a member of Cyber Physical Sysytem research groupm where his team is exploring various aspects related to security, privacy, network management and embedded systems. He has supervised various Ph.D. and M.E. thesis. He is member of various professional bodies across the globe.

Workshop Keynote Speaker

Online Social Networks Representation, Analysis, and Mining: A Formal Concept Analysis Perspective

Fei Hao, Ph.D.
Associate Professor,
the School of Computer Science,
Shaanxi Normal University, China

Abstract
The characteristics of the massive social media data, diverse mobile sensing devices as well as the highly complex and dynamic user's social behavioral patterns have led to the generation of huge amounts of high dimension, uncertain, imprecision and noisy data from social networks. Thanks to the emerging soft computing techniques which unlike the conventional hard computing. It is widely used for coping with the tolerant of imprecision, uncertainty, partial truth, and approximation. One of the most important and promising applications is social network analysis (SNA) that is the process of investigating social structures and relevant properties through the use of network and graph theories. In this talk, the representation models of Social Networks using Fuzzy Logic (FL), Formal Concept Analysis (FCA) are firstly discussed. Then, some of our latest research works on topological structures and links analysis in Social Networks, and social data analysis are presented, respectively. In addition, the use case and relevant software packages about SNA are clearly summarized.

Biography
Fei Hao is currently an associate professor with the School of Computer Science, Shaanxi Normal University, China. He received the B.Sc. degree in Information and Computing Science and the M.Sc. degree in Computer Software and Theory from Xihua University, China, in 2005 and 2008, respectively, and the Ph.D. degree in Computer Science and Engineering from Soonchunhyang University, South Korea, in 2016. He has authored over 80 papers in international reputable journals and conferences (e.g. IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Service Computing, IEEE Transactions on Emerging Topics in Computing, IEEE Systems Journal, IEEE Communications Magazine, IEEE Internet Computing, ACM Transactions on Multimedia Computing, Communications and Applications). He received five best paper awards from KISM 2012, GreenCom 2013, MUE 2015, UCAWSN 2015 and CUTE 2016. He is a recipient of the IEEE Outstanding Service Award at DSS 2018, SMMA 2018, and SmartData 2017, IEEE Outstanding Leadership Award at CPSCom 2013 and the 2015 Chinese Government Award for Outstanding Self-Financed Students Abroad. His research interests include social computing, ubiquitous computing, big data analysis and processing and mobile cloud computing.

PROGRAM SCHEDULE FOR BIC 2018/PDCAT 2018

Day 1, Aug. 20, 2018		
Time	**Min**	**HALL -A**
10:00-12:00	120	Organizing Committee Meeting I (Only for Invited Members)
13:00-15:00	120	Local Arrangement Committee Meeting (Only for Invited Members)
16:00-17:30	90	Executive Meeting - Organized by BIC 2018 (Only for Invited Members)

Day 2, Aug. 21 2018				
Time	**Min**	**HALL A**	**HALL B**	**HALL C**
08:40-09:00	20	**Registration**		
09:00-10:30	90	**Session A-1** **BIC2018** Chair : Jin Liu	**Session B-1** **W1 HCIS2018** Chair : HyukJun Kwon	**Session C-1** **W2 JIPS2018** Chair : Joon-Min Gil
10:30-10:40	10	**Coffee Break**		
10:40-12:00	80	**Session A-2** **BIC2018** Chair : Wei Liu	**Session B-2** **W1 HCIS2018** Chair : Min Choi	
12:00-13:00	60	**Lunch**		
13:00-13:30	30	**Empowering Cognitive Security Systems with Computational Intelligence & Granular Computing** **Vincenzo Loia Ph.D.** Professor at University of Salerno Chair: Kwang-il Hwang		
13:30-14:00	30	**Blockchain for Smart Communities: Opportunities and challenges** **Neeraj Kumar, Ph.D.** Professor at Thapar Institute of Engineering and Technology Chair: Kwang-il Hwang		
14:00-14:10	10	**Coffee Break**		

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14:10-15:30	80	**Session A-3** **BIC2018** Chair : Jin Wang	**Session B-3** **W3 IWFTS2018** Chair : Yoojae Won	
15:30-15:40	10	**Coffee Break**		
15:40-17:00	80	**Session A-4** **BIC2018** Chair : Kwangman Ko	**Session B-4** **W4 Wellness 2018** Chair : Fei Hao	**Session C-4** **BIC2018** Chair : Kyung-Soo Lim
18:00-		**Banquet (HALL B)** Chair: Kwang-il Hwang		

Day 3, Aug. 22 2018				
Time	**Min**	**HALL A**	**HALL B**	**HALL C**
09:00-10:40	100	**Session A-5** **BIC2018** Chair : HyungJun Kim	**Session B-5** **BIC2018** Chair : Jun-Ho Huh	
10:40-10:50	10	**Coffee Break**		
10:50-12:30	100	**Session A-6** **BIC2018** Chair : Jun-Ho Huh	**Session B-6** **W6 ICC2018** Chair : YangSun Lee	

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
BIC 2018 / PDCAT 2018

Day 2, Aug. 21, 2018 (Tuesday)

08:40-09:00 Registration

09:00-10:30 Session A-1 : Big Data
(HALL A)
(Chair: Jin Liu)

1. **3D Reconstruction using sequence images in Hadoop**
   Dongyue Wang, Taeg Keun Whangbo
2. **A Deep Learning Approach for Forecasting Air Pollution in South Korea Using LSTM**
   Tien-Cuong Bui, Sang K. Cha
3. **Analysis of Correlation between Weather and Delivery Service based on Bigdata**
   Kwang-Jin Kwak, Ji-Hun Park, Dong-Jin Shin, Seung-Yeon Hwang, Jeong-Joon Kim
4. **Feature Visualization in Comics Artist Classification**
   Young-Min Kim
5. **Hand Gesture Recognition in Depth Videos using 3 Dimensional Convolution Neural Network**
   Dinh-Son Tran, Hyung-Jeong Yang, Soo-Hyung Kim, Guee Sang Lee, Mi-sun Kim
6. **NDS: A Network Attached Storage based on Distributed File System for Big Data**
   Xuhua Rui, Dugki Min
7. **Real-time air pollution prediction based on spatiotemporal Big data**
   Van Duc Le, Sang Kyun Cha
8. **Travel Recommendation Systems using Big Data**
   Seung-Yeon Hwang, Ji-Hun Park, Dong-Jin Shin, Kwang-Jin Kwak, Jeong-Joon Kim

09:00-10:30 Session B-1 : Workshop on HCIS2018
(HALL B)
(Chair: HyukJun Kwon)

1. **Content-based Image Retrieval Using Combined Texture and Color Features Based on Multi-resolution Multi-direction Filtering and Color Autocorrelogram**
   Hee-Hyung Bu, Nam-Chul Kim, Kyoung-Woo Park, Sung-Ho Kim
2. **WAVE: Workload-Adaptive Combination of Write Buffer and FTL for Multi-Channel SSD**
   Sung Kyu Park, Seung-Ho Lim, Ki-Woong Park
3. **Blockchain-Based Sharing Strategy for Project Proposal in Hybrid Platform**
   Eunhee Lee, Yongik Yoon

4. **WiFi Fingerprinting System using Arduino for indoor location recognition**
   Giseong Kim, Hyunnoh Yun, Hyoungyup Kim, Sunmin Lee, Nammee Moon
5. **Interview Study on Evocativeness Effects of Cinemagraphs**
   Ji-Seob Park, Hyeob Kim, HyukJun Kwon
6. **Comparative Analysis of 2D and 3D Facial Expression Recognition Based on RGB-D Camera**
   Kunyoung Lee, Eui Chul Lee
7. **RINGA-IoT: Self-Adaptive Software Modeling and Game Theoretic Decision Making for Internet of Things**
   Euijong Lee, Young-Gab Kim, Young-Duk Seo
8. **Movie Recommendation System Using Improved K-cliques**
   Phonexay Vilakone, Doo-Soon Park, Khamphaphone Xinchang, Fei Hao
9. **Infrared Bundle Adjusting and Clustering Method for Head-Mounted Display and Leap Motion Calibration**
   San Park, Seoungjae Cho, Yunsick Sung, Kyungeun Cho

09:00-10:30 <u>Session C-1 : Workshop on JIPS2018</u>
(HALL C)
(Chair: Joon-Min Gil)

1. **The Algorithm of Descent Deceleration of Drone Based on Arduino**
   Seong-Heon Choi, Byoungwook Kim
2. **Evaluating Prediction Models for Early Identification of Dropout Students**
   JongHyuk Lee, Joon-Min Gil
3. **End-to-end Business Model for Freight Management System and O2O Service Big Data Analysis**
   Suganya Selvaraj, Hanjun Kim, Eunmi Choi
4. **Movie recommender system using Social network analysis and collaborative filtering**
   Khamphaphone Xinchang, Phonexay Vilakone, Doo-Soon Park
5. **An Improved Clustering Model for Privacy Protection of Multimedia Data**
   Chunyong Yin, Yuhang Zhu, Jin Wang
6. **Building Crowdsensing Based Saturation Prediction Model for Smart Parking System**
   Mihui Kim, Junhyok Yun
7. **User Modeling using User Preference and User Life Pattern based on Personal Bio Data and SNS Data**
   Hyejin Song, Kihoon Lee, Nammee Moon
8. **Content-based Image Retrieval Using Multi-resolution Multi-direction Filtering Based CLBP Texture Features and Color Autocorrelogram Features**
   Hee-Hyung Bu, Nam-Chul Kim, Byoung-Ju Yun

10:30-10:40 Coffee break

10:40-12:00 Session A-2 : ICT Applications and Services
(HALL A)
(Chair: Wei Liu)

1. **Face Detection in 2D/3D Animation**
   Dong-Hyuck Im, Yong-Seok Seo, Jihyun Park
2. **Fast Intra LCU Decision using Deep Neural Networks**
   Kyungah Kim, Won Woo Ro
3. **Design of Digital Content Distribution Framework Supporting Blockchain-based Copyright Protection Technology**
   Byoungsoo Koh
4. **Generating Conformance Testing Interfaces from Equipment Requiremen t Specification Using LSTM Network**
   Jiyeon Kang, Hyojin Kim, Hanna Choi, Seungyeon Han, Woongsup Kim
5. **Clustering Based Blockchain for Efficient Management and Production Smart Farming System**
   Jeong Hoon Jo, Jong Hyuk Park
6. **A study on visual saliency detection in infrared images using Boolean map approach**
   Mai Thanh Nhat Truong, Sanghoon Kim
7. **Single RGB Image to 3D Point Cloud Translation Based on Generative Adversarial Networks**
   Phuong Minh Chu, Seoungjae Cho, Kaisi Huang, Kyungeun Cho

10:40-12:00 Session B-2 : Workshop on HCIS2018
(HALL B)
(Chair: Min Choi)

1. **Enhancing Performance of Remote Execution and Resource Sharing in Mobile Opportunistic Networks**
   Minh Le, Young-Woo Kwon
2. **Enabling Multi-Hop Remote Method Invocation in Group-to-Group Mobile Networks**
   Minh Le, Stephen W. Clyde, Young-Woo Kwon
3. **Design and Implementation of Compatibility Enhancement for Socket Interface and Performance Analysis**
   Cheol Shim, Kwangho Cha, Min Choi
4. **Compressive Sensing-based, Privacy-aware Trajectory Data Management Method for Crowdsourcing System**
   Yan Li, Byeong-Seok Shin
5. **Development of Sensor Registry System-based Predictive Information Service using a Grid**
   Hyunjun Jung, Dongwon Jeong, Sukhoon Lee
6. **Towards a Machine Learning Approach for Nutrition Requirement Prediction on Individual Livestock**
   Saraswathi Sivamani, Myeongbae Lee, Savana Kumar Venkatesan, Changsun Shin, Jangwoo Park, Yongyun Cho

7. **Clustering of Tour Routes for Individual Tourists using Sequential Pattern Mining**
   Gun Ho Lee, Hee Sun Han
8. **Enhanced Ground Segmentation Method for Lidar Point Clouds in Autonomous Robot Systems**
   Phuong Minh Chu, Seoungjae Cho, Jisun Park, Simon Fong, Kyungeun Cho
9. **Paper Classification Systems based on TF-IDF and LDA Schemes**
   Joon-Min Gil, Jong-Hyuk Lee, Sang-Woon Kim

12:00-13:00 Lunch break

13:00-13:30 Keynote Speaker I
(Chair: Kwang-il Hwang)

Empowering Cognitive Security Systems with Computational Intelligence & Granular Computing

Ph.D. Vincenzo Loia
Professor at University of Salerno

13:30-14:00 Keynote Speaker II
(Chair: Kwang-il Hwang)

Blockchain for Smart Communities: Opportunities and challenges

Ph.D. Neeraj Kumar
Professor at Thapar Institute of Engineering and Technology

14:00-14:10 Coffee break

14:10-15:30 Session A-3 : ICT Applications and Services
(HALL A)
(Chair: Jin Wang)

1. **Service Oriented Stock Information and Analysis System**
   Alghamdi Amjad Ahmed A, Eunmi Choi
2. **Binary Code Analyzer for Integer Overflow Prevention**
   Junho Joeng, Hyun Hu Shin, Hyun Oh Jung, YangSun Lee, Yunsik Son
3. **Index System of Urban Rail Transit and Bus Network Integration**
   Keran Song, xiaomei xia, Jing Wang

4. **Concolic Unit Testing based on Fuzzy Logic for Function Dependency Evaluation**
   MyeongHee Sohn, Junho Jeong, Yunsik Son
5. **Mobile marketing recommendation method based on user location feedback**
   Chunyong Yin, Shilei Ding, Jin Wang
6. **A Correlation Analysis of Factory Environmental Data Using Pearson Correlation Coefficient Based on Hadoop**
   Songai Xuan, Wenquan Jin, DoHyeun Kim
7. **Chinese Question Classification Based On Deep Learning**
   Yihe Yang, Jin Liu, Shiqi Lv, Chao Yu, Jin Wang
8. **Comparison of OS Fingerprinting Tools Using Machine Learning**
   JinHo Song, YooJae Won

14:10-15:30 Session B-3 : Workshop on IWFTS2018
(HALL B)
(Chair: Yoojae Won)

1. **Distributed price tracking and management system based on blockchain technology**
   MinJae Yoo, YooJae Won
2. **Study On motor vehicle exhaust pollution (CO) control**
   Weiwei Liu, Jin Wang
3. **Patch Integrity Verification Method Using Block Chain**
   Yonggun Kim, Yoojae Won
4. **A Research on Common Behavior Analysis of Multiple Endpoints**
   Jeonghoon Seo, Yoojae Won
5. **Analysis of user satisfaction with shared bicycles**
   Xiaomei Xia, Huipeng jiang, Jing Wang
6. **Vulnerability Analysis Method in Android Binder Communication**
   Gilsu Cho, Jaecheol Ryou,
7. **Character Recognition Based on Multi-modal Fusion**
   Shiqi Lv, Jin Liu, Chao Yu, Yihe Yang, Jin Wang
8. **Is My Web Search Query Visible?**
   Hyungyu Nam, Hyunsu Mun, Woosik Jung, Youngseok Lee
9. **A New Algorithm For Influence Maximization Problem Under Independent Cascade Model**
   Wei Liu, Xin Chen, Ling Chen, Jin Wang, Bolun Chen
10. **Differential Privacy Protection Method for Location-based Mobile Marketing**
    Chunyong Yin, Xiaokang Ju, Jin Wang

15:30-15:40 Coffee break

15:40-17:00 Session A-4 : ICT Applications and Services
(HALL A)
(Chair: Kwangman Ko)

1. **Text Detection Based on Semantic Segmentation**
   Chao Yu, Jin Liu, Shiqi Lv, Yihe Yang, Jin Wang
2. **MediGo: Internet of Things based Telemedicine System**
   Jun-Yan Koay, Kennedy Ho, Yung-Wey Chong, Kwang-Man Ko
3. **Gesture learning and recognition system using heterogeneous sensors for each body part**
   Yong Jin, Jisun Park, Yulong Xi, Seoungjae Cho, Kaisi Huang, Yunsick Sung, Kyungeun Cho
4. **Module Design for Secure Communication between Telematics Systems and External Systems**
   Kiyoung Jang, Byoungsoo Koh
5. **Performance Evaluations of Real-time Video Intrusion Detection Algorithm for Intelligent CCTV**
   Kwang-il Hwang
6. **Openholo : Architecture Design of Open Source License Verification System for Copy Right Protection**
   Tae-ho Lee, Byoung-soo Koh
7. **Mutual sensor Authentication Technique Based on Hash Chain Considering Future IoT Environment**
   Jaeseung Lee, Jungho Kang, Sunghyun Jee
8. **Scalable Media Service through adaptive Media Cache Server**
   SangHyong Kim, Yoojae Won

15:40-17:00 Session B-4 : Workshop on Wellness 2018
(HALL B)
(Chair: Fei Hao)

Workshop Keynote Speaker
Online Social Networks Representation, Analysis, and Mining: A Formal Concept Analysis Perspective
Fei Hao

1. **Correlation Analysis System for Gait and Emotion**
   JunYoung Moon, Nak-Jun Sung, Young Kim, Min Hong
2. **A Performance Comparison of GPU and CPU for Deep Convolutional Neural Networks**
   EunKwang Jeon, SangWook Han, HwaMin Lee
3. **Fast parallel processing system using Multi GPU for Defogging in marine IT convergence environment**
   Seong-Soo Han, You-Boo Jeon, Chang-Sung Jeong
4. **A high-speed parallel processing system based on multi GPU for R*-tree range query processing**
   Seong-Soo Han, You-Boo Jeon, Chang-Sung Jeong
5. **Fast Parallel Processing System for Pedestrian Detection using a Deep Neural Network**

Seong-Soo Han, You-Boo Jeon, JinSoo Park, Doo-Soon Park, Chang-Sung Jeong

6. **Design and Implementation of code for low power embedded system**
   You-Boo Jeon, Byung-Joon Park, Seong-Soo Han
7. **Virtual Reality Game for Rehabilitation of Elderly People**
   Seung Min Baek, Sora Kim, Yunyoung Nam
8. **Feasibility Study of Developed Wearable Belt-type Capacitive Sensor for Apnea Monitoring**
   Esubalew Belay, Young Kim, Jong Gab Ho, Changwon Wang, Se Dong Min

15:40-17:00 Session C-4 : Internet of Things
(HALL C)
(Chair: Kyung-Soo Lim)

1. **Mesh Decision Manager to Determine the Efficient Mesh Node and Element**
   Daeyong Jung, Dongwoo Seo, Sangjin Park, DaeWon Lee, Hoyoon Kim
2. **An Artificial Intelligence-based Intrusion Detection System for IoT**
   Jung Hyun Ryu, Shailendra Rathore, Jong Hyuk Park
3. **An Improved Clustering Model for Privacy Protection of Multimedia Data**
   Chunyong Yin, Yuhang Zhu, Jin Wang
4. **Mesh Information Collector for Mesh Convergence Test on Finite Element Analysis**
   Daeyong Jung, Myungil Kim, DaeWon Lee, Seung-Keun Park
5. **Gait Analysis System using Low-cost Smart Insole**
   Eun-Young Lee, Jinu Kim, Dongho Kim
6. **A Novel Algorithm for Identifying Essential Proteins in Dynamic PPI network**
   Wei Liu, Liangyu Ma, Ling Chen, Jin Wang, Bolun Chen
7. **Mesh Convergence Test of Uniformly and Adaptively Refined Mesh Models in Code-Aster**
   Seung-Keun Park, Sukkeun Yi, DaeWon Lee, Daeyong Jung
8. **The Analysis of Monopolistic Competitive Behavior Simulated Shared Parking**
   Weiwei Liu, Jin Wang

17:00-18:00 Break

18:00-19:20 Banquet at Hall B
(Chair: Kwang-il Hwang)

Day 3, Aug. 22, 2018 (Wednesday)

9:00-10:40 Session A-5 : Internet of Things
(HALL A)
(Chair HyungJun Kim)

1. **Block-Chain Based Video Data Forgery Protection System**
   Byung Wook Kwon, Sang Ki Suk, Jong Hyuk Park
2. **Deep learning based object detection using OpenCV in Smart Homes**
   Faisal Mehmood, DoHyeun Kim
3. **Enjoying Minecraft with Wearable Devices**
   Hyunsu Mun, Jiwon Min, Hyunho Lee, Youngseok Lee
4. **Hybrid Virtual Machine-based SDN System in Cloud**
   Nam Yong Kim, Pradip Kumar Sharma, Jong Hyuk Park
5. **A Study on Improved Indoor Positioning System using BLE Beacon**
   JinSu Kang, Yoojae Won
6. **A Data Driven Architecture For Cost Effective IoT Device Management Using Hopfield Network**
   Woongsup Kim, Jiseong Nam, Jiyeon Kang, Chaehyun Kim
7. **Architecture of Middleware System for Intelligent Factory Automation Based on Industrial Internet of Things**
   Yang Koo Lee, Seung-Jun Lee, Daesub Yoon
8. **Free block allocation algorithm based on erase counts for flash memory wear-leveling**
   Yong Jin Jun, Tae Sun Chung

9:00-10:40 Session B-5 : Internet of Things
(HALL B)
(Chair: Jun-Ho Huh)

1. **Evaluation of Coupling Coordination Degree Between Urban Rail Transit and Land Use**
   Weiwei Liu, Jin Wang
2. **Risk Analysis of Taxi Fare Adjustment**
   Xiangyu Xu, Xiaomei Xia, Jing Wang
3. **Behavior Spiritual Wellness based on Human's physical environment and Human's status of Health**
   Svetlana Kim, YongIk Yoon
4. **A Novel Algorithm for Identifying Essential Proteins in Dynamic PPI network**
   Wei Liu, Liangyu Ma, Ling Chen, Jin Wang, Bolun Chen
5. **Experimental Study of Indoor Dew Condensation**
   Kwang-il Hwang
6. **Design and Implementation of IoT/WSP Node Registration and Discovery based on OCF IoTivity in IoT Networks**

Wenquan Jin, DoHyeun Kim

7. **A Generic Plug-and-Play IoT Device Management Based on Semantics Web**
   Woongsup Kim, Haram Ko, Hyeonjin Yun, Jiae Sung, Seeun Kim
8. **Blockchain-based Database Security System in Edge Computing**
   Kyung Yeob Park, Pradip Kumar Sharma, Jong Hyuk Park

10:50-12:30 Session A-6 : Cloud Computing
(HALL A)
(Chair Jun-Ho Huh)

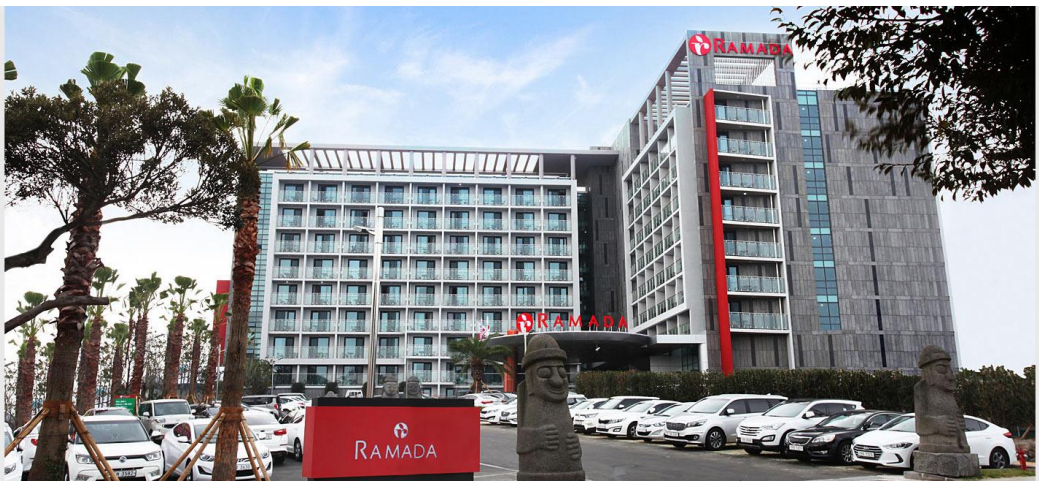
1. **A study on Adaptive Selection of Dynamic Resource Scaling based on Fuzzy-AHP in Cloud Computing**
   A-Young Son, Young-Rok Shin, Eui-Nam Huh
2. **System Access Control Technique for Secure Cloud Computing**
   Eun-Gyeom Jang, Byoungsoo Koh
3. **3D Level-of-Detail Model Generation of Human Body for Virtual Reality Devices**
   Koojoo Kwon, Woochan WI, Yeonjin Heo, Seongjun Lee, Jion Kim, Byeong-Seok Shin
4. **Security Mechanism for DDoS Detection in NFV**
   HyunJin Kim, SeokHun Lee, JaeCheol Ryou
5. **Metadata Log Management for Full Stripe Parity and Recovery for Flash Storage Systems**
   Seung-Ho Lim
6. **Semi-supervised Learning based Malicious User Detection in Online Social Networks**
   Shailendra Rathore, Pradip Kumar Sharma, Jong Hyuk Park
7. **Cloud Infra Design Tool Based on Metamodeling**
   Wenxue Piao, Dugki Min
8. **Building pre-DTN cluster testbed utilizing cloud platform**
   Wontaek Hong, Jeonghoon Moon, Ungmo Kim, Jinwook Chung
9. **Design and Implementation of a NUMA-aware Volume Manager for Memory Bus-connected Storages**
   Yongseob Lee, Sungyong Park

10:50-12:30 Session B-6 : Workshop on ICC2018
(HALL B)
(Chair YangSun Lee)
This workshop will proceed as a poster session by session chair.

1. **An Adaptive Offloading Method for IoT-Cloud Virtual Machine System**
   Yunsik Son, Junho Jeong, YangSun Lee
2. **A Study on IoT-Cloud Converged Virtual Machine System**
   Yunsik Son, Junho Jeong, YangSun Lee

3. **Design of one-time address system based on BlockChain for transparency and privacy of donation system**
   Jaekyu Lee, Aria Seo, Yeichang Kim, Junho Jeong
4. **Efficiency Verification of Hybrid Heat Pump System Using Ground Water for Public building**
   Sanghwa Baek, Gyewoon Choi
5. **An Image Processing Based Infrared Camera System for Gas Detection**
   HyungJun Kim
6. **Application of Smart Water Grid Technology in Developing Countries Through Considering Korean SWG Experience**
   Gyewoon Choi, Hyoseon Park, Dongwoo Jang
7. **Big Data Classification Model Method Using Smart Water Grid Based Water Resource Measurement Data**
   Irfan Ajmal Khan, Ji Hoon Seo, Jin Tak Choi
8. **Study on Decision Making Model for Improvement of Water Supply Systems Considering Economy**
   Hyoung Geun Jo, Gye Woon Choi, Dong Woo Jang, Hyo Seon Park
9. **Vehicle Detection and Speed Estimation for Automated Traffic Surveillance Systems at Nighttime**
   HyungJun Kim
10. **Rear-view Camera System for Improving Safety using Particle Filtering**
    HyungJun Kim
11. **Smart Fuzzing Method for Secure Web Applications**
    Woohang Jang, Junho Jeong, Yunsik Son, Seman Oh
12. **Multiple Vehicle Tracking System with Convolution Neural Networks**
    HyungJun Kim
13. **Korean Sentiment Word Processing and Opinion Mining Analysis Using Unstructured Data with Stock Information**
    Ji Hoon Seo, Jin Tak Choi
14. **An IoT Virtual Machine Code Optimization Method using Native Code Translation**
    Yunsik Son, Junho Jeong, YangSun Lee
15. **Background Modeling using PID Control and Machine Learning Technique**
    HyungJun Kim
16. **Context-awareness information and QoE based system for improve CPS accuracy**
    Aria Seo, Jaekyu Lee, Junho Jeong, Yeichang Kim
17. **Pantograph Detection System using Image Processing and Machine Leaning Techniques**
    HyungJun Kim
18. **Advanced Group Key Management Scheme for Secure Smart Home Environment**
    WonIk Son, Junho Jeong
19. **Customized Mobile Marketing Platform Design Utilizing IoT Based Beacon Sensor Devices**
    Ji Hoon Seo, Jin Tak Choi

Conference Venue



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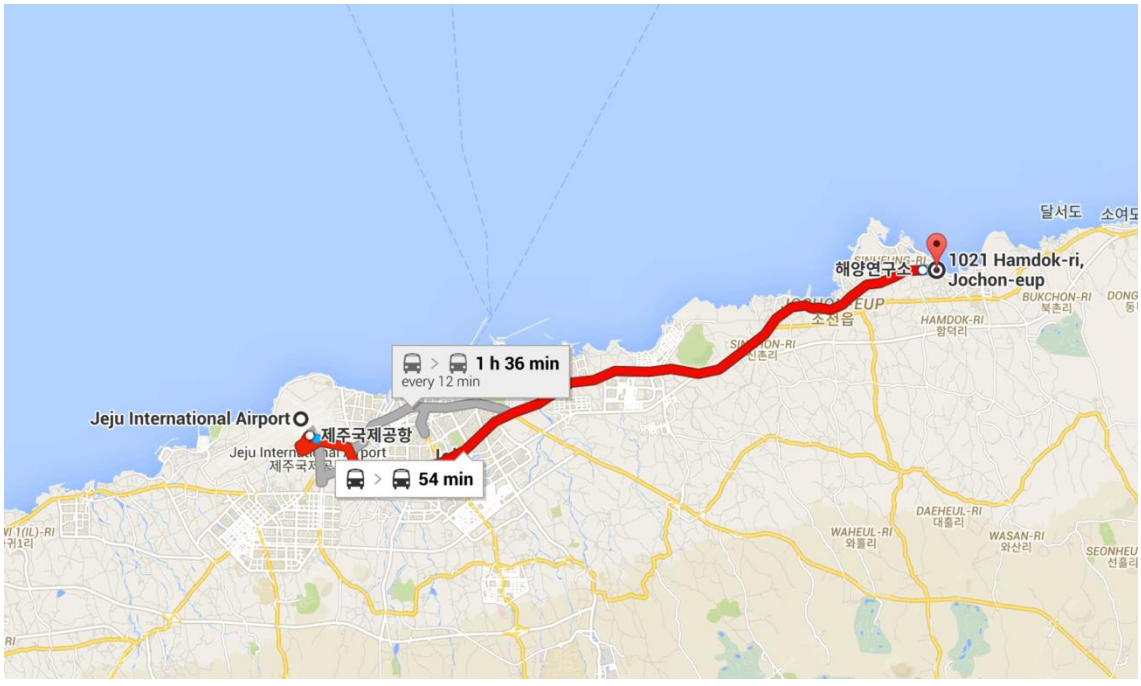

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