

The 10th International Conference on Computer Science and its Applications (CSA 2018)
The 13th KIPS International Conference on Ubiquitous Information Technologies and Applications (CUTE 2018)

**The 10th International Conference on Computer
Science and its Applications
(CSA 2018)**
&
**The 13th KIPS International Conference on
Ubiquitous Information Technologies and
Applications
(CUTE 2018)**

December 17-19, 2018
Kuala Lumpur Malaysia

Organized by

KIPS CSWRG



Conferences

The 13th International Conference on Multimedia and Ubiquitous Engineering (MUE 2019)

- April 24-26 2019, Xian China
- <http://www.mue-conference.org/2019>

The 14th International Conference on Future Information Technology (FutureTech 2019)

- April 24-26 2019, Xian China
- <http://www.mue-conference.org/2019>

Message from the CSA 2018 General Chair

International Conference on Computer Science and its Applications (CSA 2018) is the 10th event of the series of international scientific conference. This conference takes place Kuala Lumpur, Malaysia, Dec. 17 - 19, 2018. CSA 2018 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications. CSA 2018 will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of CSA. In addition, the conference will publish high quality papers which are closely related to the various theories and practical applications in CSA. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject. CSA 2018 is the next event in a series of highly successful International Conference on Computer Science and its Applications, previously held as CSA 2017 (9th Edition: Taichung, Taiwan), CSA 2016 (8th Edition: Bangkok, Thailand, 2016), CSA 2015 (7th Edition: Cebu, December, 2015), CSA 2014 (6th Edition: Guam, December, 2014), CSA 2013 (5th Edition: Danang, December, 2013), CSA 2012 (4th Edition: Jeju, November, 2012), CSA 2011 (3rd Edition: Jeju, December, 2011), CSA 2009 (2nd Edition: Jeju, December, 2009), and CSA 2008 (1st Edition: Australia, October, 2008).

The papers included in the proceedings cover the following topics: Mobile and ubiquitous computing, Dependable, reliable and autonomic computing, Security and trust management, Multimedia systems and services, Networking and communications, Database and data mining, Game and software engineering, Grid and scalable computing, Embedded system and software, Artificial intelligence, Distributed and parallel algorithms, Web and internet computing and IT policy and business management.

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 Chairs: James J. (Jong Hyuk) Park (SeoulTech, Korea), Yi Pan (Georgia State University, USA), Han-Chieh Chao (National Ilan University, Taiwan), Young-Sik Jeong (Dongguk University, Korea), Vincenzo Loia (University of Salerno, Italy).

Our special thanks go to the Program Chairs: Kyung-Soo Lim (ETRI, Korea), Arun Kumar Sangaiah (VIT University, India), Mu-Yen Chen (National Taichung University of Science and Technology, Taiwan), Houcine Hassan (Universitat Politècnica de València, Spain), and 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.

CSA 2018 General Chair

Kim-Kwang Raymond Choo, The University of Texas at San Antonio, USA
Victor Leung, The University of British Columbia, Canada
Jungho Kang, Baewha Women's University, Korea

Message from the CSA 2018 Program Chairs

Welcome to the 10th International Conference on Computer Science and its Applications (CSA 2018) which will be held in Kuala Lumpur, Malaysia, Dec. 17 - 19, 2018. CSA 2018 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications.

CSA 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. CSA 2018 is the next event in a series of highly successful International Conference on Computer Science and its Applications, previously held as CSA 2017 (9th Edition: Taichung, Taiwan), CSA 2016 (8th Edition: Bangkok, Thailand, 2016), CSA 2015 (7th Edition: Cebu, December, 2015), CSA 2014 (6th Edition: Guam, December, 2014), CSA 2013 (5th Edition: Danang, December, 2013), CSA 2012 (4th Edition: Jeju, November, 2012), CSA 2011 (3rd Edition: Jeju, December, 2011), CSA 2009 (2nd Edition: Jeju, December, 2009), and CSA 2008 (1st Edition: Australia, October, 2008).

CSA 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 Prof. James J. (Jong Hyuk) Park, Prof. Yi Pan, Prof. Han-Chieh Chao, Prof. Young-Sik Jeong, and Prof. Vincenzo Loia the Steering Committee Chairs of CSA for their strong encouragement and guidance to organize the symposium. We would like to thank CSA 2017 General Chairs: Prof. Kim-Kwang Raymond Choo, Prof. Victor Leung, Prof. Jungho Kang. We would like to express special thanks to committee members for their timely unlimited support.

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Mu-Yen Chen, National Taichung University of Science and Technology, Taiwan
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Message from the CUTE 2018 General Chairs

On behalf of the organizing committees, it is our pleasure to welcome you to the 13th International Conference on Ubiquitous Information Technologies and Applications (CUTE 2018), will be held in Kuala Lumpur, Malaysia on December 17-19, 2018.

This conference provides an international forum for the presentation and showcase of recent advances on various aspects of ubiquitous computing. It will reflect the state-of-the-art of the computational methods, involving theory, algorithm, numerical simulation, error and uncertainty analysis and/or novel application of new processing techniques in engineering, science, and other disciplines related to ubiquitous computing.

The papers included in the proceedings cover the following topics: Ubiquitous Communication and Networking, Ubiquitous Software Technology, Ubiquitous Systems and Applications, Ubiquitous Security, Privacy and Trust. Accepted papers highlight new trends and challenges in the field of ubiquitous computing technologies. We hope you will find these results useful and inspiring for your future research.

We would like to express our sincere thanks to Steering Committees: James J. Park (SeoulTech, Korea), Doo-Soon Park (SoonChunHyang University, Korea), Young-Sik Jeong (Dongguk University, Korea), Hsiao-Hsi Wang (Providence University, Taiwan), Laurence T. Yang (St.Francis Xavier University, Canada), Hai Jin (Huangzhong University of Science and Technology, China), Chan-Hyun Youn (KAIST, Korea), Jianhua Ma (Hosei University, Japan), Mingyi Guo (Shanghai Jiao Tong University, China), Weijia Jia (City University of Hong Kong, Hong Kong). We would also like to express our cordial thanks to the Program Chairs & Program Committee members for their valuable efforts in the review process, which helped us to guarantee the highest quality of the selected papers for the conference.

Finally, we would 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.

CUTE 2018 General Chairs

Yi Pan, Georgia State University, USA
Sanghoon Kim, Hankyong National University, Korea
Luis Javier Garcia Villalba, Universidad Complutense de Madrid, Spain

Message from the CUTE 2018 Program Chairs

Welcome to the 13th International Conference on Ubiquitous Information Technologies and Applications (CUTE 2018), will be held in Kuala Lumpur, Malaysia on December 17-19, 2018.

The purpose of the CUTE 2018 conference is to promote discussion and interaction among academics, researchers and professionals in the field of ubiquitous computing technologies. This year the value, breadth, and depth of the CUTE 2018 conference continues to strengthen and grow in importance for both the academic and industrial communities. This strength is evidenced this year by having the highest number of submissions made to the conference.

For CUTE 2018, we received a lot of paper submissions from various countries. Out of these, after a rigorous peer review process, we accepted only high-quality papers for CUTE 2018 proceeding, published by the Springer. All submitted papers have undergone blind reviews by at least two reviewers from the technical program committee, which consists of leading researchers around the globe. Without their hard work, achieving such a high-quality proceeding would not have been possible. We take this opportunity to thank them for their great support and cooperation.

Finally, we would like to thank all of you for your participation in our conference, and also thank all the authors, reviewers, and organizing committee members. Thank you and enjoy the conference!

CUTE 2018 Program Chairs

Muhammad Khurram Khan, King Saud University, Kingdom of Saudi Arabia
Neil Y. Yen, University of Aizu, Japan
Yunsick Sung, Dongguk University, Korea

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Invited Speaker



Deep Learning Platform for B5G Mobile Network

Prof. Han-Chieh Chao

President National Dong Hwa University, Taiwan

Abstract:

The 3G and 4G mobile communications had been developed for many years. The 5G mobile communication is scheduled to be launched in 2020. In the future, a wireless network is of various size of cells and different type of communication technologies, forming a special architecture of Heterogeneous Networks (HetNet). Under the complex network architecture, interference and handover problems are critical challenges in access network. How to efficiently manage small cells and to choose an adequate access mechanism for the better quality of service is a vital research issue. Traditional network architecture can no longer support existing network requirements. It is necessary to develop a novel network architecture. Therefore, this keynote speech will share a solution of deep learning-based B5G mobile network which can enhance and improve communication performance through combing some specific technologies. e.g., deep learning, fog computing, cloud computing, cloud radio access network (C-RAN) and fog radio access network (F-RAN).

Biography:

Han-Chieh Chao received his M.S. and Ph.D. degrees in Electrical Engineering from Purdue University, West Lafayette, Indiana, in 1989 and 1993, respectively. He is currently a professor with the Department of Electrical Engineering, National Dong Hwa University, where he also serves as president. He is also with the Department of Computer Science and Information Engineering and the Department of Electronic Engineering, National Ilan University, Taiwan; College of Mathematics and Computer Science, Wuhan Polytechnic University, Wuhan, China, and Fujian University of Technology, Fuzhou, China. He was the Director of the Computer Center for Ministry of Education Taiwan from September 2008 to July 2010. His research interests include IPv6, Cross-Layer Design, Cloud Computing, IoT, and 5G Mobile Networks. He has authored or co-authored 4 books and has published about 400 refereed professional research papers. He has completed more than 150 MSEE thesis students and 11 Ph.D. students. Dr. Chao has been invited frequently to give talks at national and international conferences and research organizations. He serves as the Editor-in-Chief for the Institution of Engineering and Technology Networks, the Journal of Internet Technology, the International Journal of Internet Protocol Technology, and the International Journal of Ad Hoc and Ubiquitous Computing. He is a Fellow of IET (IEE) and a Chartered Fellow of the British Computer Society. Due to Dr. Chao's contribution of suburban ICT education, he has been awarded the US President's Lifetime Achievement Award and International Albert Schweitzer Foundation Human Contribution Award in 2016.

PROGRAM SCHEDULE FOR CSA & CUTE 2018

Day 1, December 17, 2018				
Time	Min	HALL A	HALL B	HALL C
08: 40-09: 00	20	Registration		
09: 00-10: 30	90	Session A-1 CSA Chair: Yeon Lee	Session B-1 CSA Chair: Joon-Min Gil	Session C-1 CUTE Chair: Byoungwook Kim
10: 30-10: 40	10	Coffee Break		
10: 40-12: 10	90	Session A-2 CSA Chair: Fei Hao	Session B-2 CSA Chair: Seung-Ho Lim	Session C-2 CUTE Chair: Jin Gon Shon
12: 10-13: 30	80	Lunch		
13: 30-15: 00	90	Session A-3 CSA Chair: JinSoo Park	Session B-3 CSA Chair: Hyon Hee Kim	Session C-3 CUTE Chair: Geun-Hyung Kim
15: 00-15: 10	10	Coffee Break		
15: 10-16: 40	90	Session A-4 CSA Chair: Yeong-Seok Seo	Session B-4 CSA Chair: Yoo-Joo Choi	Session C-4 CUTE Chair: Kwang-Man Ko
16: 40-17: 30	50	Break		
17: 30-19: 30	120	Keynote Speech: Han-Chieh Chao “Deep Learning Platform for B5G Mobile Network” & Banquet Chair: Kwang-il Hwang		

Day 2, December 18, 2018				
Time	Min	HALL A	HALL B	HALL C
08: 40-09: 00	20	Registration		
09: 00-10: 30	90	Session A-5 IPV 2018 Chair: Nammee Moon	Session B-5 CSA Chair: Yeong-Seok Seo	Session C-5 CUTE Chair: Jin Wang
10: 30-10: 40	10	Coffee Break		
10: 40-12: 10	90	Session A-6 CSA Chair: JiSu Park	Session B-6 CSA Chair: Yeong-Seok Seo	Session C-6 CUTE Chair: Yeon Lee

Day 3, December 19, 2018		
Time	Min	HALL A
10: 00-12: 00	120	CSA - Organizing Committee Meeting
13: 00-15: 00	120	CUTE - Organizing Committee Meeting
15: 00-17: 00	60	Local Arrangement Committee Meeting

1. A paper presentation should be made by one of authors of the paper for 15 minutes (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 10TH INTERNATIONAL CONFERENCE ON
COMPUTER SCIENCE AND ITS APPLICATIONS (CSA 2018)
&
THE 13TH KIPS INTERNATIONAL CONFERENCE
ON UBIQUITOUS INFORMATION TECHNOLOGIES AND
APPLICATIONS (CUTE 2018)

Day 1, December 17, 2018 (Monday)

08: 30-09: 00 Registration

09: 00-10: 30 Session A-1 : CSA
(HALL A)
(Chair: Yeon Lee)

- 1. Research on the Automatic Classification of Ship's Navigational Status**
Jaeyong Oh, Hye-Jin Kim, Sekil Park
- 2. A Programmable Big Data App Container Architecture for Big Data as a Service**
Euihyun Jung
- 3. Parallel bidirectional shortest path computation in graphs using Relational Database Management Systems (RDBMSs)**
Kwangwon Seo, MyeongSeok Kwak, Yoonmi Shin, Jinhyun Ahn, Dong-Hyuk Im
- 4. Authoring Tool for Generating Multiple Experiences of 360° Virtual Reality**
Syed Hammad Hussain Shah, Jong Weon Lee
- 5. Operating System Fingerprint Obfuscation Framework in SDN Environment**
Sungbum Ahn, Ho Hwang, Daesung Moon
- 6. Resource-Aware Migration Scheme for QoS in Cloud Datacenter**
A-Young Son, DongYeong Son, Young-Rok Shin, Eui-Nam Huh

09: 00-10: 30 Session B-1 : CSA
(HALL B)
(Chair: Joon-Min Gil)

- 1. A Dynamic FPGA Reconfiguration for Accelerating Machine Learning Framework with Image Service in OpenStack**
Seungmin Lee, Sik Lee
- 2. IoT based Management System for Livestock Farming**
Meonghun Lee, Haengkon Kim, Ha Jin Hwang, Hyun Yoe

- 3. A Proposal of IoT Message-oriented Service Framework for Serverless Software Architecture**
Sunggeun Yoo, Minjeong Song, Sangil Park
- 4. Deep Learning Based Gesture Recognition System for Immersive Broadcasting Production**
Miri Park, Sung Geun Yoo, Minjeong Song, Sangil Park
- 5. Design and Implementation of an Efficient Web Crawling Using Neural Network**
Ahmed Md. Tanvir, Yonghoon Kim, Mokdong Chung
- 6. An Intuitive VR Interaction Method for Immersive Virtual Reality**
Ruixin Zhao, Namjung Kim, Kyoungju Park

09: 00-10: 30 Session C-1 : CUTE
(HALL C)
(Chair: Byoungwook Kim)

- 1. Computation Efficiency Analysis of Multiple GPUs and Multiple CPUs based Cluster Computing Environments**
Bongjae Kim, Boseon Hong, Jeong-Dong Kim
- 2. Remote Block Heater Controller**
Samuel Garbo, Zhazhuli Pratama Nur Winaziz, Ermal Elbasani, Jae Sung Choi, Hyun Lee
- 3. A Method of Intelligent Dynamic Monitoring for Real-Time Data Streaming Processing Systems**
Onur Soyer, Kwan Young Park
- 4. A UAV Path Planning Method using Polynomial Regression for Remote Sensor Data Collection**
KwangMin Koo, KyungRak Lee, SungRyung Cho, Inwhee Joe
- 5. A Portable Finger Language Translator based on Deep Learning with Leap Motion**
Dahye Jin, Yumi Lee, Ermal Elbasani, Jae Sung Choi, Hyun Lee
- 6. WSN/RFID indoor positioning and tracking based on Machine learning: A health care application**
Ermal Elbasani, Hyun Lee, Jae Sung Choi

10: 30-10: 40 Coffee Break

10: 40-12: 10 Session A-2 : CSA
(HALL A)
(Chair: Fei Hao)

- 1. Design and Implementation of a Partial Denoising Boundary Matching System Using Indexing Techniques**
Bum-Soo Kim, Jin-Uk Kim
- 2. A Tamper-Proof Digital Archiving Scheme Based on Blockchain**
Euihyun Jung
- 3. Differential data processing for energy efficiency of wireless sensor networks**
Kwang Kyu Lim, JiSu Park, Byeong Rae Lee, Jin Gon Shon

- 4. Performance Improvement on Object Detection for the Specific Domain Object Detecting**
Hyungi Hong, Mokdong Chung
- 5. Implementation of Automatic Adjustment of Font Size System on Smartphone**
Kyoung Soon Hong, JiSu Park, Kang Hyun Kim, Jin Gon Shon
- 6. Design and Implementation of an Enhanced Certified Document Archive System based on PDF**
Hyun Cheon Hwang, JiSu Park, Hyoung Guen Kim, Jin Gon Shon

10: 40-12: 10 Session B-2 : CSA
(HALL B)
(Chair: Seung-Ho Lim)

- 1. Development of usable communication reasoning system using connection information for efficient conversion of connection**
Taehoon Koh, Yonghoon Kim, Kamyoun Park, Kyungryoung Seo
- 2. Textual Classification to Distributional Representation using Cohesion Devices**
Yonghoon Kim, Sookhyun Jung, Jee-Won Hahn, Mokdong Chung
- 3. Information Assurance Requirements for software controlled measuring instruments**
Seung-hwan Ju, Kwang-jae Song, Sang-hoon Song, Hee-suk Seo
- 4. Extraction of Camera Parameters for Image-Based Motion Capture**
Nu-lee Song, Man-ki Kim, Hern-soo Han, Dong-ho Kim, Gye-yong Kim
- 5. Serverless Framework for Efficient Resource Management in Docker Environment**
Sangwook Han, Minsu Chae, HwaMin Lee
- 6. Switchless Interconnect Network with PCIe Non-Transparent Bridge Interface**
Sang-Gyum Kim, Yang-Woo Lee, Seung-Ho Lim, Kwang-ho Cha

10: 40-12: 10 Session C-2 : CUTE
(HALL C)
(Chair: Jin Gon Shon)

- 1. Overview of data deduplication technology in a cloud storage environment**
Won-Bin Kim, Im-Yeong Lee
- 2. IoT Based Automatic Notification System in Factory Using Walkie-Talkies**
Hyunmin Park, Jaewook Jeon
- 3. A Communication Challenges and Framework for the Control and Monitoring of Autonomous Ship**
Kwangil Lee
- 4. High-speed Horizon Line Detection Algorithm using Dual Hough Algorithm for Marine Image**
Hyeoncheol Shin, Kwangil Lee
- 5. Service integration methodology for convergence service in science and technology**
Yunhee Kang, Young Chul Kim, HeeSeok Cho
- 6. The SA management scheme based on Blockchain for convergence service in S&T**
Yunhee Kang, R. Young Chul Kim, HeeSeok Choi

12: 10-13: 30 Lunch

13: 30-15: 00 Session A-3 : CSA
(HALL A)
(Chair: JinSoo Park)

1. **Automatic Segmentation of Human Spine with Deep Neural Network**
Xu Yin, Yan Li, Byeong-seok Shin
2. **Mid-Level Feature Extractor for Transfer Learning to Small-Scale Dataset of Medical Images**
Dong-ho Lee, Yeon Lee, Byeong-seok Shin
3. **Vehicular Fog Computing based Traffic Information Delivery System to Support Connected Self-driving Vehicles in Intersection Environment**
Joosang Youn
4. **Mobile health monitoring system including biofeedback training through analysis of PPG and respiratory pattern change**
Daechang Kim, Jaeyong Kim, Jaehoon Jeong, Sungmin Kim
5. **Anti-motion Blur Method using Conditional Adversarial Networks**
Myeong Gyu Lee, ChengNan Lu, Daniel Chung, Wee Jia Foon, Ilju Ko, Kok Yoong Lim, Jinho Park
6. **A Rationalization of Hangul Codes Based on Jeongeum Principle in ISO/IEC10646BMP**
Jeongyong Byun

13: 30-15: 00 Session B-3 : CSA
(HALL B)
(Chair: Hyon Hee Kim)

1. **Design of a Full Body Tracking-based VR Fighting Game**
Hoyong Kim, Guoqing Wu, Joon-Min Gil, Yunsick Sung
2. **Smart contract based academic paper review system**
Min Jae Yoo, Yoojae Won
3. **An Optimal Time Allocation to Maximize Total Average Transmission Data of Two-way Relay System**
Taehoon Kwon
4. **Real time Message Process Framework for Efficient Multi Business Domain routing**
KyoEun Kim, DongBum Seo, You-Boo Jeon, Seong-Soo Han, Doo-Soon Park, Chang-Sung Jeong
5. **Malware classification using machine learning**
JinSu Kang, Yoojae Won
6. **Operating system fingerprint recognition using ICMP**
Jinho Song, Yonggun Kim, Yoojae Won

13: 30-15: 00 Session C-3 : CUTE
(HALL C)
(Chair: Geun-Hyung Kim)

- 1. A Development of Adolescent Depression Screening using Naïve Bayes Classifier Algorithm**
Samuel Garbo, Ha-Yeong Kim, Syntia Widyayuningtias Putri, Ermal Elbasani, Hye-Sun Ahn, Jeong-Dong Kim
- 2. Survey of Digital Signature Technology for IoT Environment: Focused on KSI's Global Timestamping Technique**
Gyeong-Jin Ra, Im-Yeong Lee
- 3. Decentralized Blockchain-based Android App Store with P2P File System**
Junhoo Park, Suhyu Lee, Geunyoung Kim, Jaecheol Ryou
- 4. A Development of Advanced Communication Platform (ACP) Using Web-AR**
Minjeong Song, Sunggeun Yoo, Gooman Park, Sangil Park
- 5. Design and Implementation of Real-time Web Authoring Tool based on Drag-and-Drop Method**
Kichoel Park, Boseon Hong, Sangkyun Ko, Bongjae Kim
- 6. An Efficient Method for Wide Area Event Detection and Prediction Using Regression Model**
Manh Luong Tien, Ermal Elbasani, Jae Sung Choi

15: 00-15: 10 Coffee Break

15: 10-16: 40 Session A-4 : CSA
(HALL A)
(Chair: Yeong-Seok Seo)

- 1. A Study of a Common Network Behavior Detection System Using Remote Live Forensics**
Jeonghoon Seo, Yoojae Won
- 2. A Study on PGP (Pretty Good Privacy) Using Blockchain**
Chang-Hyun Roh, Im-Yeong Lee
- 3. OAuth-based Access Control Scheme Against Replay Attacks in IoT Environment**
Dae-Hwi Lee, Im-Yeong Lee
- 4. A Study on Secure Data Access Scheme Based on CP-ABE in Cloud Environments**
Yong-Woon Hwang, Im-Yeong Lee
- 5. An Approach to Avoiding Redundant Response of Chatbot by Analyzing Redundancy Patterns**
Hyuck-Moo Gwon, Yeong-Seok Seo
- 6. Recovering Hierarchical Subsystem Decomposition using Genetic Algorithm**
Jimin Hwa, Yeong-Seok Seo
- 7. Software Test Effort Estimation based on Source Code Change History and Defect Information**
Jongse Won, Yeong-Seok Seo

15: 10-16: 40 Session B-4 : CSA
(HALL B)
(Chair: Yoo-Joo Choi)

- 1. Effective Data Transfer Method using Local Network in Building IoT Environments**
Hwirim Byun, Hyeyoung Kang, Hyun-Woo Kim, Young-Sik Jeong
- 2. Facial Photo Recognition using Deep Learning in Archival Record Management System**
Gantur Togtokh, Kyung Chang Kim, Kang Woo Lee
- 3. A dynamic plane scaling method for smart dust environments**
Joonsuu Park, KeeHyun Park
- 4. Analysis of psychological stability and EEG-based control efficacy of infants by stimulation technique -infant car seat seating environment**
Jeong-Hoon Shin, Hyeon-Cheol Seo
- 5. Combination scheme of Harr and Hog Descriptor for Real-time Video Intrusion and Loitering Detection**
Kwang-il Hwang
- 6. Distributed Job Scheduling for High Throughput Computing based on Integrated Heterogeneous Resources**
Jueun Jeon, Seok-Hyeon Han, Hoyong Kim, Hyun-Woo Kim, Young-Sik Jeong

15: 10-16: 40 Session C-4 : CUTE
(HALL C)
(Chair: Kwang-Man Ko)

- 1. A tracking-by-detection system for pedestrian tracking using deep learning technique and color information**
Mai Thanh Nhat Truong, Sanghoon Kim
- 2. Analytic Hierarchy Process based Cloud Service Assessment Model using Service Measure Index**
Young-Rok Shin, DongKwan You, Eui-Nam Huh
- 3. Design of Science App Management Tool for Computational Science Engineering Platform**
Inho Jeon, Yejin Kwon, Jin Ma, Jongsuk Ruth Lee, Jerry H. Seo
- 4. QoE unfairness in Dynamic Adaptive Streaming over HTTP**
Geun-Hyung Kim
- 5. A Decentralized Consensus Secure and Authentication Framework for Blockchain-Based Healthcare Application**
Haider Dhia Zubaydi, Yung-Wey Chong, Gyu-Sung Ham, Kwang-Man Ko, Su-Chong Joo
- 6. Developing Interactive Planning Methodology for EPC Projects**
Jaehyun Choi, Hankyeom Wang

16: 40-17: 30 Break

17: 30-19: 30 Keynote Speech & Banquet

Keynote Speech: Han-Chieh Chao
“Deep Learning Platform for B5G Mobile Network”

Day 2, December 18, 2018 (Tuesday)

08: 40-09: 00 Registration

09: 00-10: 30 Session A-5 : Workshop: IPV 2018
(HALL A)
(Chair: Nammee Moon)

- 1. Analyzing Twitter Data of Family Caregivers of Alzheimer’s Disease Patients based on the Depression Ontology**
Hyon Hee Kim, Sohee Jeong, Annie Kim, Donghee Shin
- 2. Deep-Learning-Based Image Tagging for Semantic Image Annotation**
Yoonmi Shin, Kwangwon Seo, Jinhyun Ahn, Dong-Hyuk Im
- 3. Dynamic Projection Mapping using Kinect-based Skeleton Tracking**
Sang-Joon Kim, Yoo-Joo Choi
- 4. Design of image generation system for DCGAN based picture book text**
JaeHyeon Cho, Nammee Moon
- 5. Design Automation System for Review Analysis affiliation for Online Educator Reliability Prediction**
Kihoon Lee, Hyogun Kym, Nammee Moon
- 6. Design of Establishment system of Satisfaction Index for Tourist Sites according to the weather Using Deep Neural Network**
Hyeon-woo An, Kyungrog Kim, Nammee Moon
- 7. Mining Semantic Tags in a Content Analysis System for a Letter Database of Ethnic Koreans Living in China**
Hyon Hee Kim, Yuntae Kim, Hyong-Jin Moon, Jungsun Choi, Joo-mi Lee, Songho Ye, Seunghyun Seo, Jinnam Jo
- 8. LSTM-based Consumption type Prediction Model**
Jinah Kim, Nammee Moon

09: 00-10: 30 Session B-5 : CSA
(HALL B)
(Chair: Yeong-Seok Seo)

- 1. A Research on temperature control system of server room using IPMI**
In-junOck, Min Choi
- 2. Generation of Similar Traffic Using GAN for Resolving Data Imbalance**
Woo Ho Lee, Chae Sang Lim, Bong Nam Noh
- 3. Design of an Improved Algorithm for VR-based Image Processing**

Young-Hwan Jang, Seung-Su Yang, Min-Hyung Park, Seungho Han, Seok-Cheon Park, Hyungjoon Kim

4. Design of Personalized Smart Wellness Information Management System through Wellness Data Analysis

Young-Hwan Jang, Seung-Su Yang, Min-Hyung Park, Seungho Han, Seok-Cheon Park, Hyungjoon Kim

5. Design of POI Extraction Speed Improving Algorithm Based on Big Data

Young-Hwan Jang, Seung-Su Yang, Min-Hyung Park, Seok-Cheon Park, Hyungjoon Kim

6. The Retrieval of Regions with Similar Tendency in Geo-Tagged Dataset

Taehyung Lim, Woosung Choi, Minseok Kim, Taemin Lee, Soonyoung Jung

09: 00-10: 30 Session C-5 : CUTE

(HALL C)

(Chair: Jin Wang)

1. Research on MIDI audio watermarking algorithm based on time dynamics

ZhaoLong Liu, Liang Chen, De Li

2. Movie Recommendation System using k-clique and Association Rule Mining

Phonexay Vilakone, Doo-Soon Park, Khamphaphone Xinchang

3. Movie Recommendation System using Social Network Analysis and k-Nearest Neighbor

Khamphaphone Xinchang, Doo-Soon Park, Phonexay Vilakone

4. Learning the Pricing Model of Sensing Tasks in Crowdphotographing

Fei Hao, Huijuan Guo, Doo-Soon Park

5. Tensor Decomposition based Electrical Data Recovery

Shiming He, Zhuozhou Li, Jing Wang, Kun Xie, Dafang Zhang

6. Compressing Deep Neural Network

Shiming He, Zhuozhou Li, Jing Wang, Kun Xie, Dafang Zhang

7. A Study on Improvement of Recognition Rate by Analysis of Speech Recognition Error of AI Speaker

Ayeong Lee, Jungho Kang, Sunghyun Jee

10: 30-10: 40 Coffee Break

10: 40-12: 10 Session A-6 : CSA

(HALL A)

(Chair: JiSu Park)

1. A Study of Open Big-Data Platform Architecture for Housing Market Analysis

Sang-Hun Lee, Jeong-Ran Yun, Tae-Gyun Kim, Jung-Min Oh

2. A Study on Integrated Maneuvering Performance Simulation System for a Vessel

NamHyun Yoo

3. A Study on Debugging Method for Engineering Software using Marshalling in Restricted Environment

NamHyun Yoo

4. Directional Antenna Prediction Control System for Stable Communication of Small Unmanned Surface Vehicle

NamHyun Yoo

5. A Suggestion of image's position analysis system using Beacon positioning

Seo Kyung Jung, Sung Geun Yoo, Sangil Park

10: 40-12: 10 Session B-6 : CSA

(HALL B)

(Chair: Yeong-Seok Seo)

1. Comparison of motion similarity using image

Yunsang Jeong, Jinu Kim, Fajrul Norman Rashid, Lim Kok Yoong, Dongho Kim, Jinho Park

2. A study on Identification System Model to Face Recognition

Byung-Joon Park, You-Boo Jeon, JinSoo Park, Seong-Soo Han

3. Golf Swing Recognition using Low-cost Smart Insole

Eun-Young Lee, Jinu Kim, Dongho Kim

4. Singing Lip Sync Animation System Using Audio Spectrum

Namjung Kim, Kyoungju Park

10: 40-12: 10 Session C-6 : CUTE

(HALL B)

(Chair: Yeon Lee)

1. Interference-Aware Routing for Multi-hop Energy-constrained Wireless Network with SWIPT

Shiming He, Kun Xie, Jin Wang, Dafang Zhang

2. Parking Occupancy Detection: A Lightweight Deep Neural Network Approach

Chin-Kit Ng, Soon-Nyeon Cheong, Yee-Loo Foo

3. Detecting Driver Drowsiness based Fusion Multi-Sensors method

Svetlana Kim, Hyunho Park, Yong-Tae Lee, YongIk Yoon

4. Energy-based Routing with Rendezvous for DTN-based UAV Networks

Taehyuk Kim, Euri An, Wooyeob Lee, Inwhae Joe

5. Deep Learning based Algorithm for Object Identification in Multimedia

Sang-Gyun Ko, Bongjae Kim, Jeong-Dong Kim

6. An Educational Data Mining with Bayesian Networks for Analyzing Variables Affecting Parental Attachment

Euihyun Jung

7. Parallel Graph Clustering based on Minhash

Byoungwook Kim, Jaehwa Chung, Joon-Min Gil, JinGon Shon

Day 3, December 19, 2018 (Wednesday)

10:00-12:00 CSA - Organizing Committee Meeting

13:00-15:00 CUTE - Organizing Committee Meeting

15:00-17:00 Local Arrangement Committee Meeting

Conference Venue

Double Tree by Hilton Hotel Kuala Lumpur

- Address: The Intermark 348 Jalan Tun Razak, Kuala Lumpur, 50400, Malaysia
- TEL: +60-3-21727272
- FAX: +60-3-21727270



DoubleTree by Hilton Hotel Kuala Lumpur welcomes you with a signature warm cookie and outstanding Malaysian hospitality. Conveniently located in the heart of the Malaysian capital city and connected to The Intermark office and shopping development, this Kuala Lumpur hotel is within a 10-minute walk of Petronas Twin Towers and Kuala Lumpur Convention Center. Ampang Park LRT metro station is only 5 minutes via covered walkway.

Direction

Head northeast following signs for Kuala Lumpur city, take the Kuala Lumpur–Putrajaya highway and after 25KM exit on to Jalan Tun Razak, follow this for a further 1.5km and you will see hotel on the right after the Jalan Ampang intersection

Directions from the Hotel Staff

[FROM KUALA LUMPUR INTERNATIONAL AIRPORT (KLIA)]

- Express Train
KLIA Ekspres is the fastest way to travel from KLIA to Kuala Lumpur, connecting the airport to the city centre in 28 minutes by stopping at KL Sentral. At KL Sentral, switch to the Rapid KL train arriving at Ampang Park station followed by an 8-minute short walk using the covered link bridge to arrive hotel.
- Airport Taxis
The taxi and limo services at KLIA operate through a coupon system that travelers can purchase at Airport Limo counters located at the Arrival Hall, Main Terminal Building:
 1. International Arrival Hall (just after Customs, before the public arrival area)
 2. Domestic Arrival Hall (public area after Domestic Baggage Clearance)
 3. Domestic Baggage Reclaim, Arrival Level
- Hotel Limo Pick-Up Services
This can be pre-arranged with the hotel via guest services prior to arrival to make the 60km journey hassle-free and comfortable. Our airport representative will be on hand to direct you to the awaiting limousine.

[FROM KUALA LUMPUR INTERNATIONAL AIRPORT 2 (KLIA 2)]

- **Express Train**
KLIA 2, located 2km away from KLIA, is accessible via a 2.2km extension of the existing express train line. KLIA Ekspres is an express rail service that operates a non-stop route from KL Sentral to KLIA. The route is extended to KLIA 2, providing the same express service for passengers traveling to and from KL Sentral to both airports. It is a 33-minute journey from KLIA 2 to KL Sentral, after which travelers are to switch to the Rapid KL LRT train arriving at Ampang Park station followed by an 8-minute short walk using the covered link bridge to arrive hotel.
- **Airport Taxis**
Taxi services are available 24 hours at the Transportation Hub located at Level 1 of the Gateway@KLIA2 building. There are 3 types of taxi services offered, namely Coupon Taxi, Metered Taxi or Premier Taxi. After you have selected your taxi services at the taxi payment counter, exit Door 4 to queue up for your taxi.
- **Hotel Limo Pick-Up Services**
This can be pre-arranged with the hotel via guest services prior to arrival to make the 60km journey hassle-free and comfortable. Our airport representative will be on hand to direct you to the awaiting limousine.