

The 8th International Conference on Computer Science and its Applications (CSA 2016)
The 11th KIPS International Conference on Ubiquitous Information Technologies and Applications (CUTE 2016)

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Science and its Applications
(CSA 2016)**
&
**The 11th KIPS International Conference on
Ubiquitous Information Technologies and
Applications
(CUTE 2016)**

December 19-21, 2016
Bangkok, Thailand

Organized by

KIPS CSWRG

Conferences

**The 2017 Global Conference on Information Technology, Computing, and Applications
(Global IT 2017)**

- January, 9-11, 2017, Clark, Philippines
- <http://www.globalitconf.org/2017>

**The 2017 World Congress on Information Technology Applications and Services
(WITC 2017)**

- February, 14-16, 2017, Jeju, Korea
- <http://www.worlditcongress.org/2017>

**The 11th International Conference on Multimedia and Ubiquitous Engineering
(MUE2017)**

- May, 17-19, 2017, Danang, Vietnam
- <http://www.mue-conference.org/2017>

**The 12th International Conference on Future Information Technology
(FutureTech2017)**

- May, 17-19, 2017, Danang, Vietnam
- <http://www.futuretech-conference.org/2017>

**The 9th International Conference on Computer Science and its Applications
(CSA 2017)**

- December, 18-20, 2017, Taichung, Taiwan
- <http://www.csa-conference.org/2017>

**The 12th KIPS International Conference on Ubiquitous Information Technologies and
Applications
(CUTE 2017)**

- December, 18-20, 2017, Taichung, Taiwan
- <http://www.cute-conference.org/2017>

Message from the CSA 2016 General Chair

International Conference on Computer Science and its Applications (CSA 2016) is the 8th event of the series of international scientific conference. This conference takes place Bangkok, Thailand, Dec. 19 - 21, 2016. CSA 2016 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications. CSA 2016 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 2016 is the next event in a series of highly successful International Conference on Computer Science and its Applications, previously held as 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), Han-Chieh Chao(National Ilan University, Taiwan) and Mohammad S. Obaidat(Monmouth University, USA). Our special thanks go to the Program Chairs: Gangman Yi (Dongguk University, Korea), Houcine Hassan (Universitat Politècnica de València, Spain), Yu Chen (State University of New York, Korea), Hwamin Lee (Soonchunhyang University, Korea), Jin Wang (Yangzhou University, China), Jaeho Lee (Seowon University, Korea), 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 2016 General Chair

Young-Sik Jeong, Dongguk University, Korea
Yang Xiao, University of Alabama, USA
Vincenzo Loia, University of Salerno, Italy
Rung-Shiang Cheng, Kunshan University, Taiwan
Victor Leung, University of British Columbia, Canada
Ka Lok Man, Xi'an Jiaotong-Liverpool University, China

Message from the CSA 2016 Program Chairs

Welcome to the 8th International Conference on Computer Science and its Applications (CSA 2016) which will be held in Bangkok, Thailand, Dec. 19 - 21, 2016. CSA 2016 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications.

CSA 2016 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 2016 is the next event in a series of highly successful International Conference on Computer Science and its Applications, previously held as 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 2016 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. Han-Chieh Chao, and Prof. Mohammad S. Obaidat, the Steering Committee Chairs of CSA for their strong encouragement and guidance to organize the symposium. We would like to thank CSA 2016 General Chair, Prof. Young-Sik Jeong, Prof. Yang Xiao, Prof. Vincenzo Loia, Prof. Rung-Shiang Cheng, Prof. Victor Leung, and Prof. Ka Lok Man. We would like to express special thanks to committee members for their timely unlimited support.

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Message from the CUTE 2016 General Chairs

On behalf of the organizing committees, it is our pleasure to welcome you to the 11th International Conference on Ubiquitous Information Technologies and Applications (CUTE 2016), will be held in Bangkok, Thailand on December 19-21, 2016.

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), Young-Sik Jeong (Dongguk University, Korea), Doo-Soon Park (SoonChunHyang University, Korea), 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), Minyi Guo (Shanghai Jiao Tong University, Japan), and 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.

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Gangman Yi, Dongguk University, Korea
Myung-Hyun Yoon, KETI, Korea
No Byung-Gyu, KISA, Korea
Hyoung Woo Park, KISTI, Korea

Message from the CUTE 2016 Program Chairs

Welcome to the 11th International Conference on Ubiquitous Information Technologies and Applications (CUTE 2016), will be held in Bangkok, Thailand on December 19-21, 2016.

The purpose of the CUTE 2016 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 2016 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 2016, 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 2016 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.

We would also like to sincerely thank the following invited speakers who kindly accepted our invitations, and, in this way, helped to meet the objectives of the conference:

- John Choi, Ph.D., Sangmyung University, Korea
- Yi Pan, Ph.D., Georgia State University, USA

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!

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Q. Shi, Liverpool John Moores University, UK
Wei Wei, Xi'an University of Technology, China
Wen-Chi Hou, Southern Illinois University, USA
Yang-Sae Moon, Kangwon National University, Korea

Plenary Speaker



Deep Learning for Big Data and Bioinformatics

Prof. Yi Pan, Ph.D.

Regents' Professor and Associate Dean
Georgia State University
Atlanta, Georgia, USA

Abstract

Deep learning is a very hot area of machine learning research with many remarkable recent successes in computer vision, automatic speech recognition, natural language processing, and audio recognition, and medical imaging processing. AlphaGo, the first Computer Go program to beat a professional human Go player, uses a deep learning method. Although various deep learning architectures such as deep neural networks, convolutional deep neural networks, deep belief networks and recurrent neural networks have been applied to many big data applications, using deep learning to solve bioinformatics problems is still in its infancy. In this talk, I will outline the challenges and problems in existing deep learning methods when applying it to big data in general and bioinformatics in particular, and propose several variations to improve the accuracies and learning speeds of the existing deep learning architectures and methods. These new deep learning architectures and algorithms will be applied to several big data applications including image segmentation, DNA sequence annotation, long intergenic non-coding RNA detection, and gene structure prediction. The data encoding schemes, the choice of architectures and methods used will be described in details. Performance comparisons with other machine learning and existing deep learning methods will be reported. The experimental results show that deep learning is very promising for many bioinformatics applications. Future research directions in this existing area will also be outlined.

Biography

Yi Pan is a Regents' Professor of Computer Science and an Associate Dean at Georgia State University, USA. He is also a visiting Changjiang Chair Professor at Central South University, China. Dr. Pan received his B.Eng. and M.Eng. degrees in computer engineering from Tsinghua University, China, in 1982 and 1984, respectively, and his Ph.D. degree in computer science from the University of Pittsburgh, USA, in 1991. His profile has been featured as a distinguished alumnus in both Tsinghua Alumni Newsletter and University of Pittsburgh CS Alumni Newsletter. Dr. Pan's research interests include parallel and cloud computing, wireless networks, and bioinformatics. Dr. Pan has published more than 180 journal papers with over 60 papers published in various IEEE journals. In addition, he has published over 150 papers in refereed conferences. He has also co-authored/co-edited 40 books. His work has been cited more than 8000 times. Dr. Pan has served as an editor-in-chief or editorial board member for 15 journals including 7 IEEE Transactions. He is the recipient of many awards including IEEE Transactions Best Paper Award, IBM Faculty Award, JSPS Senior Invitation Fellowship, IEEE BIBE Outstanding Achievement Award, NSF Research Opportunity Award, and AFOSR Summer Faculty Research Fellowship. He has organized many international conferences and delivered keynote speeches at over 50 international conferences around the world.

Invited Speaker 1



Improving Situational Awareness with Granular and Computational Intelligence

Vincenzo Loia, Ph.D.

Chair Professor
Department of Management and Innovation Systems
University of Salerno, Italy

Abstract

Situational Awareness is usually defined in terms of what information is important for a particular job or goal. Most of the problems with Situational Awareness occur at the level “Perception” and “Comprehension” because of missing information, information perceived in a wrong way or also information not pertinent with respect to the specific goal. Situational Awareness requirements are different for different domains and human roles, this demands taking into account different views and levels of “granularity” of information and approximate representation. Situational Awareness oriented systems have to organize information around goals and provide a proper level of abstraction of meaningful information. To answer these issues, we propose general human-oriented perception model consists of three processes (not strictly separated):

- Sensation: the basic experience generated as stimuli fall on our sensory systems
- Perception is the interpretation of the sensations, giving them meaning and organization
- Cognition: acquisition, retrieval and exploitation of the information

In the talk we will deepen how hybrid approaches encompassing Semantic Web, Intelligent Agents, Computational Intelligence, and Granular Computing can be useful if employed in the three processes and the pros/cons of the derived experiences. Practical experiences deriving from the realization of complex systems in the domain of Smart Cities will be presented during the talk.

Biography

Dr. 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 Situational Awareness, IT Project & Service Management. His current position is as Full Professor of Computer Science at Department of Management and Innovation Systems. He was principal investigator in a number of industrial R&D projects and in academic research projects. He is author of over 390 original research papers in international journals, book chapters, and in international conference proceedings. He edited four research books around agent technology, Internet, and soft computing methodologies.

Invited Speaker 2



How to Protect Enterprise Security from Photo-Shot of Micro Devices and Smart Phones?

Prof. John Choi, Ph.D.

Professor Department of Computer Science
Sangmyung University
Seoul, South Korea

Abstract

Smartphones, cameras and micro devices are the source of confidential information leakage. Information displayed on user devices can be easily filmed or photoed. To trace sources of information leakage a new text watermarking system is developed which can embed more than 230 distinct user information invisibly into a single page. This enterprise security system can frustrate malicious users by continuously changing embedding parameters, embedding mode every line and initial embedding point every page.

Biography

John Choi earned his Ph.D from University of South Carolina in 1988, worked as a Director, AI lab at SERI, KIST(System Engineering Research Institute) 1988-1991, and then taught computers at department of computer science, Sangmyung University 1991-2016. While he was teaching computers at Sangmyung University, he established an enterprise, MarkAny, with his lab students in 1999. Based on Watermarking and DRM (Digital Right Management) technologies, Dr. Choi has successfully developed and provided solutions: internal security product, forgery prevention system, e-book platform, audio watermark, and video watermark. MarkAny's audio watermarking technology is being employed by global music distributors including Universal Music Group, Sony BMG, Warner Bros., etc., for music pre-release. MarkAny has provided document security solutions to more than 2,200 sites in the world. Because of his career in the development of copyright protection technologies, DRM and Watermarking, he is leading a national R&D project of developing 3D content copyright protection system and technology.

PROGRAM SCHEDULE FOR CSA & CUTE 2016

Day 1, December 19 , 2016				
Time	Min	HALL A	HALL B	HALL C
08: 40-09: 00	20	Registration		
09: 00-10: 30	90	Session A-1 CUTE Chair: Sang-Gug Park	Session B-1 CUTE Chair: Joon-Min Gil	Session C-1 CSA Chair: Kwangman Ko
10: 30-10: 40	10	Coffee Break		
10: 40-12: 10	90	Session A-2 CUTE Chair:Kyu Ik Kim	Session B-2 CUTE Chair: Aziz Nasridinov	Session C-2 CSA Chair: Jong-Wook Jang
12: 10-13: 30	80	Lunch		
13: 30-14: 30	60	Keynote: How to Protect Enterprise Security from Photo-Shot of Micro Devices and Smart Phones? John Choi. Professor at Sangmyung University, South Korea Chair: Kwang-II Hwang		
14: 30-14: 40	10	Coffee Break		
14: 40-16: 10	90	Session A-3 CUTE Chair: Joon-Min Gil	Session B-3 CUTE Chair: Aziz Nasridinov	Session C-3 CSA Chair: Yunsick Sung
16: 10-16: 20	10	Coffee Break		
16: 20-17: 50	90	Session A-4 CUTE Chair: Hyun-Woo Kim	Session B-4 AIC Chair: Taeun Kim	Session C-4 CSA Chair: Unil Yun
18: 00-20: 00	120	Reception Chair: Kwang-II Hwang		

1. A paper presentation should be made by one of authors of the paper for 20 minute (15 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.

Day 2, December 20 , 2016				
Time	Min	HALL A	HALL B	HALL C
08: 40-09: 00	20	Registration		
09: 00-10: 30	90	Session A-5 WTSFLC 2016 Chair: Doo-Soon Park	Session B-5 CUTE Chair: Jin Gon Shon	Session C-5 CSA & CUTE Chair: Hyun-Woo Kim
10: 30-10: 40	10	Coffee Break		
10: 40-12: 10	90	Session A-6 CUTE Chair: Pyung Soo Kim	Session B-6 CUTE Chair: Soohyun Cho	Session C-6 FIDPS Chair: Byoung Chul Ko
12: 10-13: 30	80	Lunch		
13: 30-14: 30	60	Keynote: Improving Situational Awareness with Granular and Computational Intelligence Vincenzo Loia, Ph.D. Chair Professor, Department of Management and Innovation Systems University of Salerno, Italy Chair: Kwang-II Hwang		
14: 30-14: 40	10	Coffee Break		
14: 40-15: 55	75	Session A-7 CUTE Chair: Jeongyong Byun	Session B-7 ITSRMS 2016 Chair: Byungjeong Lee	Session C-7 CSA Chair: Mun-Kyu Lee
15: 55-16: 05	10	Coffee Break		
16: 05-17: 20	75	Session A-8 BIC Chair: Eunmi Choi	Session B-8 ITSRMS 2016 Chair: Jung-Won Lee	Session C-8 CSA Chair: Yunsick Sung
17: 30-20: 00	120	Keynote: Deep Learning for Big Data and Bioinformatics Yi Pan. Regents' Professor and Associate Dean, Georgia State University, USA & Banquet Chair: Kwang-II Hwang		

Day 3, December 21, 2016				
Time	Min	HALL A	HALL B	HALL C
10: 00-12: 00	120	CSA - Organizing Committee Meeting		
13: 0-15: 00	120	CUTE - Organizing Committee Meeting		
15: 00-17: 00	60	Local Arrangement Committee Meeting		

INFORMATION TECHNOLOGIE
THE 8TH INTERNATIONAL CONFERENCE ON
COMPUTER SCIENCE AND ITS APPLICATIONS (CSA 16)
&
THE 11TH KIPS INTERNATIONAL CONFERENCE
ON UBIQUITOUS INFORMATION TECHNOLOGIES AND
APPLICATIONS (CUTE 2016)

Day 1, December 19, 2016 (Monday)

08: 30-09: 00 Registration

09: 00-10: 30 Session A-1 : CUTE
(HALL A)
(Chair: Chair: Sang-Gug Park)

- 1. The Development of COB type LED Lighting System for High Temperature Machine Vision**
Sanggug Park
- 2. A user empirical context model for a smart home simulator**
Green Bang, Ilju Ko
- 3. Co-Display Content Service for First-Person Videos of Smart Glass**
Bokyung Sung, Ilju Ko
- 4. Probabilistic Analysis for the Relationship between Min-Entropy and Guessing Attack**
Ju-Sung Kang, Hojoong Park, Yongjin Yeom
- 5. Dynamic QoS Scheme for InfiniBand-based Clusters**
Bongjae Kim, Jeong-Dong Kim
- 6. Applying PE-Miner Framework to Software Defined Network Quarantine**
Dong-Hee Kim, Soo-Hwan Lee, Won-Sik Doo, Sang-Il Ahn, Tai-Myoung Chung
- 7. A Novel Method for Eliminating Duplicated Frames in Ethernet Standard (IEEE 802.3) Networks**
Saad Allawi NSAIF, Jong Myung RHEE
- 8. APTEMS: A Log Collecting and Analyzing System for Cyber Attack Countermeasures in IEC 61850-based Networks**
Inhoe Kim, Kyutae Lee, Seokhong Min, Jaedouk Choi

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

- 1. A Study of Malicious Code Classification System using MinHash in Network Quarantine using SDN**
Soo-Hwan Lee, Myeong-Uk Song, Jun-Kwon Jung, Tai-Myoung Chung
- 2. Application of RFID and Computer Vision for the Inventory Management System**
Ganjar Alfian, Jaeho Lee, Hyejung Ahn, Jongtae Rhee
- 3. Prediction Method for Suspicious Behavior based on Omni-view Model**
Ji-Hyen Choi, Jong-Won Choe, YongIk Yoon
- 4. Optimal 3D Printing Direction for Stability of Slanted Shapes**
Jiyoung Park, Hwa Seon Shin
- 5. A Study on DDS-Based BLE Profile Adaptor for Solving BLE Data Heterogeneity in Internet of Things**
Jung-Hoon Oh, Moon-Ki Back, Gil-Tak Oh, Kyu-Chul Lee
- 6. A Study of Environment-Adaptive Intrusion Detection System**
Ki-Hyun Lee, Young.B Park
- 7. OFART: OpenFlow-switch Adaptive Random Testing**
Dong-Su Koo, Young.B Park
- 8. A Hierarchical Motion Estimation based on the Properties of Motion Vectors for Low Complexity in Video Coding**
Hyo-Sun Yoon, Mi-Young Kim

09: 00-10: 30 Session C-1 : CSA
(HALL C)
(Chair: Kwangman Ko)

- 1. Design and Development of a Robotic Arm for Rehabilitation and Training**
Sarut Panjan, Siam Charoenseang
- 2. How to train people to increase their security awareness in IT**
Agata Niescieruk, Bogdan Ksiezopolski, Radoslaw Nielek, Adam, Wierzbicki
- 3. Detection of a Robust High-frequency Range via Noise Analysis in a Real-world Environment**
Myoungbeom Chung, Ilju Ko
- 4. Intelligent Food Distribution Monitoring System**
Ganjar Alfian, Hyejung Ahn, Yoonmo Shin, Jaeho Lee, Jongtae Rhee
- 5. Korean-to-Korean Translation based Learning Contents Management System for Parents of Multi-cultural Family**
YunHee Kang, Myung Ju Kang, WooSik Kim
- 6. SOA based Equipment Data Management System for Smart Factory**
YunHee Kang, Soong-ho Ko, Kyoungwoo Kang
- 7. A Survey and Design of a scalable mobile edge cloud platform for the smart IoT devices and it's applications**
Yeongpil Cho, Yunheung Paek, Ejaz Ahmed, Kwangman Ko
- 8. An Automatic Patch Management System with Improved Security**
JunHee Kim, MinSeok Sohn YooJae Won

10: 30-10: 40 **Coffee break**

10: 40-12: 10 Session A-2 : CUTE
(HALL A)
(Chair:Kyu Ik Kim)

- 1. Proposal of a Resource-Monitoring Improvement System Using Amazon Web Service API**
Kyu Ik Kim, Musa Ibrahim M. Ishag, Myungsic Kim, Jin Suk Kim, and Keun Ho Ryu
- 2. An Improved Pedestrian Detection System that Utilizes the HoG-UDP Algorithm**
Pyeong-Kang Kim, Hyung-Heon Kim, Tae-Woo Kim
- 3. A Dynamic Service Binding Scheme with Service OID for IoT**
Euihyun Jung
- 4. Study of Big data analysis procedures**
Joon Ho Park, Jin Ho Park, and Nam Young Lee
- 5. Deep Analysis of Tag Interference by Tag to Tag Relative Angles with Passive Far Field UHF RFID system**
Jae Sung Choi, Hyun Lee
- 6. Simple Method of Video Mapping of Multiple Targets**
In-jae Jo, Joohun Lee, Yoo-Joo Choi
- 7. Image based Video Querying Algorithm using 3-Level Haar Wavelet Transform Features**
Changseok Bae, Yuk Ying Chung, Jeunwoo Lee
- 8. Design and Implementation of the Mobile Learning App for Creative Problem Solving Activities**
Ji-Hye Bae, Hyun Lee

10: 40-12: 10 Session B-2 : CUTE
(HALL B)
(Chair: Aziz Nasridinov)

- 1. Hedonic Model Study for Retargeting Advertising Based on Space-centered Internet of Things**
Bo-Ram Kim, Man-Soo Chung, Yong-Ik Yoon
- 2. A new Automated Cell Counting Program by using Hough Transform-based Double Edge**
Jae Sung Choi, Moon Jong Choi, Jung-Min Lee, Hyun Lee
- 3. An Approach for Interworking Heterogeneous Networks with DTN and IP Routing in Space Internet**
Euri An, Kyungrak Lee, Jaewon Lee, Inwhee Joe
- 4. Implementation of Recommender System based on Personalized Search using Intimacy in SNS**
Jeong-Dong Kim, Bongjae Kim, Jeong-Ho Park
- 5. A Study on Digitalization of Seafarer's Book Republic of Korea for e-Navigation: Focusing on Wireless Network**
Jun-Ho Huh
- 6. Challenges and Experiment with LoRaWAN**
Seung-Kyu Park, Kwang-il Hwang, Hyo-Seong Kim, Byoung-Sup Shim

10: 40-12: 10 Session C-2 : CSA
(HALL C)
(Chair: Jong-Wook Jang)

- 1. Design of Sudden Unintended Acceleration Check System Using Distance Measurement Sensor**
Jea-Hui Cha, Tae-Hyoung-Kim, Jong-Wook Jang
- 2. Real-time Dynamic Motion Capture using Multiple Kinects**
Seongmin Baek, Myunggyu Kim
- 3. Measurement of Enterprise Smart Business Capability in a Global Management Environment**
Chui Young Yoon
- 4. Single Password Authentication Protocol**
Pramote Kuacharoen
- 5. Performance Analysis of Congestion Control for massive MTC Networks**
Yi-Yen Chen, Yu-Chee Tseng, Jyh-Cheng Chen
- 6. An Empirical Study on the Relationship between User Interface Design Attributes in Smartphone Applications and Intention to Use**
Wonjin Jung, HyungRok Yim
- 7. The SP-tee: A Clustered Index Structure for Efficient Sequential Access**
Guang-Ho Cha

12: 10-13: 30 Lunch

13: 30-14: 30 Keynote Speech
(HALL A)
(Chair: Kwang-Il Hwang)

How to Protect enterprise security from photo-shot of micro devices and smart phones?

Prof. John Choi, Ph.D.,
Professor at Sangmyung University, Korea

14: 30-14: 40 Coffee Break

14: 40-16: 10 Session A-3 : CUTE
(HALL A)
(Chair: Joon-Min Gil)

- 1. What are Learning Satisfaction factors in Flipped Learning?**
Kyung Yeul Kim, Yong Kim
- 2. Development of UI Guideline for Senior Citizens' e-Learning Content**
Myung In Kim, Yong Kim
- 3. Full Duplex Relaying with Buffer Based on Cognitive Radio Technique**
Junsu Kim, Doo-Hee Jung, Jeho Lee, and Su Min Kim
- 4. Design of Docking Drone System using P-PID Flight Controller**

Beck Jong-Hwan, Pak Myeong-Suk, Kim Sang-Hoon

5. **Lightweight security for Underwater IoT**
Sun-Ho Yeom, Jung-Il Namgung, Soo-Young Shin, Soo-Hyun Park
6. **Design and Implementation of Authentication Information Synchronization System for Providing Stability and Mobility of Wireless Authentication**
Yong-hwan Jung, Jang-won Choi, Hyung-ju Lee, Joon-Min Gil, Haeng-gon Lee

14: 40-16: 10 Session B-3 : CUTE
(HALL B)
(Chair: Aziz Nasridinov)

1. **IoT-based smart photo frame**
Ji-Hye Bae, In-Hwan Kim, Yong-Tae Jeon, Hyun Lee
2. **A Fast Algorithm for Generating Virtual Dedicated Network Based on Software-Defined Wide Area Network**
Yong-hwan Kim, Buseung Cho, Dongkyun Kim
3. **A PMIPv6-based Auxiliary Mobility Management Considering Traffic Locality**
Ki-Sik Kong
4. **Resource Allocation in D2D Networks with Location Based Distance Information**
Soo Hyeong Kang, Pyung Soo Kim, Bang Won Seo, Jeong Gon Kim
5. **Design of Corporate Business Card Management System**
Seok-heon Ko, Gil-mo Yang, Jun-dong Lee
6. **The OpenWRT's Random Number Generator Designed Like /dev/urandom and its Vulnerability**
Dongchang Yoo, Yongjin Yeom
7. **Implementation of The Block2 Option Transfer for Resource Observing with The CoAPthon library**
Kyoung-Han Kim, Hyun-Kyo Lim, Joo-Seong Heo, Youn-Hee Han

14: 40-16: 10 Session C-3 : CSA
(HALL C)
(Chair: Yunsick Sung)

1. **Behavior-based Detection for Malicious Script-based Attack**
Soojin Yoon, Hyun-lock Choo, Hanchul Bae, Hwankuk Kim
2. **An Address Conflict Resolving Scheme of Inter-Drone Ad Hoc Communications for Hide Densely Deployed Low Power Wide Area Networks**
Jaeho Lee, Bong-Ki Son
3. **Mobile App for Analyzing Environmental Visual Parameters with Life Logging Camera**
Hyeonsang Hwang, Daejune Ko, Mincheol Whang, Eui Chul Lee
4. **Fake Fingerprint Detection Based on Statistical Moments**
Yosep Park, Unsoo Jang, Jiwon Im, Woohyuk Jang, Daejune Ko, Eui Chul Lee
5. **Thumb Biometric Using Scale Invariant Feature Transform**
Naeun Lim, Daejune Ko, Kun Ha Suh, Eui Chul Lee
6. **Image Classification using Color and Spatial Frequency in terms of Human Emotion**

Min Woo Park, Daejune Ko, Hyeonsang Hwang, Jiyeon Moon, Eui Chul Lee

- 7. Human Robot Interaction Method by Using Hand Gesture Recognition**
Jaehyun Han, Woohyuk Jang, Dojoon Jung, Eui Chul Lee

16: 10-16: 20 Coffee break

16: 20-17: 50 Session A-4 : CUTE
(HALL A)
(Chair: Hyun-Woo Kim)

- 1. A Study on Worker's Positional Management and Security Reinforcement Scheme in Smart Factory Using Industry 4.0-based Bluetooth Beacons**
SangIl Park, SeoukJoo Lee
- 2. Finding Meaningful Chronological Pattern of Key Words in Computer Science Bibliography**
Joo-Seong Heo, Hyun-Kyo Lim, Kyong-Han Kim, Youn-Hee Han
- 3. The Design of Intelligent Video Analytics System Performing Automatic Noise Rejection by Comparing Distribution of Metadata of Moving Object**
Taewoo Kim, Hyungheon Kim, Pyeongkang Kim
- 4. Dependability Analysis of Digital Library Cloud Services with Load Sharing**
Dongseok Lee, Sungsoo Kim, and Tae-Sun Chung
- 5. Solving the Subgraph Isomorphism Problem using Harmony Search**
Hoyeong Yun, Yongjoon Joe, Byung-Ok Jung, Hyoguen Bang, Dongmyung Shin
- 6. Consumer's Behavioral System of Approach and Avoidance Investigating Generic Medicine Distribution & Logistics in Japan**
Takefumi Hosoda, Hongsik J. Cheon, Byungen Hyun

16: 20-17: 50 Session B-4 : AIC
(HALL B)
(Chair: Taeun Kim)

- 1. Study on Integrity Verification and Compatibility-Conflict Analysis for Safe Patching**
Jeongmin An, Sangmoon Jung, Yoojae Won
- 2. Patch Alarm and Collecting System**
Jaegeun Oh, Chaeho Cho, Yoojae Won
- 3. Method of building a security vulnerability information collection and management system for analyzing the security vulnerabilities of IoT devices**
Kisu Kim, Jongsoo Lee, Wonkang Jung
- 4. An Approach to Fast Protocol Information Retrieval from IoT Systems**
Onur Soyer, Kwan-Young Park, Nomota Hiongun Kim, Tae-soo KIM
- 5. A Study on the Service Identification of Internet-connected Devices Using Common Platform Enumeration**
Sarang Na, Taeun Kim and Hwankuk Kim
- 6. A Design of IoT Protocol Fuzzer**
Dae-il Jang, Taeun Kim, HwanKuk Kim
- 7. A Study on the Management Structure of Vulnerability Information in IoT Environment**

Eunhye Ko, Taeun Kim, and Hwankuk Kim

8. IoT Vulnerability Information Sharing System

Taeho Seo

16: 20-17: 50 Session C-4 : CSA

(HALL C)

(Chair: Unil Yun)

- 1. Design of shoot'em up game using OpenGL**
Unil Yun, Heungmo Ryang
- 2. Performance Analysis of Tree-based Algorithms for Incremental High Utility Pattern Mining**
Heungmo Ryang, Unil Yun
- 3. Development of 2D side-scrolling running game using the Unity 3D game engine**
Wooseong Jeong, Unil Yun
- 4. EPD Noticeboard for Posting Multiple Information**
Bong-Ki Son, Jaeho Lee
- 5. Analysis of Recent Maximal Frequent Pattern Mining Approaches**
Gangin Lee, Unil Yun
- 6. Design of Noise Information Storage System using IoT Devices**
Judae Lee, Unil Yun
- 7. State-of-the-art algorithms for mining up-to-date high average-utility patterns**
Donggyu Kim, Unil Yun
- 8. Analysis of privacy preserving approaches in high utility pattern mining**
Unil Yun, Donggyu Kim

18: 00-20: 00 Reception

Day 2, December 20, 2016 (Tuesday)

08: 40-09: 00 Registration

09: 00-10: 30 Session A-5 : Wellness Technology and Service for Future Life Care 2016
(HALL A)

(Chair: Doo-Soon Park)

- 1. Measuring Similarity Between Graphs Based on Formal Concept Analysis**
Fei Hao, Dae-Soo Sim, Doo-Soon Park
- 2. Implementation of the smart system for monitoring the PCG**
Sunho Kim, Kangwoo Lee, Yonghee Lee
- 3. Network Anomaly Detection Based on Probabilistic Analysis**
JinSoo Park, Dong Hag Choi, You-Boo Jeon, Se Dong Min, Doo-Soon Park
- 4. Ubiquitous Computing for cloud infrastructure to mobile application in IoT environment**
DongBum Seo, Keun-Ho Lee, You-Boo Jeon
- 5. Implementation of Sitting Posture Monitoring System with Kinect**
Dong-Jun Shin, Min-Sang Kim, Wook Song, Se Dong Min, Min Hong
- 6. Persuading Recommendations using Customized Content Curation**
Keonsoo Lee, Yunyoung Nam
- 7. Segmentation and Counting of Cell in fluorescence Microscopy images using improved chain code algorithm**
Yeji Na, Sangjoon Lee, Jonggab Ho, Hwayung Jung, Changwon wang, and Se Dong Min
- 8. Detection of Optimal Activity Recognition Algorithm for Elderly Using Smartphone**
Changwon Wang, Sangjoon Lee, Jonggab Ho, Yeji Na, and Se Dong Min
- 9. VM Relocation Method for Increase the Resource Utilization in Cloud Computing**
Sangwook Han, MinSoo Chae, Hwamin Lee

09: 00-10: 30 Session B-5 : CUTE
(HALL A)

(Chair:Jin Gon Shon)

- 1. Cache aware web-based dynamic adaptive streaming algorithm in Information Centric Networks**
Geun-Hyung Kim
- 2. Background Subtraction Framework for Mobile 3D Sensor Data**
Seongjo Lee, Seoungjae Cho, Nguyen Trong Hieu, Phuong Chu, Kyungeun Cho
- 3. Mobile Agent Oriented Service for offloading on Mobile Cloud Computing**
HwiRim Byun, Boo-Kwang Park, Gangman Yi, Young-Sik Jeong
- 4. Unstructured Data Service Model utilizing Context-Aware Big Data Analysis**
Yonghoon Kim, Mokdong Chung
- 5. A Cluster Head Selection Method by Restricting Selection Area in Wireless Sensor Networks**
Jong won Lee, JiSu Park, Heung-Keun Kim, Jin Gon Shon

6. **Encrypted Network Traffic Analysis Method via Secure Socket Layer Handshake Control**
Jihoon Yoon, Kangsik Shin, Yoojae Won
7. **An Agent-based Remote Operation and Safety Monitoring System for Marine Elevators**
Hyung-Joo Kim, Kwangil Lee
8. **Transforming algorithm of 3D model data into G-code for 3D printers in distributed systems**
Sungsuk Kim and Sun Ok Yang
9. **GUI-based Korean Font Editing System Using Font Parameterization Technique**
Minju Son, Gyeongjae Gwon, Geunho Jeong, Jaeyoung Choi
10. **An Observation Method for Estimating Carrier Frequency Offset in OFDM Systems**
Mustafa Altaha and Humor Hwang

09: 00-10: 30 **Session C-5 : CSA & CUTE**
(HALL C)
(Chair: Hyun-Woo Kim)

1. **The Problem Analysis of Specific Personal Information Protection Assessment in Japan Case**
Sanggyu Shin, Yoichi Seto, Mayumi Sasaki, Kei Sakamoto
2. **Using a Fine-Grained Hybrid Feature for Malware Similarity Analysis**
Liu Jing, Wang Yongjun, Xie Peidai, Ma Xingkong
3. **A Wireless Kinect Sensor Network System for Virtual Reality Applications**
Mengxuan Li, Wei Song, Liang Song, Kaisi Huang, Yulong Xi, Kyungeun Cho
4. **Finding Comfortable Settings of Snake Game using Game Refinement Measurement**
Anunpattana Punyawee, Chetprayoon Panumate, Hiroyuki Iida
5. **Code Modification and Obfuscation Detection Test Using Malicious Script Distributing Website Inspection Technology**
Seong-Min Park, Han-Chul Bae, Young-Tae Cha, and Hwan-Kuk Kim
6. **Initialization of Software Defined Wireless Bacteria-Inspired Network Platform**
Shih-Yun Huang, Hsin-Hung Cho, Yu-Zen Wang, Timothy K. Shih, Han-Chieh Chao
7. **Methodology for Improving Usability Model of Multiple Devices**
Jeyoun Dong, Myunghwan Byun
8. **Study on the Generic Architecture Design of IoT Platforms**
Mi, Kim, Nam Yong Lee, Jin Ho Park
9. **Active Tracking Strategy with Multiple Cameras in Large Areas**
Sangjin Hong, Nammee Moon
10. **Assessing the Impact of DoS Attacks on IoT Gateway**
Yungee Lee, Wangkwang Lee, Giwon Shin, Kyungbaek Kim

10: 30-10: 40 **Coffee break**

10: 40-12: 10 Session A-6 : CUTE
(HALL A)
(Chair: Pyung Soo Kim)

- 1. Information Reminder System based on Word registered by User**
KyeYoung Kim, Byeong-Eon Ahn, Suk-Young Lim, Daejin Moon and Dae-Soo Cho
- 2. A Study of Determining Abnormal Behaviors by Using System for Preventing Agricultural Product Theft**
Jin Su Kim, Min-Gu Kim, Byung Rae Cha, Sung Bum Pan
- 3. A Study of Simple Classification of Malware Based on the Dynamic API Call Counts**
Jihun Kim, Seungwon Lee, Jonghee M. Youn, Haechul Choi
- 4. A Method for Multi-User Re-Identification in Invoked Reality Space**
Yunji Jeong, Yulong Xi, Jisun Park, Kyhyun Um, Kyungeun Cho
- 5. Hive-based Anomaly Detection in Hadoop Log Data Management**
Siwoon Son, Myeong-Seon Gil, Seokwoo Yang, and Yang-Sae Moon
- 6. An Alternative Management Scheme of DHCP Lease Time for Internet of Things**
Pyung Soo Kim, Eung Hyuk Lee, Eung Tae Kim

10: 40-12: 10 Session B-6 : CUTE
(HALL B)
(Chair: Soohyun Cho)

- 1. Empirical Study of the IoT-learning for obese patients that require personal training**
Seul-Ah Shin, Nam-Yong Lee, Jin-Ho Park
- 2. The Effect of Introducing Small Cells in Wireless Networks**
Soohyun Cho
- 3. An Enhanced Reliable Message Transmission System based on MQTT Protocol in IoT Environment**
Hyun Cheon Hwang, Ji Su Park, Byeong Rae Lee and Jin Gon Shon
- 4. Cross-conforming Approaches of ICT Functionality Design for Smart City**
Jae-Young Ahn, Eunjun Rhee, Hyun-Woo Lee, Dae Joon Hwang
- 5. A Novel Approach to Persistence supported Service Model based on DOI in Web Service Environments**
Se-Hoon Jung, Eun-Cheon Lim, Jong-Ho Kim, Chun-Bo Sim

10: 40-12: 10 Session C-6 : FIDPS
(HALL C)
(Chair: Byoung Chul Ko)

- 1. 3D UAV Flying Path Optimization Method based on the Douglas-Peucker Algorithm**
Guichang Sim, Jaehwa Chung, Yunsick Sung
- 2. Path Planning Method for Collision Avoidance of Multiple UAVs**
Hyeok Kim, Jeonghoon Kwak, Guichang Sim, Yunsick Sung
- 3. Methodological Route to Designing Optimized Bedroom Environment for**

Active-aging

Sung Jun Park

4. **A Beacon-based User Direction Estimating Method in Indoor Environments**
Jeonghoon Kwak, Yunsick Sung
5. **Grayscale and Halftone Gel Lithography as Promising Techniques for Swelling-Induced Deformation of Smart Polymer Hydrogel Films**
Myunghwan Byun
6. **Methodology for Improving Usability Model of Multiple Devices**
Jeyoun Dong, Myunghwan Byun
7. **BCI Signal Process Framework**
Yunsick Sung
8. **Development of SMART Base isolation using Linear Motion Guide**
Chunho Chang, Sangyoung Shin
9. **Analysis on work zone characteristics in South Korean Expressways using text mining technique**
Oh Hoon Kwon, Je-Jin Park, Shin Hyoung Park
10. **Seismic Performance Evaluation of a Prestressed I-type Girder Bridge in Daegu for ICT based Disaster Management in Daegu Metropolitan City**
Chunho Chang, Sung Jig Kim, Shin Hyoung Park

12: 10-13: 30 Lunch

13: 30-14: 30 Keynote Speech

(HALL A)

(Chair: Kwang-Il Hwang)

Keynote: Improving Situational Awareness with Granular and Computational Intelligence

Vincenzo Loia, Ph.D.,

Chair Professor, Department of Management and Innovation Systems, University of Salerno, Italy

14: 30-14: 40 Coffee Break

14: 40-15: 55 Session A-7 : CUTE

(HALL A)

(Chair: Jeongyong Byun)

1. **i-SHSS : An IoT based Smart Home Security System**
Saurabh Singh, Pradip Kumar Sharma, Seo Yeon Moon, Jong Hyuk Park
2. **Location-based Security Authentication Model in Smart Home Network**
Seo Yeon Moon, Jaehwa Chung, Jong Hyuk Park
3. **A Design Scheme of Combined Syllable Fonts for Hunminjeongeum**
Jeongyong Byun, Seongbum Hong, Hoyoung Kim
4. **Method of Detecting Malware through Analysis of Opcodes Frequency with Machine Learning Technique**

Sang-Uk Woo, Dong-Hee Kim, and Tai-Myoung Chung

5. An Energy-Efficient and Reliable Routing Protocol for Cognitive Radio Sensor Networks

Zamree Che-aron

6. Low-cost infrared video-oculography for measuring rapid eye movements

Youngsun Kong, Hyeonsoo Lee, Namik Kim, Seungyeon Lee, Jihwan Park, Taeyang Han, Yunyoung Nam

14: 40-15: 55 Session B-7 : ITS RMS 2016

(HALL B)

(Chair: Byungjeong Lee)

1. Implementation of a Smart IoT Factory Using an Agricultural Grade Sorting Device

Seokhoon Jeong, Ji-Yeon Lee, Kuk Won Ko, Sangjoon Lee

2. A Study of the Extended Definition of Relation for Research Content based Traceability

Jong-Won Ko, Jae-Young Choi and Young-Hwa Cho

3. Development of the Vision System and Inspection Algorithms for Surface Defect on the Injection Molding Case

Ji Yeon Lee, So Yeong Lee, Sangjoon Lee, Chang Ho Han, Kuk Won Ko

4. Content-Based Conformance Assurance between Software Research Documentation and Design Guideline

Jong-Hwan Shin, Du-San Baek, Byeongjeong Lee, Jung-Won Lee

5. A Low-Power Sensing Management Method for Sustainable Context-Awareness in Exclusive Contexts

Dusan Baek, Jae-Hyeon Park, Byungjeong Lee, Jung-Won Lee

6. A Distributed Survey Automation Based on a Customizable Form Template

Jaekwon Lee, Kisub Kim, Jang-Eui Hong and Woosung Jung

14: 40-15: 55 Session C-7 : CSA

(HALL C)

(Chair: Mun-Kyu Lee)

1. Cell-based indexing method for spatial data management in hybrid cloud systems

Yan Li, Byeong-Seok Shin

2. Design of Processing Model for Connected Car Data using Big Data Technology

Lionel Nkenyereye, Jong Wook Jang

3. Efficient Path Selection for IoT Devices in Heterogeneous Service Environments

Dae-Young Kim, Seokhoon Kim

4. Forecasting Sugarcane Yield Using $(\mu+\lambda)$ Adaptive Evolution Strategies

Supawadee Srikamdee, Sunisa Rimcharoen, Nutthanon Leelathakul

5. Resource Pooling Mechanism for Mobile Cloud Computing Service

Seok-Hyeon Han, Jueun Jeon, Hyun-Woo Kim, Young-Sik Jeong

6. An Extension of QSL for E-voting Systems

Yuan Zhou, Hongbiao Gao, Jingde Cheng

7. **Property Analysis of SMS Spam Using Text Mining**
Manki Baek, Youngkyung Lee, Yoojae Won
8. **User Selection based Backpropagation for Siamese Neural Networks in Visual Filters**
Hanju Park, Sukho Lee

15: 55-16: 05 Coffee Break

16: 05-17: 20 Session A-8 : BIC
(HALL A)
(Chair: Eunmi Choi)

1. **An Evaluation of Availability, Reliability and Power Consumption for a SDN Infrastructure using Stochastic Reward Net**
Kihong Han, Tuan Anh Nguyen, Dugki Min, Eunmi Choi
2. **HIM-PRS: A Patent Recommendation System based on Hierarchical Index-Based MapReduce Framework**
Xuhua Rui, Dugki Min
3. **Document Classification using Word2Vec and Chi-square on Apache Spark**
Mijin Choi, Rize Jin, and Tae-Sun Chung
4. **Survey on CPN Applications in Cloud Computing**
Rustam Rakhimov Igorevich, Dugki Min
5. **Spatial Big Data Analysis System for Vehicle-Driving GPS Trajectory**
Wonhee Cho, Eunmi Choi
6. **The VM Weighted Filter Scheduling Algorithm for OpenStack Cloud**
Mohan Krishna Varma Nandimandalam, Eunmi Choi
7. **Improving The Quality of An R-tree Using The Map-Reduce Framework**
Viet-Ngu Huynh Cong, Kang-Woo Lee, In-Hak Joo, Oh-Heum Kwon, Ha-Joo Song
8. **A novel on Automatic K Value for Efficiency Improvement of K-Means Clustering**
Se-Hoon Jung, Kyoung-Jong Kim, Eun-Cheon Lim, Chun-Bo Sim

16: 05-17: 20 Session B-8 : ITSRRMS 2016
(HALL B)
(Chair: Jung-Won Lee)

1. **Detection of Content Changes based on Deep Neural Networks**
Noo-ri Kim, YunSeok Choi, HyunSoo Lee, Jee-Hyong Lee
2. **TEXAS2: A System for Extracting Domain Topic using Link Analysis and Searching for Relevant Features**
SangWon Hwang, YongSeok Lee, YoungKwang Nam
3. **Evaluating the Effectiveness of the Vector Space Retrieval Model Indexing**
Jung-Hoon Shin, Mesfin Abebe, Cheol Jung Yoo, Suntae Kim, Jeong Hyu Lee, Hee-Kyung Yoo
4. **Evolutionary Test Case Generation from UML-Diagram with concurrency**
Seungchan Back, Hyorin Choi, Jung-Won Lee, Byungjeong Lee
5. **A Context-Aware Architecture Pattern to Enhance the Flexibility of Software Artifacts Reuse**
DooHwan Kim, Soon-Kyeom Kim, Woosung Jung, Jang-Eui Hong

16: 05-17: 20 Session C-8 : CSA
(HALL C)
(Chair: Yunsick Sung)

- 1. IPC Multi-label Classification Applying the Characteristics of Patent Documents**
Sora Lim, YongJin Kwon
- 2. A Comparison of Data Mining Methods in Analyzing Educational Data**
Euihyun Jung
- 3. A New Secure Android Model Based on Privilege**
Tao Zhang, Zhilong Wang
- 4. Survey of MCC Architectures for Computing Service**
Byeong-Seok Park, Yoon-A Heo, Young-Sik Jeong
- 5. A Study of AI based E-Learning System and Application**
Min-Gyu Shim, Jae-Woong Jeong
- 6. A study on the serious issues in the practice of information security in IT: With a focus on ransomware**
Junhak Lee, Jae-Woong Jeong
- 7. Advanced Data Communication Framework for Cloud Computing from CDMI**
Jae-Yun Jeong, Jae-Woong Jeong
- 8. IoT based Monitoring System for Factory Automation**
Hwa-Young Jeong

17: 30-20: 00 Keynote & Banquet
(Chair: Kwang-Il Hwang)

Deep Learning for Big Data and Bioinformatics

Prof. Yi Pan, Ph.D.,
Regents' Professor and Associate Dean
Georgia State University, Atlanta, Georgia, USA

Day 3, December 21, 2016 (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



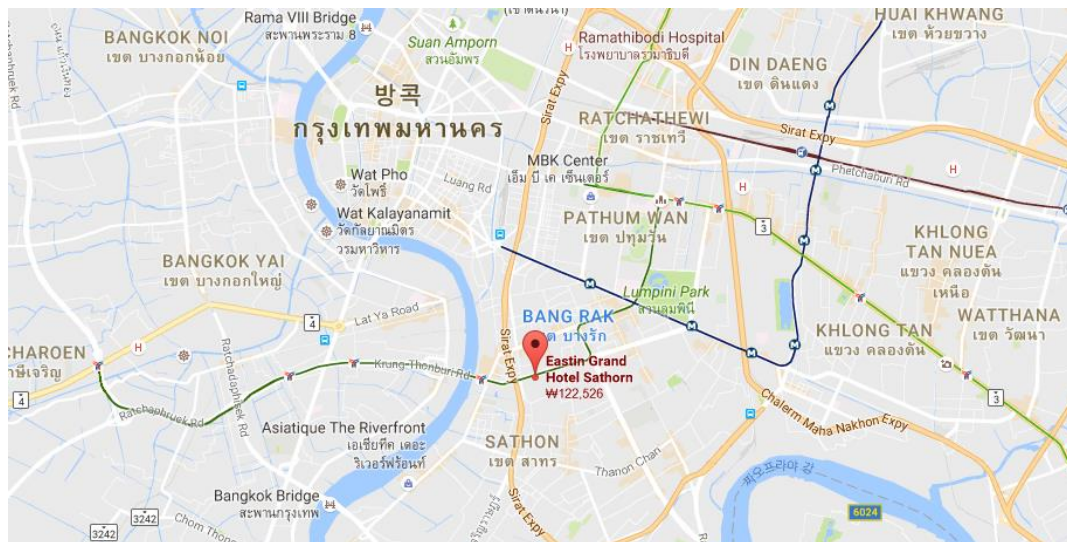
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Eastin Grand Hotel Sathorn Bangkok is one of the premier hotels in Bangkok's luxury hotel sector. This deluxe property is centrally located in the Sathorn business district and a short drive via the nearby expressway to Suvarnabhumi International Airport. It is unique in being the only hotel in Bangkok with its own direct access to the BTS Sky Train system at Surasak Station literally bringing the city to your doorstep. All 390 luxuriously appointed rooms and suites are decorated in soft, subtle tones and feature the latest amenities for the comfort of both leisure and business travelers while enjoying stunning views of Bangkok's imposing skyline.

