The International Conference on Future Information Technology, applications and services (IFIT 2016 Seoul)

October 20-22, 2016
Seoul, Korea

Organized by

IFIT & KIPS CSWRG

2016 International Conferences
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Dec. 19 - 21, Bangkok, Thailand

- The 11st KIPS International Conference on Ubiquitous Information Technologies and Applications (CUTE 2016)

- The 8th International Conference on Computer Science and its Applications (CSA 2016)

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Message from the IFIT 2016 General Chairs

IFIT 2016 is the first event of the series of international scientific conference. This conference takes place on October 20-22, 2016 in Seoul, Korea. The aim of the IFIT 2016 is to provide an international forum for scientific research in the technologies and application of information technology.

The conference papers included in the proceedings cover the following topics: Internet of Things and Sensors, Embedded system and Middle ware, Security and Trust Computing, Multimedia Computing, Networking and Communications, Big data and Data mining, Cloud Computing, Web and Internet Computing, Grid and Cloud computing, Green IT and Sustainable Computing, Computational Intelligent Computing, Human-centric Computing. Accepted and presented papers highlight new trends and challenges of future information technologies. We hope readers will find these results useful and inspiring for their future research.

We would like to express our sincere thanks to Program Chairs: Houcine Hassan(Universitat Politecnica de Valencia, Spain), Jungho Kang(Soongsil University, Korea), Jin Wang(Nanjing University of Information Science & Technology, China), Seokhoon Kim(Soonchunhyang University, Korea), Neil Yen(University of Aizu, Japan), all Program Committee members, and all reviewers for their valuable efforts in the review process that 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.

IFIT 2016 General Chairs

Jong Hyuk Park, Seoul National University of Science and Technology, Korea
Yi Pan, Georgia State University, USA
Young-Sik Jeong, Dongguk University, Korea
Gangman Yi, Dongguk University, Korea
Ka Lok Man, Xi'an Jiaotong-Liverpool University, China

Message from the IFIT 2016 Program Chairs

Welcome to the 2016 International Conference on Future Information Technology, applications and services (IFIT 2016), which will be held in Seoul, Korea on October 20–22, 2016. IFIT 2016 will the most comprehensive conference focused on the various aspects of information technologies. It will provide an opportunity for academic and industry professionals to discuss recent progress in the area of future information technologies. In addition, the conference will publish high quality papers which are closely related to the various theories and practical applications in multimedia and ubiquitous engineering. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in these important subjects.

For IFIT 2016, we received many paper submissions, after a rigorous peer review process, we accepted only articles with high quality for the IFIT 2016 proceedings, 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!

IFIT 2016 Program Chairs

Houcine Hassan, Universitat Politecnica de Valencia, Spain
Jungho Kang, Soongsil University, Korea
Jin Wang, Nanjing University of Information Science & Technology, China
Seokhoon Kim, Soonchunhyang University, Korea
Neil Yen, University of Aizu, Japan

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PROGRAM SCHEDULE FOR IFIT 2016

Day 1, October 20, 2016		
Time	**Min**	**HALL A**
09:00-12:00	180	**Local Arrangement Committee Meeting**
13:00-15:00	120	**Organizing Committee Meeting I**
16:00-17:00	60	**Executive Meeting I - Organized by IFIT 2016**

[ONLY FOR INVITED MEMBERS]

Day 2, October 21, 2016		
Time	**Min**	**HALL A**
08:40-09:00	20	**Registration**
09:00-10:20	80	**Session A-1** Chair : Yunsick Sung
10:20-10:30	10	**Coffee Break**
10:30-12:00	90	**Session A-2** Chair : Kwang-il Hwang
12:00-13:00	60	**Lunch**
13:00-13:30	30	**Paper submission guide**
13:30-13:50	20	**Coffee Break**
13:50-15:10	80	**Session A-3** Chair : Jaehwa Chung
15:10-15:20	10	**Coffee Break**
15:20-16:40	80	**Session A-4** Chair : Joon-Min Gil
16:40-16:50	10	**Coffee Break**
16:50-18:10	80	**Session A-5** Chair : Kyung Soo Lim

18:10-18:30	20	Break
18:30-20:00	90	**Banquet (Grand Ambassador Seoul Hotel)** Chair : Gangman Yi

Day 3, October 22, 2016		
Time	**Min**	**HALL A**
09:00-10:30	90	**Organizing Committee Meeting Ⅱ**
10:30-10:40	10	**Break**
10:40-12:10	90	**Executive Meeting Ⅱ - Organized by IFIT 2016**

[ONLY FOR INVITED MEMBERS]

1. **A paper presentation should be made by one of authors of the paper for 15 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.**

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DETAILED SCHEDULE FOR
THE INTERNATIONAL CONFERENCE ON FUTURE INFORMATION TECHNOLOGY, APPLICATION AND SERVICES (IFIT-16)

Day 1, October 20, 2016 (Thursday)

09:00-12:00   **Local Arrangement Committee Meeting**
(HALL A)

13:00-15:00   **Organizing Committee Meeting I**
(HALL A)

16:00-17:00   **Executive Meeting I - Organized by IFIT 2016**
(HALL A)

Day 2, October 21, 2016 (Friday)

08:40-09:00   **Registration**

09:00-10:20   **Session A-1**
(HALL A)
(Chair: Yunsick Sung)

1. **Adaptive Autostereoscopic Display using Lenticular Lens**
   Jong-Ui Hong, Jung-Keun Suh, Nammee Moon, Yoo-Joo Choi
2. **Automatic Image Thresholding Using Otsu's Method and Entropy Weighting Scheme for Surface Defect Detection**
   Mai Thanh Nhat Truong, Sanghoon Kim
3. **Secure Mobile Device Structure and Evaluation**
   Yun-kyung Lee, Jeong-Nyeo Kim, Jae-Deok Lim, Kyung-Soo Lim, Hyunsoo Yoon
4. **Parallel Cloth Simulation with GLSL**
   Min Hong, Young-Hwan Choi, Yoo-Joo Choi
5. **The Application of Data Mining Techniques for Investigating Research Structures in the Field of Telecommunications Policy**
   Sung Kil Kim, Junseok Oh
6. **Design of a User Exercise Distance Measurement Algorithm Based on the Kalman Filter for the Domestic Environment**
   Young-hwan Jang, Jae-sung Shim, Yong-wan Ju, Seok-cheon Park
7. **Design of Pedestrian Recognition Algorithm Using Trilinear Interpolation Based on HOG-UDP**
   Jae-Sung Shim, Yong-Wan Ju, Seok-Cheon Park

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8. **Design of a SARIMA-SVM Time Series Analysis Algorithm for the Improvement of the Atmospheric Environment Forecast Accuracy**
   Nam-Uk Lee, Jae-Sung Shim, Yong-Wan Ju, Seok-Cheon Park
9. **Automatic Short Answer Grading System based on Korean Lexical Semantic Pattern and Ontology**
   JeongEun Kim, JeongMin Chae, SoonYoung Jung

10:20-10:30   Coffee break

10:30-12:00   Session A-2
(HALL A)
(Chair: Kwang-il Hwang)

1. **Backoff Control System by Learning in LPWAN**
   Dae-Young Kim, Seokhoon Kim
2. **A Data Collection Model for Learning Analytics based on Activity Theory**
   Kyungrog Kim, Nammee Moon
3. **Design and Implementation of a Simple OpenSHMEM Library on PCIe Network**
   Youngwoong Ju, Min Choi
4. **An MPEG System with Reliable for Layered Multimedia Data Transmission**
   Sang-Hyong Kim, Yoo-Jae Won
5. **cSketch:On Capturing Cliques from Big Graph**
   Fei Hao, Doo-Soon Park
6. **Detecting Sybil Attacks in Cloud Computing Environments Based on Fail-stop Signature**
   JongBeom Lim, HeonChang Yu, JoonMin Gil
7. **Study of Falsified File Detection Using the Entropy Graph in Cyber Forensics**
   Chaeho Cho, Kwangsik Chung, Yoojae Won
8. **A novel load balancing scheme applied with loadbot**
   Hye-Young Kim
9. **Market-Clearing Spectrum Trade by Eisenberg-Gale Convex Program**
   Sang-Seon Byun, Joon-Min Gil

12:00-13:00   Lunch

13:00-13:30   Briefing Session

13:30-13:50   Coffee break

13:50-15:10   Session A-3
(HALL A)
(Chair: Jaehwa Chung)

1. **Face Recognition for Self-Authentication on Mobile Platform using Compact Deep Learned Feature**
   Seon Ho Oh, Geon Woo Kim, Kyung Soo Lim
2. **Skyline Computation in Big Data: Limitation of Existing Data Space Partitioning Techniques**

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Aziz Nasridinov
3. **Virtual Medical Simulator for Realistic Exploring of Human Inside**
    Koojoo Kwon, Byeong-Seok Shin
4. **Plane Sweep-based Heuristics for Nearest User-Specified Group Query**
    KyoungHo Jung, Hong-Jun Jang, Jaehwa Chung, Soon-Young Jung
5. **Automatic Trace Elimination of Dynamic Objects from Accumulated Lidar Point Cloud**
    Phuong Chu, Seoungjae Cho, Sungdae Sim, Kiho Kwak, Kyungeun Cho
6. **3D Reconstruction Framework for Multiple Remote Robots based on Cloud**
    Phuong Chu, Seoungjae Cho, Simon Fong, Yong Woon Park, Kyungeun Cho
7. **Position Update Optimal Spatial Indexing Method for Movement of Clustered Pedestrian**
    YAN LI, Byeong-Seok Shin
8. **An Efficient Sorting Strategy for Skyline in Big Data**
    Aziz Nasridinov
9. **A multiple object tracking and face detection system using a hybrid dual camera**
    Euisun Kim, Ilju Ko, Dongho Kim

15:10-15:20   Coffee break

15:20-16:40   Session A-4
(HALL A)
(Chair: Joon-Min Gil)

1. **MFReS(Mobile Forensic Reference Set) and Mobile Forensic Investigation for Android Device**
    Dohyun Kim, Sangjin Lee
2. **HiL test based fault localization method using memory update information of both the failed and the passed caseHiL test based fault localization method using the memory update information of both the failed and the passed case**
    Ki-Yong Choi, Jung-Won Lee
3. **A Stretched Depth Histogram Scheme for High-Speed Stereo Matching Processors**
    Seung-Ho Ok, Jae Hoon Shim, Byungin Moon
4. **A Proposal for Access Control in Mobile Security Platform using XACML**
    Kyung-Soo Lim, Jeong-Nyeo Kim
5. **The study of performance evaluation methodology on dedicated circuit network**
    Wonhyuk Lee, Jongseon Park, Seunghae Kim, Jinhyung Park, Joon-Min Gil
6. **An In-depth Analysis Methodology of IDS Alerts for Identifying Potential Cyber Threats on Darknet**
    Jungsuk Song, Younsu Lee, Jang-won Choi, Joon-Min Gil, Sang-Soo Choi
7. **Sleep posture monitoring system using textile proximeter sensor**
    Yeji Na, Se Dong Min
8. **A Generic Service Interface of IoT Platforms**
    Mi kim, Nam yong lee, Jin ho park
9. **Effects of Deterrence and Self-Punishment on the Compliance with Information Security Policy**
    Myeonggil choi, Jeongseok song

16:40-16:50   Coffee break

16:50-18:10   <u>**Session A-5**</u>
(HALL A)
(Chair: Kyung Soo Lim)

1. **Study for big data analysis design model**
   Joon ho Park, Jin Ho Park, Nam young Lee
2. **Value-Added Exports of the OECD Countries**
   Jeongseok Song, Myeonggil Choi
3. **A Study on Node Group Management MAC Protocol for Sensor Nodes in IoT Systems**
   Intae Ryoo, Kyunghee Sun, Jaesun Lee, Seokhoon Kim
4. **Design of Joint Routing and Scheduling for SDN-based IEC 61850 Networks**
   Inhoe Kim, Kyutae Lee, Seokhong Min, Jaedouk Choi
5. **Numerical Analysis of Crack Width in Structural Concrete Members**
   Kiyeol Lee, HwaMin Lee
6. **Performance Comparison of Docker and KVM**
   MinSoo Chae, Kiyeol Lee, HwaMin Lee
7. **Deflection Calculation Program for Structural Concrete Members**
   Kiyeol Lee, HwaMin Lee

18:10-18:30   **Break**

18:30-20:00   <u>**Banquet**</u>

Day 3, October 22, 2016 (Saturday)

09:00-10:30   **Organizing Committee Meeting Ⅱ**
(HALL A)

10:30-10:40   **Break**

10:40-12:10   **Executive Meeting Ⅱ - Organized by IFIT 2016**
(HALL A)

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