The 2nd International Conference on Next Generation Computing 2017

TECHNICAL PROGRAM

January. 5-7, 2017

Thursday, January. 5th, 2017		
Time	program	Venue
12.00 - 18.00	Registration	(Lobby)
14.00 - 17.00	Steering Committee Meeting	Norfolk Hotel_MANLY ROOM-5TH FLOOR (Ho Chi Minh, Vietnam)

Friday, January. 6th, 2017		Chair: Prof. JunHee Seok, Korea Univ., Korea
Time	Program	
09:30～10:00	Registration (Lobby)	
10:00～10:20	Opeaning Speech from Chairman	Yunmook Nah KINGPC President, KINGPC, Dankook University, Korea
	Award	
Keynote Speech (10:20～11:20)		
10:20～10:50	• Develop Topic based Social Network Analysis system for messages in Social Network	Prof. Do Phuc University of Information Technology, VNU-HCM
10:50～11:20	• A novel 3D Pseudo hologram using a movable surface and multi projection mapping	Prof. Kwan heng Lee Gwangju Institute of Science and Technology

TECHNICAL SESSION 1 (13:00～14:15)	Chair: Prof. Youngtae Noh, Inha Univ., Korea
• Experiment Selection for the Computational Translation of Model Genomic Responses / Donghyun Tae, Lynn Choi, Byoung Du Kim, Junhee Seok / Korea University, Victoria University	
• Authentication to smart meter using biometric ECG in Mobile Devices / Donggyu Cho, Youngtae Noh / Inha University	
• Consumer Load Scheduling Based on Real-Time Pricing of Electricity for Smart Grid / Ningombam Devarani Devi, GyoungTae Ha, Seokjoo Shin / Chosun University	
• Customer Information Analysis and Prediction Model for Suitable Marketing Targets / Won Hee Chung, Seong Joon Yoo, Zhiyan Jiang, Yeong Hyeon Gu, Yeo Jin Lee / Sejong University	
• Developing an Application “Shutdown Timer” by addressing the Design Principles of Human Computer Interaction (HCI) / C. Nayak , S. Shakya, M. Shrestha, A. Gupta and S. Shrestha / Kathmandu University	
14:15~14:30	Coffee break
TECHNICAL SESSION 2 (14:30～15:45)	Chair: Prof. Ki-Woong Park, Sejong Univ., Korea
• A Low Latency MAC Protocol for Smart Grid / Samrachana Nepali, Suk-seung Hwang, and Seokjoo Shin / Chosun University	
• Development of Device-Independent Low-Cost 6-Dot Device for the Visually Impaired / Stephen Ryan Angsanto, Jonghun Kwon, and Wansu Lim / Kumoh National Institute of Technology	
• Customizing Cuckoo Sandbox for Malware with Tricky Execution Conditions / Yu-Seong Kim, Sang-Hoon Choi, Ki-Woong Park / Daejeon University, Sejong University	
• Visualizing music based on the static musical characteristics / Myeong Jin Kim, Ji Sook Hong, Jong Weon Lee / Sejong University	

• Building up a Toolbox for Speech Emotion Recognition / An H. Ton-That, Nhan T. Cao / Vietnam National University	
15:45~16:00	Coffee break
TECHNICAL SESSION 3 (16:00~17:15)	Chair: Prof. Insoo Koo, Ulsan Univ., Korea
• Secret-Stamp: Document Leakage Prevention via Steganographic Marking / Sang-Hoon Choi, Sung-Kyu Ahn, Ki-Woong Park / Daejeon University, Sejong University	
• Sensing Order and Transmission Power Allocation in Cognitive Radio Networks with Energy Harvesting / Tran Nhut Khai Hoan, Vu Van Hiep, In Soo Koo / Ulsan University	
• Design and Implementation of TPM-Enhanced Privacy Protection System / Hye-Lim Jeong, Sung-Kyu Ahn, Ki-Woong Park / Daejeon University, Sejong University	
• Performance Evaluation of foot-mounted and waist-mounted PDR system / Jeong-Hoon Lee, Dae-Ho Kim, Goo-Rak Kwon, and Jae-Young Pyun / Chosun University	
• Identifying key players using influence probability in a social network / Thanh Hung Ngo, Thanh Viet Huynh / UIT - VNU HCM	

POSTER SESSION 1 (17: 15~18:00)	Chair: Prof. Soon-il Kwon, Sejong Univ., Korea
• Detection of Fallen Fruit Using CIE L*a*b* Color Space and Deep Learning / Jooyeon Jo, Seong Joon Yoo, Dongil Han, Sung Wook Baik / Sejong University	
• A Prototype System for Real-Time sEMG Analysis based on Lower-Limb Human Motion / Jaehwan Ryu , Deok-Hwan Kim / Inha University	
• A Study of Data Dissemination in CCTV Surveillance Systems / Ijaz Ul Haq, Khan Muhammad, Muhammad Sajjad, Mi Young Lee, Dongil Han, Sung Wook Baik / Sejong University	

- Detection of Children and Adult Voices from Telephone Speech
  / Nasir Rahim, Noor Ullah, Jamil Ahmad, Mi Young Lee, Soon-il Kwon, Seogbong Jeon, JongSuk Choi, Sung Wook Baik
  / Sejong University, Korea Institute of Science and Technology

- Impact Analysis of Memory Size on Hadoop and Spark Performance
  / Seunghye Han, Yunmook Nah / Dankook University

- Design of LIDAR System with Static Platform for 360° Field of View
  / Yeon Kug Moon, Ho-Young Park, and Sung Wook Baik / Korea Electronics Technology Institute

- Query based information retrieval and knowledge extraction using Hadith datasets
  / Ahsan Mahmood, Zahoor-ur-Rehman, Hikmat Ullah Khan / Comsats Institue of information & Techonology

Saturday, January. 7th, 2017	
Time	Program
TECHNICAL SESSION 4 (10:00～11:40)	Chair: Prof. Dongil Han, Sejong Univ., Korea
• Finding Temporal Influential Users in Social Media Using Association Rule Learning / Babar Shazad, Zahoor Tanoli, Hikmat Ullah Khan / Comsats Institue of information & Techonology	
• Performance Assessment of WhatsApp on Android Operating System (KitKat and Jelly Bean) during VoIP calls using 3G or Wi-Fi / Muhammad Fahad, Zahoor Ahmed / Comsats Institue of information & Techonology	
• Facial Expressions Recognition by using features of Edge Histogram Descriptor / Adnan Shah, Muhammad Sajjad / Islamia College	
• False Positive and False Negative Reduction in Digital Mammograms Using Binary Rotation Invariant and Noise Tolerant Texture Descriptor / Fariha Nosheen, Salabat Khan, M Hussain, Rabia Naz, Khalid Iqbal, M. Sharif/ Department of Computer Science CIIT Attock, Fauji Foundation Higher Secondary School	
• Challenges in Globally Distributed Agile Development; A Pakistani Perspective / Naila Shakoor, Salabat Khan, Rehan Tariq, Farhan Adil / Comsats Institue of information & Techonology Attock	

POSTER SESSION 2 (13:30~15:00)	Chair: Prof. Seong Joon Yoo, Sejong Univ., Korea Chair: Prof. Seogbong Jeon, Sejong Univ., Korea

- Learning Scholarly Network of Influential Authors
  / Masood Ahmed, Khalid Iqbal / Comsats Institue of information & Techonology

- A text-based emergency situation classification method
  / Semin Kwak, Yoonseob Lim, and JongSuk Choi / Korea Institute of Science and Technology

- Dark Adaptation Obstacle Detection System for Protection of Nighttime Driver
  / Ji-In Kim, Ki-Ju Sun, Goo-Rak Kwon / Chosun University

- A review on the segmentation of embossed/raised text
  / Chris Henry, Hyun-Cheol Park, Sang-Woong Lee / Chosun University

- Implementing a Simulator for the Operational Control of a Creative 3D Assembly
  / Sanguk Noh, Chulpyo Kim, Sukgen Hwang / Catholic University

- Trends and Future Directions for Security of Wearable Devices
  / SungHyuk Chung, Youngtae Noh / Inha University

- Multihop Routing Based on Node Density for Mobile Ad Hoc Networks
  / Sangman Moh and Kishor Singh / Chosun University

- Content-based Image Retrieval using Local Shape and Color Features in LAB Color Space
  / Amin Ullah, Muhammad Sajjad / Islamia College

- A Study for Brand Enhancement of Engineering Education in the era of the Fourth Industrial Revolution
  / Ran Baik / Honam University

- Gathering Receiver Information for Infrastructure-to-Car Visible Light Communication System
  / Dongil Jeong, Jiseong Jeong, Chung Ghiu Lee / Chosun University

- Implementation of Evolutionary Algorithms in Vehicular Ad-Hoc Network for Cluster Optimization
  / Muhammad Fahad, Farhan Aadil, Asad Ali / Department of Computer Science, Mardan Campus

- A SCALABLE AND FLEXIBLE SOCIAL-INTERCONNECTION ARCHITECTURE FOR MOBILE DEVICES
  / Muhammad Zeeshan Akbar / University of the Punjab

15:30～16:30	ICNGC 2017 Organizing Committee Meeting

Develop Topic based Social Network Analysis system for messages in Social Network

◆ **Presenter:** Do Phuc

◆ **Affiliation:** University of information technology, VNU-HCM

◆ **E-mail:** phucdo@uit.edu.vn

◆ **Work Experience**

- Phuc Do is an Associate Professor of Information Systems at the University of Information Technology, VietNam National University of Ho Chi Minh City. He currently works mostly on knowledge discovery technologies and their application in social network analysis by using topic modeling . Prof. Phuc Do has written about 70 research papers and books. He has been the Principal Investigator of 7 projects in Knowledge Discovery From Education Data, DNA Analysis and application in transgenic plant, Text Analysis and Summarization, Topic Based Social Network Analysis. He received his PhD in 2003 from Vietnam National University, Ho Chi Minh City

◆ **Abstract**

We focus on the analysis of the information content exchanging on social networks and discover the topics of exchange information, find the key elements and community of topics. We have studied the following contents:

Classify topics of the exchange information on social networking. Each topic is represented by a set of keywords. To solve the problem of detecting the topic of messages exchanged on social networks, we selected a combination of tools to extract terms, model of social network analysis such as Author - Recipient - Topic (ART) and automatic topic labeling. We have developed the model named Temporal Author-Recipient-Topic (TART), this model can discover the topics of actor during a particular period.

Find the most influence users in social network. We use the propagation model, calculate the user's influence probabilities to anther users. From the propagation model and influence probabilities, we have developed the method to find the most influence users in social network.

Classify nodes in social networks. We would like to get information from the actors with known characteristics to predict the characteristics of unknown actors in social network. Besides, we use the aging theory to discover hot topics on social network.

Detecting the community through the cluster on social networks. Each actor in the social network is represented by a vector with component is the probability distribution of the preferred topics of that actor. We use the TART model to produce vector expressing preference of actors. Then, we use the SOM network to detect the clusters of actors with the common interests.

A novel 3D Pseudo hologram using a movable surface and multi projection mapping

◆ **Presenter:** Kwan Heng Lee

◆ **Affiliation:** Gwangju Institute of Science and Technology (GIST), Republic of Korea

◆ **Education**

- 1988 North Carolina State Univ., Raleigh (Ph.D. - Industrial Engineering)
- 1985 North Carolina State Univ., Raleigh (M.S. - Industrial Engineering)
- 1982 Seoul National Univ. (M.S. - Industrial Engineering)
- 1976 Seoul National Univ. (B.S. - Textiles Engineering)

◆ **Work Experience**

- 2000~Present GIST, Professor
- 1995~2000 GIST, Associate Professor
- 1988~1994 Nothern Illinois Univ., Dekalb , IL , Assistant Professor
- 1983~1988 North Carolina State Univ., Research Assistant

◆ **Awards & Activities**

- Senior member of the National Academy of Engineering of Korea (NAEK)
- Science and Technology Medal, Republic of Korea, 2009
- Ministerial Citation, Minister of Information and Communication, Republic of Korea, 2003

◆ **Abstract**

The pseudo hologram is a display technology that generates the floating image in the mid-air. It has been widely used for a variety of application such as performance, product promotion, and digital exhibition to augment the digital content in the real world. However, since the conventional pseudo hologram is based on flat display, it cannot provide the differences in depth perception resulting from different views. In this presentation, we present a novel 3D pseudo hologram system that convey natural three-dimensional effect of a virtual object to multiple users simultaneously without wearing special glass. The proposed system consists of multiple projector-camera rigs, a physical mock-up as a 3D projection surface, rotational stage, and a half-silvered mirror. We project the digital image of virtual object onto the physical mockup without geometric and radiometric distortion using multi projection mapping technique. The experimental result shows an appealing photorealistic three-dimensional pseudo hologram from any view angle. We are expecting that the proposed system provides an immersive experience to user.