

# The 4th International Conference on Next Generation Computing 2018

TECHNICAL PROGRAM

December. 20-23, 2018

Thursday, December. 20th, 2018		
Time	Program	Venue : Meeting room 1207
14:00~18:00	Registration (Lobby)	
15:00~17:00	Steering Committee Meeting	
17:00~18:00	Presenter Meeting	
Friday, December. 21th, 2018 : Conference		
09:30~10:00	Registration (Lobby)	Venue : Assembly Room
10:00~10:20	<b>Opeaning Speech from Chairman</b> - Prof. Sung Wook Baik (Sejong University, Korea)	
10:20~10:30	<b>Oral Session awards</b>	
10:30~11:00	<b>Keynote Speech I</b> Prof. Vo Dinh Bay / Ho Chi Minh City University / Vietnam	
11:00~11:30	<b>Keynote Speech II</b> Prof. Le Hoang Son / VNU Information Technology Institute Vietnam National University Hanoi /Vietnam	
11:30~12:00	<b>Keynote Speech III</b> Prof. Phayung Meesad, King Mongkut's University of Technology North Bangkok / Bangkok, Thailand	

13:30~14:30	<p style="text-align: center;"><b>Session I : Big data &amp; cloud</b> <b>(chair : Ph.D Seokjoo Shin) Venue : 1GD2</b></p> <ul style="list-style-type: none"> <li>• Swarm Intelligence Exploration for Optimized Separation of Chlorinated Phenols and Associated Oxidative Metabolites / Grady Hanrahan, Leslie Tran / California Lutheran University, USA</li> <li>• Indoor Environment Monitoring and Electric Devices Controlling using Arduino, Xbee and Cloud Server / Huu Phat TRAN, Minh Duc HUYNH / Hoa Sen University, Vietnam</li> <li>• Performance Comparison of Structured Data Import into Hadoop / Heeseong Shin, Wonseok Choi, Haejin Chung, Sihyeong Jang, Yunmook Nah /Dankook University ,Korea</li> <li>• Emotion Recognition Using Fewer Facial Landmarks / Ju Yeong Sung, Jong-Kook Kim / Korea University, Korea</li> </ul>	<p style="text-align: center;"><b>Session II: AI</b> <b>(chair : Ph.D JunHee Seok) Venue : 1GD4</b></p> <ul style="list-style-type: none"> <li>• Energy-Efficient CNN for Fire Detection in Uncertain Environment / Khan Muhammad, Amin Ullah, Miyoung Lee, Sung Wook Baik / Sejong University, Korea</li> <li>• Actor-Based Movie Summarization using Face Clustering / Ijaz Ul Haq, Amin Ullah, Sung Wook Baik, Miyoung Lee / Sejong University, Korea</li> <li>• A New Approach for Mining Incrementally Closed Itemsets over Data Streams / Thanh-Trung Nguyen, Phong Le, Sptisyn Vladimir Grigorievich, Phan Ngoc Hoang / Hng Png International University, National Research Technic Polytechnic, Ba Ra-Vng Tai University, Vietnam, Russian</li> <li>• Deep Colorectal Image Classification using Convolutional Neural Network, / Sahadev Poudel, Hyun-Cheol Park, Yoon-Jae Kim, Sang-Woong Lee / Gachon University, korea</li> </ul>
14:30~15:00	<b>Coffee break</b>	
15:00~16:00	<b>Poster Session (chair : Ph.D. Goo-Rak Kwon, Chung Ghiu Lee) Venue : Assembly Room</b>	
	<ul style="list-style-type: none"> <li>• Enhancing Read-and-Write Performance using Locality based Chunking for Streaming Data / Mehdi Pirahandeh , Deok-Hwan Kim / Inha University, Korea</li> <li>• Analysis of the Received Signal Strength Indicator in Space and Time / Cong Tran, Minh D. Nguyen, Tatsuhiko Kawaguchi, Koji Ishibashi, Won-Yong Shin / Dankook University, The University of Electro-Communications, Korea, Japan</li> <li>• Raspberry Pi Based Elderly Fall Detection System / Zulfiqar Ahmad Khan, Hikmat Yar, Salahuddin, Mansoor Nasir / Islamia College, Pakistan</li> <li>• Secure Disposable Computing Technology for Low-end Embedded Devices / Sieun Kim, Ki-Woong Park / Sejong University, Korea</li> </ul>	

- Raspberry Pi Based Real-Time Hand-Gestures Recognition using Flex Sensors  
/ Salahuddin, Umair Haroon, Hikmat Yar, Muhammad Sajjad / Islamia College, University, Pakistan
- Automatic detection and classification of Acute Lymphoblastic Leukemia using CNN Features  
/ Siraj, Arbab Muhammad Qasim, Muhammad Qasim Khan, Muhammad Sajjad / Islamia Collage, Iqra National University, Pakistan
- Modified Hybrid median filter and Particle swarm based Gaussian mixture model for brain MRI segmentation  
/ Uttam Khatri, Goo-Rak Kwon / Chosun University, Korea
- Prediction method of time series data using LSTM  
/ Ga-Ae Ryu, EAN SOKCHOMRERN, PHENG TOLA, Kwan-Hee Yoo / Chungbuk National University, Korea
- A Blockchain-based Supply Chain Management and Tracking System  
/ Seong Seok Choi, Dong Hee Han, Ju Wook Jang, Jongho Nang / Sogang University, South Korea
- Battery-less photovoltaic cells using cascaded boost-buck converters using SiC power devices  
/ Hyun-Sik Choi /Chosun University, Korea
- Medium Access Scheme with MU-MIMO and Full-Duplex for Ultra-Dense IoT Networks  
/ Wooyeol Choi, Taewoon Kim / Chosun University, Hallym University, Korea
- A Study on Convergent Contents Production for STEAM Education  
/ Kwon Yumi, Tang Chunxiao, Kim Sookjin, Jung Moonryul, Han Rui / Sogang University, Korea
- A Big Data Platform for Collecting Agricultural Data  
/ Jin-Hyun Song, Jeong-Hun Kim, Ga-Ae Ryu, Aziz Nasridinov, Kwan-Hee Yoo / Chungbuk National University, Korea
- Paint Art Movement Recognition using Deep Convolutional Featur  
/ Salman Khan, SyedHammadHussainShah, SungWookBaik / Sejong University, Korea
- Training Method for Original Data Set Having Unbalanced Distribution  
/ Misun Kim, Dongil Han / Sejong University, Korea
- Identification and Recognition of Pests and Diseases in Pepper using Transfer Learning  
/ Muhammad Abdullah, Mobeen Ahmad, Dongil Han / Sejong University, Korea
- A Study on Case-based Intelligent Wheelchair Monitoring System  
/ Tae-Yeun Kim, Jeong-Sang Song, Su-Jeong Um, Jae-Kyun Jang, Da-Bin Oh, Sang-Hyun Bae / Chosun University, Korea
- A Survey of Image Inpainting with Generative Adversarial Networks  
/ Wonsuk Kim, Junhee Seok / Korea University, Korea
- A GPS-based UAV Access Detection System  
/ Jiseong Jeong, Heecheol Ahn, Dongil Jeong, Chung Ghu Lee, Yousang Park / Chosun University, Bioptech Ltd, Korea
- Identification of Splicing Sites through Hybrid Features Space Incorporating Random Forest

	<p>/ Waseem Ullah, Abdul Jamil, Samee Ullah, Muhammad Sajjad / Islamia College University, Pakistan</p> <ul style="list-style-type: none"> <li>Human Skin Tone Detection and Segmentation in Spatial Domain / Mustaqeem MS (CS), Hayat Ullah- BS (CS), Dr. Muhammad Sajjad, Ali Shah PhD Scholar / Islamia College University, Pakistan</li> <li>Analysis of the Effect of GNU-Radio Parameters on Spectrum Sensing Performance in USRP-based Embedded Testbed for IoT / Cheol-woong Lee, Gyu-min Lee, Byeong-hee Roh / Ajou University, Korea</li> <li>Alzheimer's disease diagnosis using extracted Hippocampus features / Yubraj Gupta, Goo Rak Kwon / Chosun University, Korea</li> <li>Implementation of Software-Defined Networking Testbed for a Multi-domain Environment with Distributed Controllers using OPNET / Seungwoon Lee, Byeong-hee Roh / Ajou University, Korea</li> </ul>	
16:00~17:30	<b>Session III : ICT Convergence</b> <b>(chair: Ph.D Sang-Woong Lee) Venue : 1GD2</b>	<b>Session IV : IoT</b> <b>(chair: Ph.D Deok-Hwan Kim) Venue : 1GD4</b>
	<ul style="list-style-type: none"> <li>Parking Occupancy Detection for unseen Dataset based on Dilated Convolutional Neural Networks / Sherzod Nurullayev, Sang-Woong Lee / Gachun University, Korea</li> <li>5G network technology, technical characteristics, challenges and application / Thanh Hung Le / Thai Binh University, Vietnam</li> <li>Fundamental Research on Virtual Reality of operating Ship and Self-propulsion Performance using CFD / Sun-Kyu Lee, Young-Gill Lee, Jeong-Ho Park / Inha University, Korea</li> <li>Implementation of back propagation algorithm for wearable devices using FPGA / Hyun-Sik Choi / Chosun University, Korea</li> <li>A Design of A Mobile Application for Thalang's Historical Sites Representation / Pita Jarupunphol, Wipawan Buathong / Phuket Rajabhat University, Thailand</li> </ul>	<ul style="list-style-type: none"> <li>Smart Transportation: The Role of Big Data and Internet of Things / Phuong Dinh / Vung Tau University, Vietnam</li> <li>Semi-Automatic Construction of Field Maps for Fingerprint-based Indoor Positioning System / HanJun Bae, Lynn Choi / Korea University, Korea</li> <li>A real-time relay selection scheme for MAC protocol in smart farm systems / Nguyen-Xuan Sam, Nguyen Hong Son / Faculty of Information Technology, Vietnam</li> <li>Study for Cycle Control Method of Publisher using PUBACK packet in MQTT / Yeon Ju Lee, Min Chang Lee, Pan Koo Kim / Chosun University, Korea</li> <li>Managing Home IoT Device using Smart Contract on A Blockchain Platform / Jae Geun Song, Eung Seon Kang, Seung Jae Pee, Ju Wook Jang / Sogang University, Korea</li> </ul>

**Saturday, December. 22th, 2018 : Conference**

Saturday, December. 22th, 2018 : Conference		
10:30 ~ 11:30	<b>Session V : Emerging Topics (chair: Ph.D Sang-Woong Lee)</b>	Venue : 1GD2
	<ul style="list-style-type: none"> <li>• Performance Analysis of Partitioning based Real-Time Separation Kernel / Sihyeong Park, Daeyoung Song, Hyeoksoo Jang, Hyungshin Kim, Mi-Young Kwon, Sang-Hun Lee, Hoon-Kyu Kim / Chungnam National University, Agency for Defense Development, Korea</li>   <li>• A Design of Chao Phraya Express Boat Route and Tourist Attraction Application on Andriod / Supakit Thurapan, Sireethorn Phadlom, Hathairat Ketmaneechairat / King Mongkut's University of Technology North Bangkok, Thailand</li>   <li>• Sharing Experience and Knowledge: How to verify Secure Boot Against Modify Attack / Yangjae Lee, Daesun Choi, Ki-woong Park / Sejong University, Kongju National University Korea</li>   <li>• A fine-tuning CNN model for art painting style classificatio / Tuong Le, Mi Young Lee, Sung Wook Baik / Sejong University, Korea</li>   <li>• Stock Selection by using an improved quick Artificial Bee Colony Algorithm / Dit Suthiwong, Maleerat Sodanil / King Mongkut's University, Thailand</li> </ul>	
11:30 ~ 12:30	<b>Poster Session (chair: Ph.D Sang-Woong Lee)</b>	
	Venue : Assembly Room	
<ul style="list-style-type: none"> <li>• Panorama Classification based on Parallax Error using Deep Learning Osama Zia, JongWeonLee / Sejong University, Seoul, Republic of Korea</li> <li>• Alzheimer's disease and normal control MRI classification over hippocampus region Samsuddin Ahmed, Ho Yub Jung / Chosun University, Korea</li> <li>• Hippocampus Localization Using Hough-CNN Abol Basher, Ho Yub Jung/Chosun University, Korea</li> <li>• Resilience of Features for Detecting Open Source Software in Obfuscated Android Apps Byoungchul Kim, Seong-je Cho, Kyeonghwan Lim / Dankook University, Korea Minkyu Park / Konkuk University, Korea</li> <li>• Magnetic Resonance Imaging Enhancement using Adaptive Histogram Equalization with Multi-scale Method Waqas Ellahi, Bumshik Lee/Chosun University, Korea</li> </ul>		

- U-Net Model for Automatic Segmentation of MR Brain Images  
Muhammad Ammar Malik, Bumshik Lee /Chosun University, Korea
- Traffic Congestion Analysis using Taxi Trajectory Data with Information Entropy  
Mingyu Pi, Hanbyul Yeon, Seogbong Jeon, Dong gun Kim, Yun Jang / Sejong University, Korea
- Salient Event Detection in Soccer Videos using Histogram of Oriented Gradient  
Hayat Ullah, Faisal Saeed, Mustaqeem, Muhammad Sajjad / Islamia College University Peshawar, Pakistan
- Classification of Membrane Proteins using Four Phase Split Amino Acid Composition Descriptor over Random Forest  
Abdul Jamil, Waseem Ullah, Samee Ullah, Muhammad Sajjad / Islamia College Peshawar, Pakistan
- Sequence Based Prediction of DNA binding proteins by evaluating the acidic and alkaline amino acids using Random forest  
Samee ullah, Warda khurshid, Waseem ullah, Muhammad Sajjad / Islamia College Peshawar, Pakistan
- Our Experiences on the Design, Build and Run of CTF  
Jun-Gyu Park, Ki-Woong Park / Sejong University, Korea  
Hyun-il Kim\*, Dowon Hong / Kongju National University, Korea
- Our Experiences on the Design, Build and Run of CTF  
Jun-Gyu Park, Ki-Woong Park, Hyun-il Kim, Dowon Hong/Sejong University, Kongju National University
- Just-Noticeable-Difference Based Edge Map Quality Measure  
Ijaz Ahmad, Seokjoo Shin / Chosun University, Korea
- A Study on Implicit Authentication Using Sensors of Smart Device for SMS Authentication\*  
Gwonsang Ryu / Graduate School of Kongju National University, Korea  
Daeseon Choi / Kongju National University, Korea
- Structural Perspective Analysis for Big Data As A Networks  
Chris Soo-Hyun Eom, Wookey Lee / Inha University, Korea
- Real-time Deep ALPR for Korean License Plates using YOLO Object Detector  
Chris Henry, Sang-Woong Lee / Gachon University, Korea
- A Web-Based Application for Constructing Deep Portfolios  
Hye Jin Lim, Yeong Hyeon Gu, Sang Il Lee, Seong Joon Yoo / Sejong University, Korea
- A Study of Face Detection Techniques and Facial Landmarks  
Ju Yeong Sung, HwangNam Kim, Jong-Kook Kim, JunHee Seok / Korea University, Korea
- Optimal Frequency Reuse for Progressive Image Transmission  
Minyeong Kim, Soyoung Jang, SungJin Kim, Seung-Hoon Kim, Seok-Ho Chang / Dankook University, Korea
- Performance Evaluation of Data Mining Techniques Based on Network Intrusion Detection Systems  
Pongsarun Boonyopakorn / King Mongkut's University, Thailand
- Spectrum Sensing Ratio Control Method for Improve Utilization based on the PU History  
Gyu-min Lee, Byeong-hee Roh / Ajou University, Korea

	<p>Sungjin Kang, Ji Myeong Oh / Communication R&amp;D Lab. LIG Nex1, Korea</p> <ul style="list-style-type: none"> <li>• Improvement of P &amp; O MPPT Algorithm of Photovoltaic System Based on Least Mean Square Algorithm Bong-Seog Jang / Mokpo National University, Korea</li> <li>Il-Yong Chung Tae-Yeun Kim, So-Wol Yoo, Jeong-Sang Song, Sang-Hyun Bae / Chosun University, Korea</li> <li>Dae-Young Lee / Gwangju Health University, Korea</li> <li>Yoon-Hwan Kim / Christian College of Nursing Gwangju, Korea</li> <li>• Pupil Segmentation for Gaze Applications based on Deep Learning Rizwan Ali Naqvi, Sang-Woong Lee, Woong-Kee Loh / Gachon University, Korea</li> <li>• Poisonous Plant Classification using Deep Learning for Smartphone Applications Min-Je Kim, Su-Min Lee, Ju-Chan Park, Hye-Won Lee, Chan-Min Kwon, Il-Young Won / Seoul Hoseo Vocational College, Korea</li> <li>• Proposal of Dog face Classification Model for Efficient Animal Character Production Young-June Lim, Young-Suk Lee / Dongguk University, Korea</li> <li>• Development of Hybrid Governor for FreeRTOS based on H/W low-power features SungYup Lee / Dept. ICT, ETRI school University of Science &amp; Technology Daejeon, Korea</li> </ul>
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13:30~15:00	<b>Session VI : Emerging Topics (chair : Ph.D Ki-woong Park)</b>	<b>Venue : 1GD2</b>
	<ul style="list-style-type: none"> <li>• Key frame extraction of visually acclaimed movies using a visual attention model based framework / Alexandre Larzat / Higher Studies of Engineering, France</li> <li>• Home Automation, Security and Privacy using Raspberry Pi / Hikmat Yar, Zulfiqar Ahmad Khan, Mansoor Nasir, Muhammad Sajjad / Islamia College Peshawar, Pakistan</li> <li>• Smart Route Detection by using Smart Phone / Muhammad Irfan, Imran Ullah Khan, Muhammad Sajjad, Jamil Ahmad / Islamia College Peshawar, Pakistan</li> <li>• Efficient Skin Cancer Detection on Embedded Device / Imran Ullah Khan, Hikmat Yar, Noman Khan, Salahuddin / Islamia College Peshawar, Pakistan</li> <li>• IoT engineer training project with IoT equipment / Trinh Quang Minh, Ngo Thi Lan / Tay Do University, Vietnam</li> <li>• Automatic Disease Detection in Wheat Crop using Convolution Neural Network / Altaf Hussain, Haider Ali, Imran Ahmad Mughal, Mohsin Ahmad / Islamia College University Peshawar, Pakistan</li> <li>• Detection and classification of Vehicle-Type by using Convolution Neural Network / Noreen Fayyaz Khan, Muhammad Kamil, Altaf Hussain, Muhammad Sajjad / Islamia College University Peshawar, Pakistan</li> </ul>	
15:00~15:30	<b>Closing Poster Session awards</b>	<b>Venue : Assembly Room</b>

Sunday, December. 23th, 2018 : Workshop

	Artificial intelligent for digital contents	Venue : Assembly Room
09:00~09:30	<ul style="list-style-type: none"> <li>• Session 1</li> <li>• Generative Adversarial Network</li> <li>• JunheeSeok Ph.D Korea University</li> </ul>	
09:30~10:00	<ul style="list-style-type: none"> <li>• Session 2</li> <li>• Data Center and Computing Trends</li> <li>• Yunmook Nah Ph.D Dankook University</li> </ul>	
10:00~10:30	<ul style="list-style-type: none"> <li>• Session 3</li> <li>• Recent Medical Image Analysis based on Deep Learning</li> <li>• Sang-WoongLee Ph.D Gachon University</li> </ul>	
10:30~11:00	<ul style="list-style-type: none"> <li>• Session 4</li> <li>• Human Actions and Activity Recognition Current Trends and Future Directions</li> <li>• Amin Ullah / Sejong University</li> </ul>	
11:00~11:30	<ul style="list-style-type: none"> <li>• Session 5</li> <li>• Intelligent Fire Scene Analysis using Efficient Convolutional Neural Networks</li> <li>• Khan Muhammad / Sejong University</li> </ul>	
11:30~12:30	<ul style="list-style-type: none"> <li>• Session</li> <li>• High Performance Computing</li> <li>• Yu-Jin Kang Team Manager / Korea Computing Industry Association</li> </ul>	
12:30~13:00	Discussion for Workshop(Artificial intelligent for digital contents)	