ICUFN 2021 Final Program

[Program at a Glance]

August 16, 2021 (Monday)			
17:00 ~ 19:00	**ICUFN Committee Meeting (IAC/SC/OC)**		
Room	Room A	Room B	Room C
August 17, 2021 (Tuesday)			
13:00 ~ 14:30	Registration		
14:30 ~ 16:00	Workshop 1A SRIoT 2021	Workshop 1B IV 2021	Workshop 1C Energy Data and DDI 2021
16:00 ~ 16:30	Workshop Break		
16:30 ~ 17:30	Tutorial 1: Recent GAN and its Applications Prof. Junhee Seok, Korea University		
August 18, 2021 (Wednesday)			
09:00 ~ 10:30	Session 1A Vehicular Ad-hoc Networks	Session 1B Embedded Systems	Session 1C E-Health & IoT
10:30 ~ 10:40	Session Break		
10:40 ~ 12:10	Session 2A Machine Learning and its Applications	Session 2B AI enabled IoT Networks	Session 2C Edge Computing & Ad-hoc Networks
12:10 ~ 14:00	Lunch Break		

14:00 ~ 15:30	Session 3A Underwater & Optical Communication	Session 3B SDN & Network Virtualization	Session 3C PHY Layer Aspects & Future Network Technologies
15:30 ~ 15:40	Session Break		
15:40 ~ 16:40	Tutorial 2: Advanced AI for Self-driving Robots Prof. Jun-Won Choi, Hanyang University		
16:40~16:50	Session Break		
16:50~17:40	Opening Address: Prof. Seong-Ho Jeong (OC Co-Chair) Welcome Address: Prof. Younghan Kim (President of KICS) Keynote Speech 1: Towards Connecting the Remaining 3+ Billion Prof. Mohamed-Slim Alouini, IEEE Fellow, KAUST		
August 19, 2021 (Thursday)			
09:00 ~ 10:40	Session 4A Machine Learning & Computational Intelligence	Session 4B Network Security & Intelligent Networks	Session 4C Power Electronics
10:40 ~ 10:50	Session Break		
10:50 ~ 12:30	Session 5A 5G and Beyond Wireless Networks	Session 5B Wireless Sensor Networks	Session 5C QoS, QoE, and Optimization
12:30 ~ 14:50	Lunch Break		
14:50 ~ 15:20	Keynote Speech 2: AI-based Smart Healthcare Prof. Tomoaki Ohtsuki, Keio University, Japan		

15:20 ~ 15:30	Session Break		
15:30 ~ 16:30	Tutorial 3: Distributed and Split Deep Learning: Theory and Applications Prof. Joongheon Kim, Korea University		
16:30 ~ 17:00	Session Break		
17:00 ~ 17:30	Keynote Speech 3: Voyages towards 5G Advanced and 6G Dr. Jin-Kyu Han, Corporate Vice President at Samsung Electronics & Heads Standards Research Team at Samsung Research		
17:30 ~ 18:00	Keynote Speech 4: Aeronautical Ad-hoc Networking for the Internet Above the Clouds Just UTOPIA OR A Next-Generation Challenge? Prof. Lajos Hanzo, University of Southampton, UK		
August 20, 2021 (Friday)			
9:30 ~ 11:00	Workshop 2A AIEA 2021	Workshop 2B Future Networks and Machine Learning	Workshop 2C Future Networks and Applications
Closing			

[ICUFN 2021 Technical Sessions]

Session 1A: Vehicular Ad-hoc Networks

Session Chair: Dr. Rahid Ali, Sejong University

Room A, Time 09:00-10:30, August 18, 2021

1A.1: Analysis of Transport Layer Congestion Control Algorithms over 5G Millimeter Wave Networks

Farhan Siddiqui and Quan Chau (Dickinson College, USA)

1A.2: Collaborative Multi-Agent Resource Allocation in C-V2X Mode 4

Malik Muhammad Saad, Md. Mahmudul Islam, Muhammad Ashar Tariq, Muhammad Toaha Raza Khan and Dongkyun Kim (Kyungpook National University, Korea)

1A.3: Efficient Task Offloading for MEC-Enabled Vehicular Networks: A Non-Cooperative Game Theoretic Approach

Md Delowar Hossain, Subina Khanal and Eui-Nam Huh (Kyung Hee University, Korea)

1A.4: Content-Oriented Multicamera Trajectory Forecasting Surveillance Network System

Xin Qi (Global Information and Telecommunication Institute, Waseda University, Japan); Toshio Sato, Keping Yu, Zheng Wen and San Hlaing Myint (Waseda University, Japan); Yutaka Katsuyama (Global Information and Telecommunication Institute Waseda University, Japan); Kazuhiko Tamesue (Waseda University, Japan); Kiyohito Tokuda (YRP International Alliance Institute, Japan); Takuro Sato (Waseda University, Japan)

1A.5: **Adaptive V2X Platform for Guaranteed QoS/QoE Service Based on Cloud Computing and Deep Reinforcement Learning**

Bokyun Jo and Sunghwan Jeong (Korea Electronics Technology Institute, Korea)

Session 1B: Embedded Systems

Session Chair: Dr. Jehad Ali, Ajou University

Room B, Time 09:00-10:30, August 18, 2021

1B.1: Multi-Switch Integrated Circuit Design for Micro Sensors of Smart Factory

Lee Sung-Hun, Jung Yong-An, Han Dong-Cheul,Cho Soo-Hyun, Byun Sang-Bong, Kim Seung-Soo (Gumi Electronics & Information Technology Research Institute, Korea)

1B.2: Design of Voltage Selectable Circuit Based on Power Mux for Charger IC

Dae Geun Cho and Kang-Yoon Lee (Sungkyunkwan University, Korea)

1B.3: Higher Order Statistics of Channel Capacity in κ-μ Fading Channel

Ishan Khatri, Toyanath Acharya, Annamalai Annamalai and Mohamed Chouikha (Prairie View A&M University, USA)

1B.4: RFID Tag Antenna Attached to Drug Nozzle and Electronic Fishing Float

Dong Su Choi, Yoon-Seon Choi, Min-Seok Baik, Bang Chul Jung and Jong-Myung Woo (Chungnam National University, Korea)

1B.5: High-Efficiency, High-Power Class-D Power Amplifier with 50W Output Using GaN Devices

Yeun Jeong Park and Kang-Yoon Lee (Sungkyunkwan University, Korea)

Session 1C: E-Health & IoT

Session Chair: Dr. Farman Ali, Sejong University

Room C, Time 09:00-10:30, August 18, 2021

1C.1: E-Health and Resource Management Scheme for a Deep Learning-Based Detection of Tumor in Wireless Capsule Endoscopy Videos

Tariq Rahim, Arslan Musaddiq and Dong Seong Kim (Kumoh National Institute of Technology, Korea)

1C.2: Stroke Medical Ontology for Supporting AI-Based Stroke Prediction System Using Bio-Signals

SoonHyun Kwon (Electronics and Telecommunications Research Institute, Korea); Se Jin Park (Korea Research Institute of Standards and Science (KRISS), Korea); Jaehak Yu, Jong-arm Jun and Cheol Sig Pyo (Electronics and Telecommunications Research Institute (ETRI), Korea)

1C.3: Securing Healthcare IoT (HIoT) Monitoring System Using Blockchain

Arsalan Siddiqui, Jihad Qaddour and Sameeh Ullah (School of Information Technology, Illinois State University, USA)

1C.4: Feasibility Study of the LoRaWAN Blind Adaptive Data Rate

Arshad Farhad, Dae-Ho Kim, Jeong-Sun Yoon and Jae-Young Pyun (Chosun University, Korea)

1C.5: Active Control and Management System for Providing the Ultra-Low Latency Service on Deterministic Networks

Eungha Kim, Yeoncheol Ryoo, Binyeong Yoon and Taesik Cheung (Electronics and Telecommunications Research Institute (ETRI), Korea)

Session 2A: Machine Learning and its Applications

Session Chair: Dr. Murad Khan, Kyungpook National University

Room A, Time 10:40-12:10, August 18, 2021

2A.1: Keyword Extraction in Economics Literatures Using Natural Language Processing

Soojeong Kim, Sunho Choi and Junhee Seok (Korea University, Korea)

2A.2: Analyzing Motion of Touching Screen for Inferring User Characteristics

Woonghee Lee (Hansung University, Korea)

2A.3: Exploring a link between network topology and active learning

Michael Hopwood, Phuong Pho and Alexander V. Mantzaris (University of Central Florida, USA)

2A.4: Deep Learning-based Power Allocation in Massive MIMO Systems with SLNR and SINR Criterions

Ridho Hendra Yoga Perdana, Toan-Van Nguyen and Beongku An (Hongik University, Korea)

2A.5: Classification of Growth Conditions in Paprika Leaf Using Deep Neural Network and Hyperspectral Images

Kangin Choi, Keunho Park and Sunghwan Jeong (Korea Electronics Technology Institute, Korea)

Session 2B: AI enabled IoT Networks

Session Chair: Dr. Muhammad Ibrahim, Jeju National University

Room B, Time 10:40-12:10, August 18, 2021

2B.1: Feature Expansion of Single Dimensional Time Series Data for Machine Learning Classification

Daeun Jung, Jungjin Lee and Hyunggon Park (Ewha Womans University, Korea)

2B.2: Deep Learning-Based 3D Printer Fault Detection

Mark Verana, Cosmas Ifeanyi Nwakanma, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea)

2B.3: Binary Classification for Linear Approximated ECG Signal in IoT Embedded Edge Device

Seungmin Lee, Dongkyu Lee and Daejin Park (Kyungpook National University, Korea)

2B.4: Balancing the Detection of Malicious Traffic in SDN Context

Bruno Salgado Machado (Centro Algoritmi, Universidade do MInho, Portugal); João Marco C. Silva (HASLab, INESC TEC & Universidade do Minho, Portugal); Solange Rito and Lima Paulo Carvalho (Centro Algoritmi, Universidade do Minho, Portugal)

2B.5: A Faulty Node Detection Method in Wireless Sensor Network in Seedling for Hydroponics

Dong-Hee Noh, Tae-Hwan Ko, Ahhyeon Hong, Kyeong-Hun Kim and Seok-Bong Noh (Korea Electronics Technology Institute(KETI), Korea)

Session 2C: Edge Computing & Ad-hoc Networks

Session Chair: Dr. Shaohua Wan, Zhongnan University of Economics and Law, China

Room C, Time 10:40-12:10, August 18, 2021

2C.1: Dynamic Priority Scheduling Mechanism Based on Spatio-Temporal Correlation for VANETs

Shuai Zhang , Jinglei Li and Qinghai Yang (State Key Laboratory of Integrated Services Networks, Xindian University Xi'an, China); Kyung Sup Kwak(Department of Information and Communication Engineering, Inha University, Korea)

2C.2: Message Dissemination Scheme for Rural Areas Using VANET (Hardware Implementation)

Hassan Mistareehi (University of Kentucky, USA)

2C.3: Avoiding Content Storm Problem in Named Data Networking

Sungwon Lee (Hanny University, Korea); Junho Seo, Jeongwon Ha and Dongkyun Kim (Kyungpook National University, Korea)

2C.4: Proactive Content Caching at Self-Driving Car Using Federated Learning with Edge Cloud

Subina Khanal, Kyi Thar, Md Delowar Hossain and Eui-Nam Huh (Kyung Hee University, Korea)

Session 3A: Underwater & Optical Communication

Session Chair: Dr. Haleem Farman, Islamia College University, Pakistan

Room A, Time 14:00-15:30, August 18, 2021

3A.1: Multi-Objective Hybrid Evolution with Information Entropy Awareness for Controller Placement

Xing Li, Zhanqi Xu and Fan Yang (School of Telecommunications Engineering, Xidian University, China); Yunbo Li (China Mobile Communication Corp, Research Institute CMCC Beijing, China)

3A.2: Multiband FSK with Direct Sequence Spread Spectrum for Underwater Acoustic Communications

Hyunwoo Jeong, Ji-Eun Shin and Ji Won Jung (Department of Radio Communication Engineering, Korea Maritime and Ocean University, Busan, Korea)

3A.3: Three-Dimensional Foot Contact Position on a Smart Fitness Trampoline with a Upward Looking Wide View Imaging System

Sekyung Park, Jun-Kyu Park, Boram Cho and Suwoong Lee (Advance Mechatronics Group, Korea Institute of Industrial Technology, Korea); Jongsik Ahn and Min Young Kim (Kyungpook National University, Korea)

3A.4: A Weighted Multi-Band Algorithm Using Estimation BER in Underwater Acoustic Communication

Jieun Shin, Hyunwoo Jeong and Ji Won Jung (Korea Maritime and Ocean University, Korea)

3A.5: Supervised Learning-Based Noisy Optical Signal Estimation for Underwater Optical Wireless Communications

Sudhanshu Arya and Yeonho Chung (Pukyong National University, Korea)

Session 3B: SDN & Network Virtualization

Session Chair: Dr. Muhammad Afaq, Jeju National University

Room B, Time 14:00-15:30, August 18, 2021

3B.1: Lightweight Collaboration of Detecting and Tracking Algorithm in Low-Power Embedded Systems for Forward Collision Warning

Sunghoon Hong (Carnavicom, Korea); Daejin Park (Kyungpook National University, Korea)

3B.2: Stable Matching-Based Mobility Agent Selection in Distributed Mobility Management

Hyeon Jae Jeong, Hongrok Choi and Sangheon Pack (Korea University, Korea)

3B.3: An IoT Framework Based on SDN and NFV for Context-Aware Security

Arlyn Verina Ong and Marnel Peradilla (De La Salle University, Philippines)

3B.4: Design of Baseband Analog with Filter Tuning for 5.8GHz DSRC Transceiver in ETCS

Ji Hoon Song and Kang-Yoon Lee (Sungkyunkwan University, Korea)

3B.5: IAB-Based Railway Communication Method for Stable Service Provision

MinSuk Choi and Byungsik Yoon (Electronics and Telecommunications Research Institute (ETRI), Korea); Dongjoon Kim and Dongil Sung (Korea Railway Network Authority, Korea)

Session 3C: PHY Layer Aspects & Future Network Technologies

Session Chair: Dr. Ihtesham Ul Islam, Military College of Signals, NUST, Pakistan

Room C, Time 14:00-15:30, August 18, 2021

3C.1: Design of Ridge Waveguide Array Antenna for Radar

In-Hee Han and Jong-Myung Woo (Chungnam National University, Korea)

3C.2: A High Power High Efficient 5.8 GHz CMOS Class-A Power Amplifier for a WPT Application

Reza E. Rad, Sung-Jin Kim, Behnam S. Rikan and Kang-Yoon Lee (Sungkyunkwan University, Korea)

3C.3: Proposal of Interference Power Occupancy Estimation Method Using Chirp Demodulation

Gaku Kobayashi and Osamu Takyu (Shinshu University, Japan); Koichi Adachi (The University of Electro-Communications, Japan); Mai Ohta (Fukuoka University, Japan); Takeo Fujii (The University of Electro-Communications, Japan)

3C.4: Performance Analysis of Cell-Free mmWave Massive MIMO with Low-Resolution DAC Quantization

Seung-Eun Hong (Electronics and Telecommunications Research Institute (ETRI), Korea)

3C.5: Design of Frequency Multiplier with Delay Locked Loop That is Insensitive to PVT Variation and Prescreen Harmonic Lock

HoWon Kim and Kang-Yoon Lee (Sungkyunkwan University, Korea)

Session 4A: Machine Learning & Computational Intelligence

Session Chair: Dr. Safdar Bouk, Daegu Gyeongbuk Institute of Science and Technology

Room A, Time 09:00-10:40, August 19, 2021

4A.1: Measurement of Colored Noise from Spot-Welding Machine in a Factory

Joo Hyun Park, WanJei Cho, KyoungMin Park and Seong-Hwan Hyun (Seoul National University, Korea); DongEun Kim and Hyung Jun Park (Hyundai Motors Group, Korea); Seong-Cheol Kim (Seoul National University, Korea)

4A.2: Electric Vehicle Charging Terminal 3D Docking Method Using Stereo Camera

Keunho Park, Donghoon Kim and Seon-Hyeong Kim (Korea Electronics Technology Institute, Korea); Kyoungho Choi (EKOS ENC, Korea); Sunghwan Jeong (Korea Electronics Technology Institute, Korea)

4A.3: Construction of Frequency-Hopping System Using Carrier-Signal Generator

Eisuke Kudoh and Keisuke Watanabe (Tohoku Institute of Technology, Japan)

4A.4: Cascade AOA Estimation Based on Combined Array Antenna with URFA and UCA

Tae-yun Kim (Chosun University, Korea); Hua Lee (University of California Santa Barbara, USA); Suk-seung Hwang (Chosun University, Korea)

4A.5: Enhancing IEEE 802.15.4 Access Mechanism with Machine Learning

Arslan Musaddiq, Tariq Rahim and Dong Seong Kim (Kumoh National Institute of Technology, Korea)

4A.6: Sequencing Universal Quantum Gates for Arbitrary 2-Qubit Computations

An Taegun (Korea University, Korea); Hoon Ryu (Korea Institute of Science and Technology Information, Korea); Changhee Joo (Korea University, Korea)

Session 4B: Network Security & Intelligent Networks

Session Chair: Dr. Diyan, Kyungpook National University

Room B, Time 09:00-10:40, August 19, 2021

4B.1: High Efficiency & Low Area DC-DC Buck Converter with the Digital Feedback Loop for the Wireless Applications

Hyunjin Jeong and Kang-Yoon Lee (Sungkyunkwan University, Korea)

4B.2: Augmented Reality Musical Service Part 1 for Non-Face-To-Face Watching by Multiple Audiences

Young-Suk Yoon, Hyunwoo Choo, Chanho Park and Sangheon Park (Electronics and Telecommunications Research Institute (ETRI), Korea)

4B.3: Intelligent Learning Architecture with Hybrid Features for Phishing Detection

Yu-Hung Chen and Jiann-Liang Chen (National Taiwan University of Science and Technology, Taiwan)

4B.4: Comparative Analysis of IEC 62439-3 (HSR) and IEEE 802.1CB (FRER) Standards

Duc N. M. Hoang and Jong Myung Rhee (Myongji University, Korea)

4B.5: FPGA-Based Cloudification of ECG Signal Diagnosis Acceleration

Dongkyu Lee, SeungMin Lee and Daejin Park (Kyungpook National University, Korea)

Session 4C: Power Electronics

Session Chair: Prof. DoHyeun Kim, Jeju National University

Room C, Time 09:00-10:40, August 19, 2021

4C.1: A Design of 20MS/s 12-Bit Charge Sharing SAR ADC for Ultrasound Diagnostic Medical Devices

Jung-Hyun Lee and Kang-Yoon Lee (Sungkyunkwan University, Korea)

4C.2: Examination of Efficient Aggregation Method of Sensor Information by Wireless Sensor Network for Event Detection in Frequency Sharing

Tsuyoshi Kobayashi, Taiki Suehiro, Osamu Takyu and Yasushi Fuwa (Shinshu University, Japan)

4C.3: 12-Bit 5 MS/s SAR ADC with Hybrid Type DAC for BLE Applications

Behnam S. Rikan, Dae-Young Choi, Reza E. Rad, Arash Hejazi, YoungGun Pu and Kang-Yoon Lee (Sungkyunkwan University, Korea)

4C.4: Chip Pulse Design for an Additional Satellite Navigation Signal in L6 Band

Hyoungsoo Lim, Sanguk Lee and JoonGyu Ryu (Electronics and Telecommunications Research Institute (ETRI), Korea)

4C.5: Full-Color High Transparent VHOE HoloGlass Digital Signage Display for AI Holo-Avatar

Yong Seok Hwang and Eun-Soo Kim (Kwangwoon University, Korea)

4C.6: Design of DC-DC Boost Converter with Digital Pulse Width Modulation for Transducer

Jin-Ho Kang and Kang-Yoon Lee (Sungkyunkwan University, Korea)

Session 5A: 5G and Beyond Wireless Networks

Session Chair: Prof. Pin-Han Ho, Department of Electrical and Computer Engineering, University of Waterloo, Canada

Room A, Time 10:50-12:30, August 19, 2021

5A.1: Weighted MMSE Optimization of Conjugate Beamforming for Cell-Free Massive MIMO

Daesung Yu (Jeonbuk National University, Korea); Hoon Lee (Pukyong National University, Korea); Seung-Eun Hong (Electronics and Telecommunications Research Institute (ETRI), Korea); Seok-Hwan Park (Jeonbuk National University, Korea)

5A.2: 5.8GHz Ultra-Low-Power Based Wake-Up Receiver for DSRC Application

Mweonggwan Kim and Kang-Yoon Lee (Sungkyunkwan University, Korea)

5A.3: Machine Learning-Based Channel Tracking for Next-Generation 5G Communication System

Hyeonsung Kim (Chonnam National University, Korea); Sangmi Moon (Korea Nazarene University, Korea); Intae Hwang (Chonnam National University, Korea)

5A.4: The Method of Emergency Message Retransmission for the Disaster Vulnerable People

SeungHee Oh (Electronics and Telecommunications Research Institute (ETRI), Korea); Kyungseok Kim (Chungbuk National University, Korea)

5A.5: Residual Frequency Offset Estimation Scheme for 5G NR System

Yong-An Jung, Sang-Bong Byun, Han-Jae Shin, Dong-Cheul Han and Soo-Hyun Cho (Gumi Electronics & Information Technology Research Institute, Korea); Sung-hun Lee (Kwangwoon University, Korea)

Session 5B: Wireless Sensor Networks

Session Chair: Prof. Ki-Hyung Kim, Ajou University

Room B, Time 10:50-12:30, August 19, 2021

5B.1: UHF RFID Wireless Communication System for Real Time ECG Monitoring

Md. Moklesur Rahman, Toufiq Aziz and Heung-Gyoon Ryu (Chungbuk National University, Korea)

5B.2: Performance Analysis of QTP-Based S2S Transmission in IEEE 802.11ax WLANs

Youngboo Kim and Seungmin Oh (Kongju National University, Korea); Gayoung Kim (Kangnam University, Korea); Junho Jeong (Dongguk University, Korea)

5B.3: LoRa-DuCy: Duty Cycling for LoRa-Enabled Internet of Things Devices

Thenuka Karunathilake and Asanga Udugama (University of Bremen, Germany); Anna Förster (University of Bremen, Germany)

5B.4: The Impact of Energy-Inefficient Communications on Location Privacy Protection in Monitoring Wireless Networks

Lilian Mutalemwa and Seokjoo Shin (Chosun University, Korea)

5B.5: A High Accuracy Low Power Convolution Operator with 12T SRAM for CNN

Tae Seob Oh, YoungGun Pu and Kang-Yoon Lee (Sungkyunkwan University, Korea)

5B.6: Storing Blockchain Data in Public Storage

Khikmatillo Tulkinbekov and Deok-Hwan Kim (Inha University, Korea)

Session 5C: QoS, QoE and Optimization

Session Chair: Prof. Long Hu, School of Computer Science and Technology, Huazhong University of Science and Technology, China

Room C, Time 10:50-12:30, August 19, 2021

5C.1: A Study on Rainfall Prediction Based on Meteorological Time Series

KangWoon Hong and Taegyu Kang (Electronics and Telecommunications Research Institute (ETRI), Korea)

5C.2: Time-Compressed Synchronization Sequence for Future Spectrally Efficient Transmission Schemes

Myungsup Kim, Jiwon Jung, and Ki-Man Kim (Korea Maritime and Ocean University, Korea)

5C.3: Performance Improvement for Windowed OFDM Using Pre-Coding and Sub-Carriers Interleaving

Kohei Ohno (Meiji University, Japan)

5C.4: Distance Estimation Algorithm Based on Multi-Antenna Signal Attenuation Model

Jing Wang, Jishen Peng, Xianqing Wang, Jun Gyu Hwang and Joon Goo Park (Kyungpook National University, Korea)

5C.5: Deep Learning-Assisted Beamforming Design and BER Evaluation in Multi-User Downlink Systems

Junbeom Kim (Jeonbuk National University, Korea); Hoon Lee (Pukyong National University, Korea); Seung-Eun Hong (Electronics and Telecommunications Research Institute (ETRI), Korea); Seok-Hwan Park (Jeonbuk National University, Korea)

5C.6: Indoor Fingerprinting Localization Based on Fine-Grained CSI Using Principal Component Analysis

Jing Wang, Xianqing Wang, Jishen Peng, Jun Gyu Hwang and Joon Goo Park (Kyungpook National University, Korea)

[ICUFN 2021 Workshop Sessions]

Workshop 1A: SRIoT 2021 (The 2nd International Workshop on Smart Radio for IoT Era)

Workshop Chair: Prof. Takeo Fujii, The University of Electro-Communications, Japan

Room A, Time 14:30 ~ 16:00, August 17, 2021

1A.1: USRP Implementation of Transmission Timing Control Function for Synchronized SS-CDMA Using Wireless Two-Way Interferometry (Wi-Wi)

Suguru Kameda (Hiroshima University, Japan); Yusaku Honma and Noriharu Suematsu (Tohoku University, Japan); Satoshi Yasuda and Nobuyasu Shiga (National Institute of Informations and Communications Technology, Japan)

1A.2: A Study on Antenna Polarization Plane for UL/DL Drone Access Network

Takuma Okada and Gia Khanh Tran (Tokyo Institute of Technology, Japan)

1A.3: Channel Capacity for a Model of Packet Level Index Modulation in LPWA Networks

Riku Yamabe, Mikihiko Nishiara and Osamu Takyu (Shinshu University, Japan)

1A.4: Mesh-Clustering-Based Radio Maps Construction for Autonomous Distributed Networks

Keita Katagiri (The University of Electro-Communication & Advanced Wireless and Communication Research Center (AWCC), Japan); Takeo Fujii (The University of Electro-Communications, Japan)

1A.5: Local 5G mmWave Signal Measurement and Analysis for Spectrum Database

Hirofumi Nakajo (The University of Electro-Communications & Advanced Wireless and Communication Research Center (AWCC), Japan); Takeo Fujii (The University of Electro-Communications, Japan)

Workshop 1B: IV 2021 (The 8th International Workshop on Intelligent Vehicles)

Workshop Chair: Prof. Dong Seog Han, School of Electronic and Electrical Engineering, Kyungpook National University

Room B, Time 14:30 ~ 16:00, August 17, 2021

1B.1: Foreground Extraction Based Facial Emotion Recognition Using Deep Learning Xception Model

Alwin Poulose (Kyungpook National University, Korea); Chinthala Sreya Reddy (Kyungpook National University & Christ University, Korea); Jung Hwan Kim, Dong Seog Han (Kyungpook National University, Korea)

1B.2: A Sensor Fusion System with Thermal Infrared Camera and LiDAR for Autonomous Vehicles: Its Calibration and Application

Ji Dong Choi and Min Young Kim (Kyungpook National University, Korea)

1B.3: Lidar Upsampling Using HSD Color Space Guided Image

Sangha Oh and Soon-Yong Park (Kyungpook National University, Korea)

1B.4: FPGA Based Approach for Heterogenous Sensors Data Fusion in Autonomous Vehicles

Danny Créno (Central Electronic Engineering School & ECE-Paris, France); Ben Senouci and Rafik Zitouni (ECE Paris, France)

1B.5: The Design and Implementation of Autonomous Driving Pallet Robot System Using ROS

Ung-Gyo Lee, Kyung-Jea Choi and Soon-Yong Park (Kyungpook National University, Korea)

1B.6: Optimal Decision-Making Strategies for Self-Driving Car Inspired by Game Theory

Kyoungtae Ji, Kyoungseok Han (Kyungpook National University & School of Mechanical Engineering, Korea)

Workshop 1C: Energy Data and DDI 2021

Workshop Chair: Prof. Sang-Chul Kim, School of Computer Science, Kookmin University

Room C, Time 14:30 ~ 16:00, August 17, 2021

1C.1: User Clustering Techniques for Massive MIMO-NOMA Enabled mmWave/THz Communications in 6G

Md. Shahjalal, Md. Habibur Rahman, Md. Osman Ali and Yeong Min Jang (Kookmin University, Korea)

1C.2: Heart Rate Monitoring System Using Feature Extraction in Electrocardiogram Signal by Convolutional Neural Network

Hsing-Chung Chen, Karamsetty Shouryadhar (Asia University, Taiwan)

1C.3: Metal Defect Classification Using Deep Learning

Aji Teguh Prihatno, Ida Bagus Krishna Yoga Utama and Yeong Min Jang (Kookmin University, Korea)

1C.4: OA-GAN: Overfitting Avoidance Method of GAN Oversampling Based on XAI

Jiha Kim and Hyunhee Park (Myongji University, Korea)

1C.5: Optimal Energy Management Among Multiple Households with Integrated Shred Energy Storage System (ESS)

Md. Morshed Alam, Md. Osman Ali, Md. Shahjalal and Yeong Min Jang (Kookmin University, Korea)

1C.6: Reducing Model Cost Based on the Weights of Each Layer for Federated Learning Clustering

Hyungbin Kim, Yongho Kim and Hyunhee Park (Myongji University, Korea)

1C.7: Schema Ontology Model to Support Semantic Interoperability in Healthcare Applications: Use Case of Depressive Disorder

Il Young Chong (DL Information Technology)

Workshop 2A: AIEA 2021 (The 1st Artificial Intelligence Emerging Applications)

Workshop Chair: Prof. Joongheon Kim, Department of Electrical and Computer Engineering, Korea University

Room A, Time 9:30 ~ 11:00, August 20, 2021

2A.1: Quantum Neural Networks: Concepts, Applications, and Challenges

Yunseok Kwak, Won Joon Yun, Soyi Jung, and Joongheon Kim (Korea University, Korea)

2A.2: Interesting Projects to Strengthen DSP Teaching

Sophie Liu, Rohan Aby, Matthew Samuelson, Tevin Macias and Emily Garvie (Oral Roberts University, USA)

2A.3: Trends in LEO Satellite Handover Algorithms

Soohyun Park and Joongheon Kim (Korea University, Korea)

2A.4: FFT and Machine Learning Application on Major Chord Recognition

Nolan Monnier, Darien Ghali and Sophie Liu (Oral Roberts University, USA)

2A.5: Trends in Blockchain and Federated Learning for Data Sharing in Distributed Platforms

Haemin Lee and Joongheon Kim (Korea University, Korea)

2A.6: Secure Aerial Surveillance using Split Learning

Yoo Jeong Ha, Minjae Yoo, Soohyun Park, Soyi Jung and Joongheon Kim (Korea University, Korea)

Workshop 2B: Future Networks and Machine Learning

Workshop Chair: Prof. Joohyun Lee, Department of Electrical and Electronic Engineering, Hanyang University

Room B, Time 9:30 ~ 11:00, August 20, 2021

2B.1: Indoor Path Loss Modeling for 5G Communications in Smart Factory Scenarios Based on Meta-Learning

Pei Wang and Hyukjoon Lee (Kwangwoon University, Korea)

2B.2: Machine Learning-Based Clustering of Load Profiling to Study the Impact of Electric Vehicles on Smart Meter Applications

Saeed Ahmed and Zafar Ali Khan (Mirpur University of Science and Technology, Pakistan); Noor Gul (University of Peshawar & Korea Polytechnic University, Korea); Junsu Kim and Su Min Kim (Korea Polytechnic University, Korea)

2B.3: Freezing of Gait Detection Using Discrete Wavelet Transform and Hybrid Deep Learning Architecture

Nguyen Thi Hoai Thu and Dong Seog Han (Kyungpook National University, Korea)

2B.4: Machine Learning and Deep Learning for Throughput Prediction

Dongwon Lee and Joohyun Lee (Hanyang University, Korea)

Workshop 2C: Future Networks and Applications

Workshop Chair: Prof. Sangheon Pack, Korea University

Room C, Time 9:30 ~ 11:00, August 20, 2021

2C.1: A Distributed Resource Allocation Algorithm for Task Offloading in Fog-Enabled IoT Systems

Tran Hoa and Dong Seong Kim (Kumoh National Institute of Technology, Korea)

2C.2: Robust Spectrum Sensing Employing PSO

Noor Gul (University of Peshawar & Korea Polytechnic University, Korea); Saeed Ahmed (Mirpur University of Science and Technology, Pakistan); Najeeb Ullah (Northern University, Nowshera, Pakistan); Su Min Kim and Junsu Kim (Korea Polytechnic University, Korea)

2C.3: A Cluster-Based Mechanism for Vehicular Networks in the Scale-Free ICN Core Network

Kamrul Hasan and Seong-Ho Jeong (Hankuk University of Foreign Studies, Korea)

2C.4: Deep Learning Based Pilot Assisted Channel Estimation for Rician Fading Massive MIMO Uplink Communication System

Md. Habibur Rahman, Md. Shahjalal, Md. Osman Ali and Yeong Min Jang (Kookmin University, Korea)