

The 24th International Conference on Advanced Communications Technology

“Artificial Intelligence Technologies toward Cybersecurity!!”

<http://www.icact.org>

Phoenix Park, Pyeongchang
Korea (South)
(On-Line Conference only)
Feb. 13 ~ 16, 2021



CONFERENCE PROCEEDINGS

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Messages

Message from the ICACT2022 General Chair

On behalf of all the ICACT2022 international conference committees, I would like to welcome all of you to ICACT2022. It is a great honor for me to host the 24th IEEE International Conference on Advanced Communications Technology (ICACTION) in Online Virtual Conference.



The ICACT is annual international conference in the communications field, where all experts from Korea home and abroad come together to present their work, and share new ideas and visions for achieving the future telecommunications age.

The ICACT has held annually since 1999, and also the last conference, ICACT2021, was successfully completed with the selected 86 papers among 268 submissions by 3 peer reviewers each paper, presented in full virtual sessions. because of CPVID-19 pandemic. There were 62 foreign and 24 korean paper presenters from 22 countries.

All the accepted and presented papers will be published in the conference proceedings and submitted to IEEE Xplore as well as other Abstracting and Indexing (A&I) databases, such as SCOPUS, EI Compendex, INSPEC, and Conference Proceedings Citation Index (CPCI), etc. Recent 3 years Impact factor H index is 21 score by the SCImago Lab, using Scopus Data Source, which means the rank of this international conference is the 63rd among 754 international conferences.

The special theme of ICACT2022 is focused on the "Artificial Intelligence Technologies toward Cybersecurity!!!", which has emphasized the importance of the Information Security, Protection Environment, and Resilience. Cyber security is a more important global issue as the information society gets wider and variety. We expect that the ICACT2022 will play a pivotal role in order to make great contribution to make our world smarter and prosperous.

We are very certain that ICACT2022 will be great significance to us all, and we hope you will enjoy not only the technical excellence during the technical sessions.

Finally, I have to deliver my deep heart thanks to all the participants in this virtual over internet conference.

Prof. Andrey Koucheryavy, PhD
Dean of department, Communication Networks and Data Transmission, Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Russia,
Chairman of Study Group 11 ITU-T.

Messages

Message from the Organization and Operation Committee Chair

With technically co-sponsored by IEEE ComSoc (Communications Society); IEEE ComSoc CISTC (Communications & Information Security Technical Community), and IEEE ComSoc ONTC (Optical Networking Technical Community), the ICACT (International Conference on Advanced Communications Technology) Conference has been providing an open forum for scholars, researchers, and engineers to the extensive exchange of information on newly emerging technologies, standards, services, and applications in the area of the advanced communications technology.



The conference official language is English. All the presented papers have been published in the Conference Proceedings, and posted on the ICACT Website and IEEE Xplore Digital Library since 2004. The honorable ICACT Out-Standing Paper Award list has been posted on the IEEE Xplore Digital Library also, and all the Out-Standing papers are subjected to the invited paper of the "ICACT Transactions on the Advanced Communications Technology" Journal issued by GiRI(Global IT Research Institute) accredited by Korea Government(Reg. No. 220-82-07506) hosting the ICACT Conference.

All the accepted and presented papers will be published in the conference proceedings and submitted to IEEE Xplore as well as other Abstracting and Indexing (A&I) databases such as SCOPUS, INSPEC, Engineering Index (EI), Conference Proceedings Citation Index (CPCI), etc.

Prof. Thomas Byeong-Nam Yoon, PhD.
Organizer, International Conference on Advanced Communications Technology (ICACT)
Editor-in-Chief, ICACT Transactions on the Advanced Communications Technology (TACT) Journal
President, Global IT Research Institute (GiRI)

Objectives

International Conference on Advanced Communications Technology (ICTACT) provides an open forum for researchers, engineers, policy makers, network planners, and service providers in telecommunications. Extensive exchange of information will be provided on newly emerging systems, standards, services, and variety of applications on the area of telecommunications.

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The Program of ICACT 2022 (Session Overview)

Day 1 : February 13 (Sunday)

15:00 ~ 17:00	Registration (Online)
Time	Tutorial/Workshop Session, Moderator: Prof. Thomas Byeong-Nam. YOON, PhD Title: "Artificial Intelligence Technologies toward Cybersecurity!!"
16:00 ~ 17:30	

Day 2 : February 14 (Monday)

09:00 ~ 16:00	Registration (Online)				
Time	Session	A	B	C	E
		Agenda 1	Agenda 2	Agenda 3	Timber Hall
10:00 ~ 11:30	Session 1	1A Wireless & Mobile Communication 1	1B Authentication & Hacking	1C Smart City, IoT & ERP 1	1D Cloud Computing & Search Engine
	Chair	Dr. Nada Alzaben	Prof. Lin You	Dr. Mohamed Darweesh	Dr. Xiao Lin
11:30 ~ 13:00	Lunch				
13:00 ~ 14:30	Session 2	2A Wireless & Mobile Communication 2	2B Blockchain & Application Security	2C Smart City, IoT & ERP 2	2D Drone, ITS, LBS, Network Robotics
	Chair	Dr. Yung-Chien Shih	Prof. Babu Baniya	Prof. Ming-Hsien Chen	Prof. Byeong-Nam Yoon
14:30 ~ 15:00	Coffee Break				
15:00 ~ 16:30	Keynote Speech 1: Speaker : Keynote Speech 2: Speaker:				
16:30 ~ 17:00	Coffee Break				
17:00 ~ 19:00	Welcome & Congratulatory Address : General Chair Best Paper Award : General Chair and TPC Chair Agenda of Plenary : Prof. Byeong-Nam Yoon, OOC Chair				

Day 3 : February 15 (Tuesday)

09:00 ~ 16:00	Registration (Online)				
Time	Session	A	B	C	E
		Agenda 1	Agenda 2	Agenda 3	Timber Hall
10:00 ~ 11:30	Session 3	3A Ubiquitous Sensor Network	3B Information Network Security 1	3C Industry 4.0, AI, & Big Data 1	3D System, Software & Work Method
	Chair	Dr. Samy Soliman	Prof. Yonghang Yan	Dr. Dinh-Lam Pham	Dr. Dana S. Kusumo
11:30 ~ 13:00	Lunch				
13:00 ~ 14:30	Session 4	4A Optical Network	4B Information Network Security 2	4C Industry 4.0, AI, & Big Data 2	4D
	Chair	Prof. Hyeong Ho Lee	Prof. Yao-Chung Chang	Prof. Do Nang Toan	
14:30 ~ 15:00	Coffee Break				
15:00 ~ 16:30	Session 5	5A Network Management & Operation	5B Information Network Security 3	5C Industry 4.0, AI, & Big Data 3	5D
	Chair	Dr. Sokpal Cho	Dr. Vasaka Visoottiviseth	Dr. satyabrata aich	

Day 4 : February 16 (Wednesday)

09:00 ~ 10:00	Registration (Online)				
Time	Session	A	B	C	D
		Agenda 1	Agenda 2	Agenda 3	Timber Hall
10:00 ~ 11:30	Session 6	6A Process mining & e-Services	6B Smart Service, Web Service & Future Web	6C Industry 4.0, AI, & Big Data 4	6D
	Chair	Prof. Yong-Geun HONG	Prof. Chih-Chien Hu	Prof. Kwanghoon Kim	
11:30 ~	See you at IEEE/ICACT2023, Feb.12 (Sun) ~ 15 (Wed), 2023 !!				

Remark: All schedules for the program are based on Korean Standard time (KST).

Technical Sessions (Online Virtual Conference)

Day 2 : 10:00 ~ 11:30

Time 10:00 ~ 11:30

Session 1A : Wireless & Mobile Communication 1		Room:	Agenda 1
Chair : Dr. Nada Alzaben, Southern Methodist University, Japan			
1A-01	Performance Analysis of DSSS-PDMA with SIC in GEO Satellite-Terrestrial Uplink Networks		
184	Yosuke Higasa*, Kazutoshi Yoshii*, Megumi Saito*, Jiang Liu*, Shigeru Shimamoto*, Takuya Okura**, Naoko Yoshimura**, Amane Miura**, Hiroyuki Tsuji**, Morio Toyoshima** *Waseda University, **National Institute of Information and Communications Technology, Japan		
1A-02	Performance Analysis of Intelligent Reflecting Surface-Assisted Orbital Angular Momentum-Based Communication Systems		
275	Kosei Ono, Kazutoshi Yoshii, Megumi Saito, Zhenni Pan, Jiang Liu, Shigeru Shimamoto Waseda University, Japan		
1A-03	Relay Selection in NOMA-Based Diamond Relaying Networks		
371	Noha H. Khattab*, Samy S. Soliman*,**, M. Saeed Darweesh***, and Amr A. El-Sherif****, ***** *University of Science and Technology, **Cairo University, ***Nile University, ****New Giza University, *****Alexandria University, Egypt		
1A-04	On the Stability of Load Adaptive Routing Over Wireless Community Mesh and Sensor Networks		
402	Nemesio A. Macabale Jr. Central Luzon State University, Philippines		

Day 2 : 10:00 ~ 11:30

Time 10:00 ~ 11:30

Session 1B : Authentication & Hacking		Room:	Agenda 2
Chair : Prof. Lin You, Hangzhou Dianzi University, China			
1B-01	Explainable Malware Detection Using Predefined Network Flow		
024	Boryau Hsupeng*, Kun-Wei Lee*, Te-En Wei*, Shih-Hao Wang* *Institute for Information Industry, Taiwan		
1B-02	Attack Tactic Labeling for Cyber Threat Hunting		
038	SHENG-XIANG LIN, ZONG-JYUN LI, TZU-YANG CHEN, DONG-JIE WU Institute for Information Industry, Taiwan		
1B-03	Collusion Resistant Watermarking for Deep Learning Models Protection		
108	Sayoko Kakikura*, Hyunho Kang**, Keichi Iwamura* *Tokyo University of Science, **National Institute of Technology, Japan		

Technical Sessions (Online Virtual Conference)

Day 2 : 10:00 ~ 11:30

Time 10:00 ~ 11:30

Session 1C : Smart City, IoT & ERP 1		Room:	Agenda 3
Chair : Dr. Mohamed Darweesh, WINC at Nile University, Egypt			
1C-01 117	PID Control Aided Thermal Comfortable of the User's Temperature Tracing Movable Electrical Heating Radiator		
	Haolin Zou*, Zhongyong Wang*, Pao-An Lin*, Weilong Zhan*, Peixin Chen*, Yuxin Li*, Yuyang Chen*, Zide She*, Juhui He*, Bing-Yuh Lu* Yuxin Li*, Yuyang Chen*, Zide She*, Juhui He*, Bing-Yuh Lu* *Guangdong University of Petrochemical Technology, China		
1C-02 171	Performance Evaluation of Partial Offloading under Various Scenarios in Mobile Edge Computing		
	SeokBeom OH*, SooJeong LEE*, Yong-Geun HONG**, Gyuyeol KONG***, Hyun-Kook KAHNG* *Korea University, **Daejeon University, ***Chongshin University, Korea		
1C-03 290	IoTivity Packet Parser for Encrypted Messages in Internet of Things		
	Hyeonah Jung, Hyungjoon Koo, and Jaehoon (Paul) Jeong Sungkyunkwan University, Korea		
1C-04 398	A Framework of Large-Scale Virtual City Simulation with Land-Use Model		
	Bumho Kim, Chang-Gyu Lim, Seong-Ho Lee, Yung-Joon Jung ETRI(Electronics and Telecommunications Research Institute), Korea		

Day 2 : 10:00 ~ 11:30

Time 10:00 ~ 11:30

Session 1D : Cloud Computing & Search Engine		Room:	Timber Hall
Chair : Dr. Xiao Lin, Fuzhou University, China			
1D-01 017	A Recommender System for the Upselling of Telecommunications Products		
	Navin Dookeram, Zahira Hosein and Patrick Hosein The University of the West Indies St. Augustine, Trinidad and Tobago		
1D-02 065	The Method of Learning Personal Preference with Reinforcement Learning		
	Yong Hee Park, Won Seok Choi, Seong Gon Choi Chungbuk National University, Korea		
1D-03 123	Preliminary Study of Cloud Aided Monitoring of Basic Physiological Signals		
	Mei Liu*, Ankang Lin*, Rushan Wu*, Sen Liu*, Gaowei Lei*, Junzhi Lu*, Man Xie*, Pao-An Lin*, Junbai Wu*, Bing-Yuh Lu* *Guangdong University of Petrochemical Technology, China		
1D-04 174	A Proposed Load Balancer Using Naïve Bayes to Enhance Response Time on Cloud Computing multi-path load balancing routing protocol based on Markov model		
	Tran Cong Hung*, Tran Duy Tien**, Le Ngoc Hieu*** *The Saigon International University, **Saigon University, ***Ho Chi Minh City Open University, Vietnam		
1D-05 359	DDoS attacks detection in the cloud using K-medoids algorithm		
	SeongHo Yoon, Miyoung Kang Korea University, Korea		

Technical Sessions (Online Virtual Conference)

Day 2 : 13:00 ~ 14:30

Time 13:00 ~ 14:30

Session 2A : Wireless & Mobile Communication 2		Room:	Agenda 1
Chair : Dr. Yung-Chien Shih, MediaTek Inc., Taiwan			
2A-01 040	Low-Latency Computation Offloading based on 5G Edge Computing Systems		
	Zhen-Yuan Pan*, Jiann-Liang Chen* and Yao-Chung Chang**		
	<i>*National Taiwan University of Science and Technology, **National Taitung University, Taiwan</i>		
2A-02 099	A Novel Gateway Deployment Solution for MANETs Interconnecting with Internet		
	DanMeng*, Yonghang Yan*, LunXia*, Zhijia Li*, Xuewen Xia*, Chen Chen*		
	<i>*Henan University, China</i>		
2A-03 102	Construction of Optical ZCZ Sequence Set with the Zero-Correlation Zone 2z Suitable for PPM-OCDMA System		
	Yasuaki Ohira*, Takahiro Matsumoto**, Hideyuki Torii***, Yuta Ida*		
	<i>*Yamaguchi University, **Kagoshima University, ***Kanagawa Institute of Technology, Japan</i>		
2A-04 147	Dynamic spectrum access based on double deep Q-network and convolution neural network		
	Guangjin Fang, Bin Shen, and Hong Zhang, Taiping Cui		
	<i>Chongqing University of Posts and Telecommunications (CQUPT), China</i>		

Day 2 : 13:00 ~ 14:30

Time 13:00 ~ 14:30

Session 2B : Blockchain & Application Security		Room:	Agenda 2
Chair : Prof. Babu Baniya, Grambling State University, USA			
2B-01 023	Cloud Blockchain Based Multiple Inspection Information Exchanging for Agriculture and Food Safety		
	Ming-Shen Jian*, Jian-Ting Guo, Hung-Jen Chen, Yu-Zhi Luo, Yu-Chen Lai <i>National Formosa University, Taiwan</i>		
2B-02 037	Secured Land Title Transfer System in Australia using VPN based Blockchain Network		
	Mohamad Arsalan Sheik*, Faryal Khattak**, Gul Zameen Khan***, Farookh Khadeer Hussain* <i>*University of Technology, **Griffith University, ***NLT Digital Solutions, Australia</i>		
2B-03 078	Systematic Analysis of DDoS Attacks in Blockchain		
	Mohamad Arsalan Sheikh*, Gul Zameen Khan**, Farookh Khadeer Hussain* <i>*University of Technology Sydney, **NLT Digital Solutions, Australia</i>		
2B-04 403	SWC-based Smart Contract Development Guide Research		
	Jong-Hoon Lee, SeongHo Yoon <i>Korea University, Korea</i>		

Technical Sessions (Online Virtual Conference)

Day 2 : 13:00 ~ 14:30

Time 13:00 ~ 14:30

Session 2C : Smart City, IoT & ERP 2		Room:	Agenda 3
Chair : Prof. Ming-Hsien Chen, Department of Information Management, Tatung Univ, Taiwan			
2C-01	Prediction of Compression Ratio for Transform-based Lossy Compression in Time-series Datasets		
021	Aekyung Moon, Juyoung Park, Yun Jeong Song		
	ETRI, Korea		
2C-02	A Secure Secret Key-Sharing System for Resource-Constrained IoT Devices using MQTT		
056	Taku Noguchi*, Masato Nakagawa*, Masami Yoshida* and Alberto Gallegos Ramonet*		
	*Ritsumeikan University, Japan		
2C-03	Real-Time Path Planning for Trajectory Control in Autonomous Driving		
144	Hye Young An, Won Seok Choi, Seong Gon Choi		
	Chungbuk National University, Korea		
2C-04	Reinforcement Learning base DR Method for ESS SoC Optimization and Users Satisfaction		
153	Yong Hee Park, Seong Gon Choi		
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030	Yong Hee Park, Won Seok Choi, Ji Yong Oh, Cheol Jin Park, Seong Gon Choi		
	Chungbuk National University, Korea		
2D-02	Investment Cost Minimization of Autonomous-Electric Vehicles based on Queueing Model		
062	Lae Yeop Lee, Won Seok Choi, Seong Gon Choi		
	Chungbuk National University, Korea		
2D-03	Shadowing-Fading-based Intersection Geographic Opportunistic Routing Protocol for Urban VANETs		
087	Shuto Takahashi*, Masami Yoshida*, Alberto Gallegos Ramonet**, Taku Noguchi*		
	*Ritsumeikan University, **Industrial and Social Sciences Tokushima University, Japan		
2D-04	A Survey of Coverage Issues in UAV networks		
090	Zhijia Li*, Yonghang Yan*, Xuewen Xia*, Lun Xia*, Dan Meng*, Chen Chen*		
	*Henan University, China		
2D-05	A Survey of UAV Clustering Algorithm		
096	Xuewen Xia*, Yonghang Yan*, Zhijia Li*, Dan Meng*, Lun Xia*, Chen Chen*		
	*Henan University, China		

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Chair : Dr. Samy Soliman, EECE at Cairo University & CIE at Zewail City, Egypt			
3A-01	Beamforming Design of the Wireless Power Transfer System into Multiple IoT Sensors		
074	Changyoung An, Hyeong Min Kwon, and Heung-Gyoon Ryu <i>Chungbuk National University, Korea</i>		
3A-02	An analytical model of MANET single-path and multi-path load balancing routing protocol based on Markov model		
178	LunXia*, Yonghang Yan*, DanMeng*, Zhijia Li*, Xuewen Xia*, Chen Chen* <i>*Henan University, China</i>		

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392	Hanji Shen**, Jun Li*, Xiang Fu*** <i>*Chinese Academy of Sciences, **University of Chinese Academy of Sciences, ***Blue Sky Frontier Science and Technology Innovation Center, China</i>		
3B-02	A Dynamic Cyber-attack Approach for Real-time Hardware-in-the-loop Simulation of Power Grid		
395	Zijiao ZHOU*, Haowei YANG*, Huibo LI*, Jihao ZHANG *, Siqi LI*, Xiang GAO*, Peng GONG* <i>Beijing Institute of Technology, China</i>		
3B-03	An IoT Device-trusted Remote Attestation Framework		
401	Kyeong Tae Kim, Jae Deock Lim, Jeong Noyo Kim <i>Electronics Telecommunications Research Institute, Korea</i>		
3B-04	A Survey of Secure Boot Schemes for Embedded Devices		
404	Rui Wang*, Yonghang Yan** <i>*Xidian University, **Henan University, China</i>		
3B-05	A Novel Trusted Boot Model for Embedded Smart Device without TPM		
405	Rui Wang*, Yonghang Yan** <i>*Xidian University, **Henan University, China</i>		

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317	Dinh-Lam Pham*, Viet-Vu Vu*, Byeongnam Yoon*, Kyoung-Sook Kim*, Kwanghoon Pio Kim* *Kyonggi University, Korea, **Vietnam National University, Vietnam		
3C-02	IoT (A Machine learning model) Design dependent encryption selection for IoT devices		
335	Matasem Saleh*, NZ Jhanjhi*, Azween Abdullah*, Raazia Saher** *Taylor's University, Malaysia, **King Faisal University, Saudi Arabia		
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350	Juyong Park*, Seokju Oh*, Jongpil Jeong* *Sungkyunkwan University, Korea		
3C-04	A Time-Series Process Event Log Preprocessing Approach for Data-Intensive and Predictive Operationalization of Smart Factories		
383	Minjae Park*, Sohyang Park**, Thanh-Hai Nguyen**, Dinh-Lam Pham**, Dongkeun Oh***, Kyoung-Sook Kim***, In-Kyoo Chun***, Kwanghoon Pio Kim** *DAELIM UNIVERSITY COLLEGE, **KYONGGI UNIVERSITY, ***Smart Factory Research Institute, IC&IT Co., Korea		
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114	Chih-Hung Chen*, YiWei Ma**, Ying Hsun Lai***, Wen-Tsung Chang****, Shun-Ching Yang**** *National Taiwan Normal University, **National Taiwan University of Science and Technology, ***National Taiwan University of Science and Technology, ****Institute for Information Industry, Taiwan		
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332	Li Yiran, Gentaro Konishi, Megumi Saito, and Shigeru Shimamoto Waseda University, Japan		
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341	Minh Chau Nguyen*, Heesun Won*, Siwoon Son*, Yerin Woo**, Hyeonjae Jeong** *Electronics and Telecommunication Research Institute, **University of Science and Technology, Korea		
3D-04	Threat Modeling Analysis on FireStormcx's Webcam System		
353	Jong Jin Cho, Miyoung Kang Korea University, Korea		
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377	Dana S. Kusumo*, Nungki Selviandro*, Kusuma Ayu Laksitowening*, Veronikha Effendy*, Monterico Adrian* *Telkom University, Indonesia		

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386	YanJun Liang*, Hongxi Yin*, Lianyou Jing*, Xuyang Ji*, Jianying Wang* <i>*Dalian University of Technology, China</i>		
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159	Hyun-Woo Rhee*, Jong-Bum You**, Jae-Yong Kim*, Hyeonho Yoon*, Hyo-Hoon Park* <i>*Korea Advanced Institute of Science and Technology (KAIST), **National Nanofab Center (NNFC), Korea</i>		

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093	Yoshi Michael Cho*, Hiroshi Imada*, Naoto Kawamura**, Hyunho Kang***, Keiichi Iwamura* <i>*Tokyo University of Science, **Kawamura Techno.Lab, ***National Institute of Technology, Japan</i>		
4B-02	The Impact of the Practical Security Test during the Software Development Lifecycle		
194	Chen, Shiang-Jiun*, Pan, Yu-Chun*, Ma, Yi-Wei**, Chiang, Cheng-Mou* <i>*Telecom Technology Center, **National Taiwan University of Science and Technology, Taiwan</i>		
4B-03	OWASP IoT Top 10 based Attack Dataset for Machine Learning		
314	Nay Myat Min*, Vasaka Visoottiviseth*, Songpon Teerakanok*, Nariyoshi Yamai** <i>*Mahidol University, Thailand, **Tokyo University of Agriculture and Technology (TUAT), Japan</i>		
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329	Chun LONG*,**, JianPing XIAO*,**, Jinxia WEI*, Jing ZHAO*,**, Wei WAN*,**, Guanyao Du*,** <i>*Computer Network Information Center, CAS (Chinese Academy of Sciences), **University of Chinese Academy of Sciences, China</i>		
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347	Sufang Zhou*, Mingzhe Liao*, Baojun Qiao*, Xiaobo Yang** <i>*Henan University, **China United Network Communication Corporation Henan Branch, China</i>		

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156	Faryal Nosheen*, Usman Qamar*, Muhammad Summair Raza** *National University of Sciences and Technology, **Virtual University of Pakistan, Pakistan		
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272	M.T. Nguyen*, A.T. Nguyen*, V.D. Hoang**, D.D. Lam* *CAI Center, VHT, Viettel Group, **Ho Chi Minh City University of Technology and Education, Vietnam		
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012	Mariella Rivas*, Richard Roach**, Patrick Hosein* *The University of the West Indies, **Telecommunications Services of Trinidad and Tobago, Trinidad and Tobago		
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132	Yong Jin*, Kazuya Iguchi**, Nariyoshi Yamai**, and Masahiko Tomoishi* *Tokyo Institute of Technology, **Tokyo University of Agriculture and Technology, Japan		
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162	Yusei Katsura*, Pranpariya Sakarin**, Nariyoshi Yamai***, Hiroyuki Kimiyama****, Vasaka Visoottiviseth** *Nara Institute of Science and Technology, Japan, Mahidol University, Thailand, ***Tokyo University of Agriculture and Technology, Japan		
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281	Javier Hernandez Fernandez*,**, Luis Lacasa***, Aymen Omri**, Alfredo Sanz*** and Munther E. Koborsi**** *Hamad Bin Khalifa University, **Iberdrola Innovation Middle East, Qatar, ***Microchip Technology, Spain, ****Qatar International First for Electro Mechanical W.L.L., Qatar		

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035	Nishat I Mowla*, Joakim Rosell*, Arash Vahidi* *RISE Research Institutes of Sweden, Sweden		
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039	C.T. Shen*, Y.Y. Xiao*, Y.W. Ma*, J.L. Chen*, Cheng-Mou Chiang**, S.J. Chen** and Y. C. Pan** *National Taiwan University of Science and Technology, **Telecom Technology Center, Taiwan		
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059	Hye-Yeon Shim*, Tae-Rim Park*, Il-Gu Lee* *Sungshin University, Korea		

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050	Zakaria SAWADOGO*, **, Gervais MENDY*, Jean Marie DEMBELE**, Samuel OUYA* *Universit'e Cheikh Anta Diop de Dakar, **Universit'e Gaston Berger, S'en'egal		
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071	Viet-Vu Vu*, Byeongnam Yoon**, Hong-Quan Do*, Hai-Minh Nguyen***, Tran-Chung Dao***, Cong-Mau Tran****, Doan-Vinh Tran*, Thi-Nhuong Phi*****, Viet-Thang Vu*****, Tien-Dung Duong***** *Vietnam National University, Vietnam, **Global IT Research Institute, Korea, ***Thai Nguyen University, ****HaTinh University, *****People's Security Academy, *****Hanoi University of Industry, *****VietNam Academy of science and technology, Vietnam		
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120	Hong-Lam Le1*, **, Duc-Nhan Nguyen***, Ngo-Thi-Thu-Trang****, Ha-Nam Nguyen***** *Vinh University of Technology Education, **Vietnam National University in Hanoi, ***Van Lang University, ****3Posts and Telecommunications Institute of Technology, *****Vietnam Institute for Advanced Study in Mathematics, Vietnam		
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009	Jiecong Tang*, Shipeng Wang**, Tao Bai**, Songfeng Lu**, Jing Xiong** *Industrial and Commercial Bank of China, **Huazhong University of Science and Technology, China		
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197	Gede Agung Ary Wisudiawan*, Angelina Prima Kumiaty* *Telkom University, Jalan Telekomunikasi Terusan Buah Batu Bandung, Indonesia		
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380	A.A. Gede Yudhi Paramartha*, Ketut Agus Seputra*, Fauzan Azima**, Dio Pramudia Putra**, Eva Dwi**, Kadek Yota Emanda Aryanto* *Universitas Pendidikan Ganesha, **Asterium Indonesia, Indonesia		

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