2024 Tenth International Conference on Communications and Electronics (ICCE 2024)

Danang, Vietnam 31 July - 2 August 2024



IEEE Catalog Number: CFP2416B-POD ISBN:

979-8-3503-7980-8

Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP2416B-POD

 ISBN (Print-On-Demand):
 979-8-3503-7980-8

 ISBN (Online):
 979-8-3503-7979-2

ISSN: 2836-4384

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



PART A: FULL PAPER

I. Communication Networks and Systems

Coding and Informatio	n Theory
------------------------------	----------

QoD aware Energy Efficient Active RIS-assisted Multi-User Multi-Stream Precoding by	1
Scalable Complex Iterations	
Yufeng Chen, Hoang D. Tuan, Hongwen Yu	
Human Activity Recognition using Wireless Signals and Low-Cost Embedded Devices Thuan V. A. Tong, Binh Bui-Thanh, Phuoc Nguyen T. H.	7
A Novel True Wireless Stereo Communication Technique	13
Jiajun Zhu, Francis C.M. Lau	
Joint Optimization of Precoding and Probabilistic Constellation Shaping for Physical Layer Security	19
in Visible Light Communications	
Duc M. T. Hoang, Chuyen T. Nguyen, Vu X. Phan, Thanh V. Pham	
Maximizing Mutual Information for Covert Sensing in Joint Radar-Communication Systems Tam Nguyen, Cuong Huy Huynh, Hien Q. Ta, Toan-Van Nguyen, Nguyen Tien Hoa	25
MIMO-NOMA and RIS-UAV Communications	
BER Performance of Downlink MIMO-NOMA with Combination of SFBC and Joint Maximum-Likelihood Detector	30
Ngo Thanh Hai, Vu Thao Vi, Nguyen Thi Xuan Uyen, Doan Bui Cong Khanh, Dang Le Khoa	
NOMA and IRS-assisted Secure UAV Communications	36
Shuzhen Liu, Zhiyu Huang, Guoqiang He, Ali A. Nasir, Hongwen Yu, Zhichao Sheng	
Maximizing the Multi-User Downlink Transmission Rate in RIS-Assisted UAV System	42
Yang Gu, Zhiyu Huang, Hongwen Yu, Zhichao Sheng, Yong Fang	
Digital Baseband Self-Interference Cancellation Using Fractionally-Spaced Finite-Impulse-	48
Response Structure for Full-Duplex MIMO	
Geng Shao, Robert Morawski, Tho Le-Ngoc	
Hybrid Orthogonal-Nonorthogonal Multiple Access for CR-Assisted Cooperative UAV	54
<u>Systems</u>	
Thi My Chinh Chu, Hans-Jürgen Zepernick	
Energy Efficiency Optimization for Federated Learning in Cell-free Massive MIMO Systems Xuan-Toan Dang, Oh-Soon Shin	60
Agile network architectures and solutions	
In-Band Locating High Delay Variance Links with Programmable Data Plane Nguyen Minh Tri, Nguyen Viet Ha, Masato Tsuru	66
Evaluation of Deployment Models for Microservices in an Edge-based Serverless	72
Environment	, _
Kien Nguyen, Frank Loh, Tobias Hosfeld, Le Phuc Lai, Truong Thu Huong, Pham Ngoc Nam, Nguyen Huu Thanh	
Accelerating Network Slice Embedding with Reinforcement Learning	78
Minh-Thanh Nguyen, Quang-Trung Luu, Tai-Hung Nguyen, Do-Minh Tran, Tuan-Anh Do, Kim-Hoan Do, Van-Hieu Nauyen	

An Extended OVN Architecture for End-to-End QoS Guarantee in Network Slicing	84
Thanh-Hai Pham, Tuan-Anh Nguyen, Dong Tran-Van, Trung Vu-Thanh, Nguyen Tai Hung,	
Nguyen Huu Thanh	
Next-generation network and communication technologies	
Communication Attack Analysis of Multi-Agent System over Wide-Area Network	90
Quynh T. Thanh Nguyen, Thiem V. Pham, Trung Dang Ngoc, Tuan Anh Nguyen, Chinh	
Cuong Duong	
Toward WebTransport Support in HTTP Adaptive Streaming	96
Minh Nguyen, Philip Nys, Stefan Pham, Daniel Silhavy, Stefan Arbanowski, Stephan Steglich	
Mobile Subscriber Location Estimation based on Logistic Regression for Enhancement of	102
Paging Procedure in 5G and beyond Networks	
Kieu Ha Phung, Van Phu Tran, Thom Tran	
<u>Ultra-Wide Range Refractive Index PCF-Based SPR Sensor for Lab-on-Chip Applications</u>	108
Ruhul Amin, Nam-Phong Nguyen, Md. Anwar Hossain, Abdullah Saleh, Nguyen Hoang	
Hai	
II. Electronics Systems	
•	
Computing Hardware Architecture for AI, Security Application	
Implementing Convolutional Auto Encoder on FPGA using High Level Synthesis	113
Son Dao-Xuan, Khoi Nghiem-Tuan, Duong Truong-Dai, Anh Ong-Tung, Chi Hoang- Phuong, Minh Nguyen-Duc	
A Novel NoC-based SNN Architecture with Optimized Routers	119
Huong Nguyen-Dinh, Lan Dang-Hoang, Huy Tran-Quang, Linh Nguyen-Phuong, Chi Hoang-Phuong, Minh Nguyen-Duc	
Preserving Power Optimizations Across the High Level Synthesis of Distinct Application-	125
Specific Circuits Paulo Garcia	
Advancing Cryptographic Security: A Study on SHA-3 Implementation within CRYSTAL-	131
KYBER Key-Encapsulation Mechanism Hardware	
Minh Mai Hoang, Trang Hoang	
Mixed Signal, Analog IC Design	
A Design of 10 – 16 GHz CMOS High Spectral Purity Frequency Quadrupler Anh Tran Van, Sanghun Lee, Cuong Huynh	137
Design of a Rail-to-rail 12-Bit 2.5-MSPS SAR ADC with Low-area on 180nm CMOS Process	142
Mai-Minh-Kha Nguyen, Duc-Hung Le	4.40
A 70dB SNDR Continuous-Time Sigma-Delta Modulator in Sub-GHz Communication System Phuong Nguyen, Cuong Huynh	148
A Power-Efficient Transmitter Design for 3D-Stacked Memories in 28-nm CMOS	153
Technology Strike Conference Conf	
Thinh Nguyen-Viet, Quoc Cuong Bui, Loan Pham-Nguyen, Gyung-Su Byun	
Forward Body Biasing Techniques for Low Power Null Convention Logic in SOI	157
Nguyen Le Huy, Paul Beckett	
Biomedical Circuits and Systems	
Immunosensor Based on Printed Circuit Board for Protein Detection	163

Viet Nguyen Canh, Chi Tran Nhu, Tuan Vu Quoc, Loc Do Quang, Ha Tran Thi Thuy, Tung Bui Thanh, Bang Ngac An, Trinh Chu Duc	
Circulating Tumor Cell (CTC) Separation from Blood Constituents Using a	167
Dielectrophoresis-based Microdevice	
Thu Hang Nguyen, Hoang Trung Nguyen, Mai Chi Nguyen, Loc Do Quang, Jens Ducree, Trinh Chu Duc, Thanh Tung Bui	
Toward an AI-embedded capsule endoscopy system for medical healthcare	172
Manh Cuong Hoang, Thi Lan Huong Nguyen, Hong Hoang Si, Hai Anh Le, Chang-Sei Kim, Jongoh Park	
Development of a Compact System Integrating Pre-Concentrator and Electrochemical	178
Measurements for Protein Pre-Concentration and Detection	
Chi Tran Nhu, Thuy Nguyen Tran, Huu Nguyen Cong, Trung Le Thanh, Loc Do Quang, Tung Thanh Bui	
Cooperative Control of Multi-Connected Autonomous Vehicles: Dynamic Event-Triggered	184
Approach This was a second of the second of	
Thiem V. Pham, Quynh T. Thanh Nguyen	
III. Microwave Engineering	
Diversity antennas	
Design of a Cavity Backed Patch Antenna Array for Active Electronically Scanned Array	190
Radar With Wide-Angle Impedance Matching	
Khuyen Nguyen-Duy, Thuan Pham-Minh, Tien Le-Ngoc, Truong Le-Huu	
General Coupling Matrix Synthesis for Cruciform Couplers and Its Applications in AFSIW	195
Nolen Matrix Design Thu Giang Do, Nhu-Huan Nguyen, Minh Thuy Le, Tan-Phu Vuong	
A Pattern-Reconfigurable Antenna with Vertical Polarization for 5G Indoor Access Points	201
Hien Thu Nguyen, Dang Quang Anh, Son Xuat Ta, Nguyen Khac Kiem	
Dual-Band Monopolar Patch Antenna Using Modified Ground Plane For 2.4/5.8-GHz WLAN	206
Thanh Tung Phung, Tuan Hung Nghiem, Ngoc Thanh Luong, Khac Kiem Nguyen, Son Xuat Ta	
Metasurface-inspired antennas	
A Design of Intelligent Reflecting Surface Using Spidron Structure for 6G Applications	211
Van-Tung Nguyen, Quang-Tuan Le, Khac Kiem Nguyen, Son Xuat Ta	211
A Compact Design of Co-Aperture Dual-Sense Circularly Polarized Antenna	216
Duc-Nguyen Tran-Viet, Tan Dao-Duc, Dat Nguyen-Tien, Quoc Dinh Nguyen, Hung Tran- Huy	210
A Dual-Polarized Fabry-Perot Antenna With High Isolation and Wideband RCS Reduction	220
Hai Dang Le, Minh Quang Nguyen, Truong Giang Nguyen, Khac Kiem Nguyen, Son Xuat	
Та	
Design of A Compact Sequentially-Fed Metasurface-Based Patch Antenna with Wide	225
Bandwidth And Circularly Polarized Operation	
Khanh-Dieu Thi Nguyen, Viet-Anh Nguyen, Tan Dao-Duc, Hung Tran-Huy	
Microwave Engineering	
<u>Dual-Purpose Saltwater Structure: EMI Shielding Window and UHF Antenna</u>	229
Tien Dat Nguyen, Chang Won Jung	
An Inverted Approach for Chipless RFID Tag Design Through Parameter Optimization	234

Cong-Cuong Le, Trung-Kien Dao, Ngoc-Yen Pham, Thanh-Huong Nguyen	
50-dB Attenuation Range 3-bit Low Insertion Loss Ku-Band and Ka-Band 100nm GaAs	240
Digital Step Attenuators	
Tien Bui, Nam Nguyen, Sanghun Lee, Cuong Huynh	
Design of Circularly Polarized 1-Bit Reconfigurable ME-Dipole Reflectarray for C-band	245
Thai Binh Nguyen, Tien Thinh Nguyen, Tien Manh Nguyen, Ta Thi Kim Hue, Nguyen Xuan	
Quyen	
IV. Power Electronics	
Power Electronics 1	
A Comprehensive Analysis of EMI Magnetic Shielding Approaches for Power Module	250
Chun-Ta Huang, Pin-Tzu Chiu, Chih-Ming Tzeng, Yan-Cheng Liu, Yu-Hua Cheng, Hsin-Han Lin, Chung-Chia Wu, M.H. Pong, Huang-Jen Chiu	
Carrier-Based PWM Method for Output Capacitor Voltage Balancing of Vienna Rectifier	256
Doan Phong Nguyen, Tuyen Dinh Nguyen, Duc Minh Pham, Hung Duc Nguyen, Hoa Truong Phuoc, Nhuan An Le	
A novel modeling and control design for a 3-phase Current-fed Dual Active Bridge	262
converter in an AC Battery application	
Tuan Anh Do, Duy Phuoc Pham, Ba Manh Nguyen, Van Tung Dau, Dang Tien Hoang,	
Quang Dich Nguyen, Bao Binh Pho, Phuong Vu Hoang	
High Voltage Gain Floating Boost Converter	268
Chan Viet Nguyen, Van-Dai Bui, Quoc Dung Phan, Phuoc Hoa Truong, Thanh Phuong Ho, Nhuan An Le	
An Active Module to reduce output ripple in power converter	274
Andrew C.S. Liao, Bryan M.H. Pong, H.J. Chiu	
Power Electronics 2	
Current Feedback Method - A New Approach of Field-Weakening Control for Surface-	280
Mounted Permanent Magnet Synchronous Motor	
Van-Hung Bui, Tien Nguyen-Minh, M. H Hoang, Hoai-Linh T. Nguyen, Hieu T. Nguyen	
Switching Control of Transmitting Lane Sections in Dynamic Wireless Charging System for	285
Electric Vehicles	
Nguyen Kien Trung, Bui Duc Hieu, Ho Xuan Viet Anh, Tran Duc Hiep, Nguyen Thi Diep	
Analysis of Input Voltage-Output Frequency Relationship in VCOs Using a Linear Time-	291
Varying Model	
Qin Yao, Shin Kawai, Triet Nguyen-Van	
A proposed Power Converter for an AC Battery	297
Tuan Anh Do, Phu Quang Nguyen, Tien Dat Vu, Trung Nghia Le, Vuong Anh Le, Ta Truong Linh Luu, Xuan Tung Bui, Duy Phuoc Pham, Ba Manh Nguyen, Quang Dich Nguyen, Viet Phuong Pham, Phuong Vu Hoang	
Flyback Converter Transformer Design Optimization by AI	303
Tzu-Hao Huang, Kai-En Lu, Nguyen Tan Tung, Man Hay Pong, Huang-Jen Chiu	505
Power Electronics 3	
	200
A Simplified Digital Predictive Current Control for T-Type Three-Phase Three-Level Inverters	309
Duy-Long Nguyen, Duc Minh Pham	
, , , ,	

A Compact Space Vector Pulse Width Modulation Method for General Three-phase	315
Multilevel Inverters Hiep Duy Do, Hieu T. Nguyen	
Decentralized Multilevel Inverters based on CPWM for Five-Phase Permanent Magnet	321
Synchronous Motor	021
Phu Cong Nguyen, Quoc Dung Phan, Dinh Tuyen Nguyen	
Predictive Power Control for T-Type Nested Neutral Point Clamped Inverter Without	327
Weighting Factor and Reduced Computational Burden	
Van-Quang-Binh Ngo, Khanh-Quang Nguyen, Kim-Anh Nguyen, Dinh-Hieu Le	
Power systems	
Forecasting Generating Power of Sun Tracking PV Plant using Long-Short Term Memory	333
Neural Network Model: A case study in Ninh Thuan - Vietnam	
Binh Nam Nguyen, Emanuele Ogliari, Emilio Pafumi, Davide Alberti, Sonia Leva, Minh	
Quan Duong	
An improved neural network algorithm for efficient scheduling of distributed energy	339
resources in microgrid	
Truong Hoang Bao Huy, Phuong Minh Le, Phan Quang An, Khoa Hoang Truong, Bui Dang Thanh, Dieu Ngoc Vo	
Smart scheduling solutions for home energy management in residential systems	345
Truong Hoang Bao Huy, Phuong Minh Le, Phan Quang An, Khoa Hoang Truong, Bui Dang	343
Thanh, Dieu Ngoc Vo	
,	
V. Signal Processing and Applications	
Signal processing for healthcare	
Food Intake Detection in the Face of Limited Sensor Signal Annotations	351
Agsa Yousaf, Edward Sazonov	331
Integration of Median Filter and K-means Clustering Technique for Ultrasound	357
Tomography	337
Luong Thi Theu, Tran Quang-Huy, Viet Bac T. Phung, Tran Duc-Tan	
Exploiting Machine Learning And Gene Expression Analysis in Amyotrophic Lateral	363
Sclerosis Diagnosis	
Hai-Long Nguyen, Duc-Long Vu, Hai-Chau Le	
Pubic Symphysis-Fetal Head Segmentation in Ultrasound Images with Deep Neural	369
<u>Networks</u>	
Duc Lam Luu, Tien Dat Do, Thanh Ha Pham, Minh Hoang Luong, Viet Dung Nguyen	
Weighted Fusion Architecture for Improved Ovarian Tumor Segmentation from Ultrasound	375
<u>Images</u>	
Nam-Anh Ta, Van-Anh Ngo, Thi-Loan Pham, Duy-Hai Vu, Thi-Lan Le, Hai Vu, Quang-Duy	
Pham, Thanh-Hai Tran	
Speech & Language	
Improvement of Vietnamese noun phrases chunking in text-based person image search	381
Khanh-Toan Luong, Thi-Hoai Phan, Thi-Ngoc-Diep Do, Thi-Lan Le	
Self-supervised Learning and Masked Language Model for Code-switching Automatic	387
Speech Recognition	
Po-Kai Chen, Li-Yeh Fu, Cheng-Kai Chen, Yi-Xing Lin, Chih-Ping Chen, Chien-Lin Huang, Jia-	
Ching Wang	

Sino-Vietnamese Text Transcription using Word Embedding Approach	392
Trung-Kien Dao, Dinh-Van Nguyen, Minh-Vu Pham, Nhat-Nam Duong	
DConvT: Deep Convolution-Transformer Network Utilizing Multi-scale Temporal Attention	398
<u>for Speech Enhancement</u> Hoang Ngoc Chau, Anh Xuan Tran Thi, Quoc Cuong Nguyen	
A study on natural language processing-based method for Windows malware detection Do Thi Thu Hien, Nguyen Quang Huy, Bui Duc Hoang, Nguyen Tan Cam, Van-Hau Pham	403
Deep learning for Agriculture	
Expanding Vision in Tree Counting: Novel Ground Truth Generation and Deep Learning	409
Model Minh Nhat Ton-That, Tin Viet Le, Nhien Hao Truong, An Dinh Le, Anh-Duy Pham, Hien Bich Vo	
Resource-Constrained Intelligent Trap: Fruit Flies Surveillance Framework with TinyML	415
<u>Integration</u>	
Quan Minh Nguyen, Vu Thanh Le, Minh Nhat Lai, Hien Bich Vo	
A Unified Framework for Plant Identification from UAV Images Mai Viet Hoang Do, Doan-Duc Phan, Cong Tuan Minh Le, Van-Nam Hoang, Hong-Quan Nguyen, Thanh-Hai Tran, Hai Vu, Xuan-Dinh Vu, Van-Sam Hoang, Michiel Vlaminck, Wouter Maes, Hiep Luong, Thi-Lan Le	421
PeanutAD: A Real-World Dataset for Anomaly Detection in Agricultural Product Processing	427
<u>Line</u> Duc-Hai NGUYEN, Trong-Hiep DO, Quoc-Khanh NGUYEN, Hoang-Linh-Phuong NGUYEN, Thi-Huong NGUYEN, Duc-Tan TRAN, Van-Toi NGUYEN	
Multimedia Security	
Meet-in-the-Middle Attack on the 15-Round Variant of the Lightweight Block Cipher Shakey for Protection of IoT Devices Kohan Yada, Yasutaka Igarashi	433
Stream Cipher Using Chaotic Maps for Secure Multimedia Data Do Tran Quang, Ung Duc Manh, Nguyen Vu Ha Linh, Van Anh Ta, Ta Thi Kim Hue, Thang	439
Manh Hoang	
Meet-in-the-middle Cryptanalysis of IVLBC	445
Yuki Uchiyama, Yasutaka Igarashi	
Effective Consensus Computation for Public Blockchain in Small-World Network Environment	451
Do Tran Quang, Ta Thi Kim Hue, Nguyen Xuan Quyen, Nguyen Tung Anh, Manh-Hai Hoang, Thang Manh Hoang	
Higher Order Differential Attack on the Lightweight Block Cipher LBC-3	457
Naoki Shibayama, Yasutaka Igarashi	
Signal Processing and Multimedia Analysis Applications	
An Innovative Pipeline for Corrosion Segmentation in Telecommunication Infrastructure	463
Dao Duy Tung, Nguyen Hoang Viet, Ho Xuan Hung	
A Novel Autorec-Based Architecture for Recommendation System	469
Tan Nghia Duong, Thi Thu Trang Pham, Hieu Minh Tran, Dung Pham Quoc, Hai Dang Nguyen, Huu Phat Nguyen, Hoang Manh Tran	
An Implementation of IoT System for Collecting Vibration Signals of Ships Engines to	475
Support Engine Failures Detection	

Hoai-Linh Tran, Duc-Thanh Nguyen, Quang-Huy Do Ba, Van-Nam Pham	
A Split-Merging K-Means Clustering Algorithm with User Attributes for Collaborative	481
Filtering	
Dang Thi Nuong, Nguyen Xuan Dung, Phuong Xuan Quang, Vinh Tran-Quang	
A Dataset and Quality Evaluation of Al-generated Images for Online Learning	487
Vu Hai Dang, Chibuike Onuoha, Nguyen Duc Nam, Truong Thu Huong, Truong Cong	
Thang, Pham Ngoc Nam	
Pattern Recognition	
Enhancing Continual Abdominal Multi-Organ and Tumor Segmentation through Best	492
Model Knowledge Distillation and Encoder-Decoder Training	432
Quynh-Trang Pham Thi, Tuan-Nghia Do, Hai-Long Nguyen, Thanh Hai Dang	
A method for missing joint recovery and its application in skeleton-based activity	498
recognition	430
Phuong-Dung Nguyen, Huu-Linh Nguyen, Van-Thang Tran, Viet-Duc Le, Huu-Quynh	
Nguyen, Thi-Lan Le	
Improving Human-Object Interaction Detection via Streamlining Matching Procedure and	504
Enhancing Interaction Query	304
Tai T. Pham, Vu L. Bui, Thinh V. Le, Doanh C. Bui, Khang Nguyen	
Optical-Flow and Human-Segmentation Based Method for High Accuracy Detection of Golf	510
Swing Key Events	310
Cuong Vo-Le, Dat Tien Doan, Hoang Doan Tran	
WiLHPE: WiFi-enabled Lightweight Channel Frequency Dynamic Convolution for HPE Tasks	516
Toan D. Gian, Tien-Hoa Nguyen, Nhan Thanh Nguyen, Van-Dinh Nguyen	310
Signal Filtering and Modelling	
	500
Block Based Focus Volume Pyramid for Shape from Focus	522
Khurram Ashfaq, Muhammad Tariq Mahmood	
Inspecting the optical properties of light transmitting concrete for applications in smart	527
traffic	
Quang Duc Pham, Hai Minh Nguyen, Phuong Nam Huynh, Hoang Nam Phan, Thi Thu	
Thuy Mai, Vinh Ngoc Tran	
Impulsive Noise Resilient Mean Shift Filtering for Effective Color Image Enhancement	532
Damian Kusnik, Milena Smolka, Bogdan Smolka	
A Flexible Residual Neural Network for Rician Noise Removal in MR Images	538
Nguyen Tu Phuong, Khoa Phan Tran Dang, Tu Dac Ho, Hanh Tran Thi Minh	
Sensor Fusion and Signal Processing	
Enhanced Bit-Rate Performance for Visible Light Communication Systems Between LED	544
and Mobile Camera	
Nam Hoang Nguyen, Quan Dinh Nguyen	
Accuracy and Speed Improvement of Lidar Inertial Odometry and Mapping by using	550
Gravity Estimation and Incremental Voxels	
Truong Giang Dao, Hai Duong Tran, Ngoc Phong Dao, Dinh Tuan Tran, Anh Quang	
Nguyen	
PBDM: Peak-Based Differential Method for Improve Leg Detection Performance with Laser	556
Range Finder	
Tan Van Duong, Dong Huu Quoc Tran, Van Hieu Dang, Hoang-Anh Phan, Tung Bui Thanh,	
Van Nguyen Thi Thanh	

Ngoc-Dau Mai, Hika Barki, Wan-Young Chung	
	_
 Special Session on Cognitive Information Processing and Its Applic 	cations
Classification of Electroencephalography Signals with Auditory Stimuli using Com	<u>nplex</u>
<u>Network</u>	
Thang Manh Hoang, Dinh-Duc Vu, Manh-Hai Hoang	
Towards Integrating Physiological Data in UI/UX Design Learning and Engineering	g
<u>Education</u>	
Montri Phothisonothai, Korawit Orkphol, Natthapon Pannurat, Apirath Limma	nee,
Warayost Lamaisri, Chaowat Euafua	
ECG-based Cardiovascular Disease Classification using Modified Inception	
Viet Dung Nguyen, Thi Thu Hien Hoang, Khac Son Vu, Nhat Lam Nguyen	
CS-TE Abstraction Framework: Ballet Teaching, Training, Testing Station with Kin	<u>iect</u>
Sensors and EEG Measurement	
Apirath Limmanee, Sathit Pairoch, Montri Phothisonothai	
Does the categorization difficulty elicit the uncanny-valley-like phenomenon wit	<u>hout</u>
animacy?	
Kota Ssasaki, Fumiya Yonemitsu, Atsunori Ariga	
<u>Visual Images of Contaminated Objects and Attentional Shift</u>	
Risako Shirai, Katsumi Watanabe	
Effects of Variety of Dynamic Facial Expressions on Attractiveness Judgments with	<u>th</u>
Successive Viewing on Digital Media	
Sotaro Taniguchi, Akira Sarodo, Chihiro Saegusa, Haruko Sugiyama, Yoko Tsuci	hiya,
Misaki Kawashima, Katsumi Watanabe	
II. Special Session on Machine Learning and Optimization for Next G	Generation
in openial occording in machine acarring and optimization for ment	
ommunication Technologies	
ommunication Technologies Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor	ming
ommunication Technologies Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems	<u>ming</u>
Ommunication Technologies Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems Farhan Bishe, Asil Koc, Tho Le-Ngoc	
Ommunication Technologies Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems Farhan Bishe, Asil Koc, Tho Le-Ngoc Empowering Federated Learning with DDPG for Energy Efficiency in Communica	
Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems Farhan Bishe, Asil Koc, Tho Le-Ngoc Empowering Federated Learning with DDPG for Energy Efficiency in Communica Networks	
Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems Farhan Bishe, Asil Koc, Tho Le-Ngoc Empowering Federated Learning with DDPG for Energy Efficiency in Communica Networks Minh Ngoc Luu, Minh-Duong Nguyen, Van Duc Nguyen, Quoc-Viet Pham	<u>tion</u>
Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems Farhan Bishe, Asil Koc, Tho Le-Ngoc Empowering Federated Learning with DDPG for Energy Efficiency in Communica Networks Minh Ngoc Luu, Minh-Duong Nguyen, Van Duc Nguyen, Quoc-Viet Pham DSPI - Dual Semantic Parsing Image: A Robust Person Representation for Person	<u>tion</u>
Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems Farhan Bishe, Asil Koc, Tho Le-Ngoc Empowering Federated Learning with DDPG for Energy Efficiency in Communica Networks Minh Ngoc Luu, Minh-Duong Nguyen, Van Duc Nguyen, Quoc-Viet Pham DSPI - Dual Semantic Parsing Image: A Robust Person Representation for Person Identification	<u>tion</u>
Deep Reinforcement Learning-based Sum-Rate Maximization in Hybrid Beamfor Multi-User Massive MIMO Systems Farhan Bishe, Asil Koc, Tho Le-Ngoc Empowering Federated Learning with DDPG for Energy Efficiency in Communica Networks Minh Ngoc Luu, Minh-Duong Nguyen, Van Duc Nguyen, Quoc-Viet Pham DSPI - Dual Semantic Parsing Image: A Robust Person Representation for Person	tion Re-

VIII. Special Session on Power Electronics and Electric Drives for Automotive Applications

Electric Machines	and Drives	for Automotive .	Applications
LICCUIT IVIACIIIICS	ullu Dilves	ioi Autoillotive	-рриси ионз

Winding Function Model for Detecting Demagnetization in Permanent Magnet	625
Synchronous Machines	
Thien-Phuoc Nguyen, Huynh Van Khang, Kjell G. Robbersmyr	
Mutual Impacts of Different Dead-times and Control Sample Times on SiC Inverter Loss in	631
Experimental Motor Drive at High Carrier Frequencies	
Nguyen Gia Minh Thao, Van-Long Pham, Kutsukake Asuka, Keisuke Fujisaki, Ton Duc Do	
Classification of Multiple Incipient Faults in Permanent Magnet Synchronous Motors	637
Under Variable Speed Conditions Using Transfer Learning	
Du Nguyen, Khang Huynh, Kjell Robbersmyr	
A Novel Skewed Permanent Magnet Technique for Improving Performances of SPMSMs	643
with Outer Rotor Type	
Dung Dang Chi, Hoang Bui Huu, Bao Doan Thanh, Vuong Dang Quoc	
Optimization of High-Efficiency Region of EV Traction Motor through Innovative Motor	648
Constant Considering the Current Angle and Iron Loss	
Min-Fu Hsieh, Anh Thanh Huynh, Le-Minh-Hoc Duong, Nguyen-Yen-Truc Le	
Control of Powertrain System	
A Straightforward Deadbeat Control Scheme for Three-phase Voltage Source Inverters	654
Duy-Long Nguyen	
Reach on Fuzzy Logic Control for Electric Power Steering System	660
Vo Thanh Ha, Nguyen Hai Nam, Tran Trong Minh	
Enhancing Supervised-Learning Fault Classification of Permanent Magnet Synchronous	666
Motors with Feature Selections	
Tanzir Ahamed, Thien Phuoc Nguyen, Hoang Nam du Nguyen, Khang Huynh, Sampad	
Ghosh	
Improve Performance of Dual-output Configuration IPOS Structure	672
Van-Dai Bui, Vu Hoang Phuong, Chan Viet Nguyen, Honnyong Cha, Thien-Dung Tran	
Power Converters for Charging Infrastructure	
Design of a Planar Transformer for Bidirectional Resonant Type Converters in On-Board	678
Charger Applications: A Methodological Approach	0.0
Danh-Nam NGUYEN, The-Tiep PHAM, Trong-Nha QUANG, Duy-Dinh NGUYEN	
New High Boost DC-DC Converter for Renewable Energy Conversion	684
Dinh-Tuyen Nguyen, Truong-Khang Duong, Truong-Duy Duong, Trong-Nha Quang, Ton	
Duc Do	
High Step-down Two-stage DC/DC Converter for Low Voltage Battery Charger	690
Long H. B. Nguyen, Cuong P. Ha, Huy P. M. Luong, Hai N. Tran, Minh V. Vo, Tuyen D.	
Nguyen	
A Study of the Fast Current Protection Method for the Silicon-Carbide (SiC) MOSFETs	696
Khac-Tiu NGUYEN, Danh-Nam NGUYEN, The-Tiep PHAM, Duy-Dinh NGUYEN	
Improve Performance of High-gain Floating Double Series-capacitor Converter with	701
Common Ground and Low-side Gate Driving	
Van-Dai Bui, Vu Hoang Phuong, Chan Viet Nguyen, Honnyong Cha, Thien-Dung Tran	

IX. Special Session on Recent Advances in B5G/6G Networks

Advanced Communication Technologies

3D Hyper-accurate Localization in Indoor Environment for Mobile Equipment Viet Thuy Vu, Yevhen Ivanenko, Mats I. Pettersson, Aman Batra, Thomas Kaiser	706
Prototype Design of Real-Time OFDM Transceiver in 300-GHz Band for Backhaul Networks Kazuhiko Tamesue, Seiji Nishi, Takuro Sato, Toshio Sato, Kunihisa Jitsuno, Tetsuya Kawanishi, Takuya Tsutsumi, Hiroki Sugiyama, Hiroshi Hamada, Hitoshi Wakita, Hiroyuki Takahashi, Fumito Nakajima	712
<u>Towards 6G xURLLC with Non-orthogonal HARQ</u> Trung D. Nguyen, Chuyen T. Nguyen, Hoang D. Le, Anh T. Pham	718
A Novel Paradigm Shift for Next-Generation: Symbiotic Backscatter Rate-Splitting Multiple Access Systems Thai-Hoc Vu, Daniel Benevides da Costa, Bao Vo Nguyen Quoc, Sunghwan Kim	724
Optimization and Resource Management in Next-Generation Networks	
Enhance Radar Performance under Truncated Channel Inversion Transmissions Hien Q. Ta, Thuy Ngoc Thi Nguyen, Tien Nguyen, Hoon Oh	729
Joint Pilot and Data Power Optimization in Cell-free Massive MIMO Systems using Heterogeneous Graph Convolutional Network Quynh-Suong Nguyen, Xuan-Toan Dang, Oh-Soon Shin	735
Minimizing Energy Consumption in Mobile Robotics with STAR-RIS in Smart Factories Nguyen Thi Thanh Van, Nguyen Cong Luong, Hoang Le Hung, Nguyen Tien Hoa, Ngo Manh Tien	741
Efficient Resource Allocation Framework for Network Slicing-enabled Open RAN Tuan-Vu Truong, Quang-Trung Luu, Van-Dinh Nguyen	747
Joint Latency Minimization and Power Allocation for MEC-Enabled MU-MISO Networks Hieu V. Nauven, Mai T. P. Le, Tu Dac Ho, Pham Viet Tuan, Hung Nauven-Le	753

PART B: POSTER PAPERS

I. Signal Processing and Applications

Cumulative Learning in Dynamic Environments through Dataset Distillation Hai Tung Luu, Márton Szemenyei	N/A
<u>Text-Driven Diffusion Model For Enhancing Image Generation</u> Van-Nhan Tran, Philjoo Choi, Sun-Ja Lim, Suk-Hwan Lee, Hoanh-Su Le, Ki-Ryong Kwon	N/A
Variational Autoencoder for Anomaly Detection: A Comparative Study	N/A
Huy Hoang Nguyen, Cuong Nhat Nguyen, Xuan Tung Dao, Quoc Trung Duong, Dzung Pham Thi Kim, Minh-Tan Pham	,
A Directional Finding Estimation Algorithm of Passive Sonar in Multipaths Cases Based on The	N/A
Combination of Quadratic Time Frequency Distribution and DEMON Spectrum Selection	,
Nguyen Thanh Chinh, Nguyen Ngoc Dong, Pham Khac Hoan	
Incompletely Recorded Human Activity Classification Using Micro-Doppler Signatures by Double	N/A
Extractor Convolutional Neural Network	14,71
Deyu Meng, Qiyu Tu, Yechao Peng, Guoqiang He, Hongwen Yu, Zhichao Sheng	
Sea Surface Target Detection using Bistatic Passive Radar with Ku-Band Satellite Illumination	N/A
Jianyu He, Hongwen Yu, Yong Fang	14,71
Subjective Quality Assessment of Upscaling Methods for Low-Resolution Images	N/A
Thi My Chinh Chu, Siamak Khatibi, Hans-Jürgen Zepernick, Fatemeh Tavakoli, Yong Yao,	IN/A
Momin Jamil, Rolf Esslinger	
Imputation and Action Recognition of Incomplete Human Skeletons Based on Graph Convolutional	N/A
Neural Network	N/A
Wen-Nung Lie, You-Yang Lin, Jui-Chiu Chiang	
Accelerated and Automated Cell Counting Application Using Hough Transform and YOLOv5	N/A
Minh Quang Nhat Le, Tri Minh Ho, Suu Cuu Nguyen, Minh Nguyen Le, Minh Thien Le, Tran Dang Dat,	N/A
Chun-Ping Jen, Linh Thi Thuy Huynh	
Gray Areas between Persuasion and Manipulation in UX Design: An Exploratory Study in Japan	N/A
Naomi V Panjaitan, Katsumi Watanabe	N/A
Making an eye contact possible on the video call: The assessment of the eye contact and its effects on	N/A
the conversation	
Hakudai Makino, Yu Kasagi, Ariga Atsunori	
How the Ambiguity of Facial Expression Is Perceived and Attended	N/A
Takashige Hamano, Atsunori Ariga	,
EEG-Based Emotion Recognition Using Heterogeneous Graph Transformer	N/A
Cang Chen, Katsumi Watanabe	,
II. Communication Networks and Systems	
Advanced the constituted Assessed Detection for LaT Constitution of Constitution Advanced National	N1 / A
Advanced Unsupervised Anomaly Detection for IoT Security using Generative Adversarial Networks Philippe Ea, Osman Salem, Ahmed Mehaoua	N/A
	21/2
Energy Efficient Technologies for 5G: Overview, Classification and Qualitative Comparison	N/A
Julien VANKRINKELEN, Haga RANDRIANALY, Hang NGUYEN	
Designing a Wireless Sensor Network Solution for Varroa Control in Bee Colonies	N/A
Venkat Sai Akhil Dasyam, Shahryar Eivazzad, Saketh Pokuri, Jie Zhao, Siamak Khatibi	
An Improvement of K—Means++ Clustering Algorithm Enabling the Next Generation IoT Networks:	N/A
Analysis, Evaluation, and Simulation	
Lieu Vo Thi Thu, Vinh Truong Hoang, Thanh-Nam Tran	
Performance Comparison of LED and Laser Underwater Li-Fi Communication System	N/A
Mifat Ahmed, Md. Mahim Alam, Sezan Shaphique, Md. Anwar Hossain, Nguyen Hoang Hai	

III. Electronic Systems, Microwave Engineering

<u>Transparent Metal Mesh Antenna for Wi-Fi 7 Applications</u>	N/A
Tien Dat Nguyen, Chang Won Jung	
Ports Consistency in Semiconductor IP Design: Methodology and Utilities	N/A
Qing K. Zhu	
Application of Cuckoo Search Optimization to Speed Control PMSM for Electric Vehicle Le Dinh Hieu, Ngo Van Quang Binh, Ngo Xuan Cuong, Le Thi Kim Lien, Le Dai Vuong, Ngo Viet Song, Vo Quang Nha, Le Phuong Quyen, Nguyen Dang Nhat, Nguyen Kim Thang, Linh Huynh Thi Thuy, Le Anh Tuan	N/A
Biodegradable Electronic Devices for Precision Medical Diagnostics and Therapy Jae-Young Bae, Seung-Kyun Kang	N/A
Soft pneumatic Glove System for Rehabilitation Hsiang-Lung Huang, Ya-Hsin Hsueh, Ming-Ta Ke, Chia-Chu Tsang	N/A
Autonomous robot using computer vision with CNN and OpenCV: an experimental comparison Duong Dinh Tu, Ho Sy Phuong, Dang Thai Son, Mai The Anh, Nguyen Xuan Hung, Tran Huy Hoang	N/A
Design of 5G High Gain Ultra-Wideband Antipodal Vivaldi Antenna Employing Combined Approach Quoc-Hung Le, Dinh-Trung Le, Thanh-Huong Nguyen	N/A
A Microwave Filter-Based Sensor for Glucose Concentration Monitoring Using CSRR Structure Thanh-Huong Nguyen, Minh-Hoang Le, Viet-Tung Nguyen	N/A
Enhancing MIMO Antenna Performance Using SIW/SRR Structure for Internet of Vehicles Applications Duong Thi Thanh Tu, Nguyen Thi Hai Yen, Phan Huu Phuc, Nguyen Van Hoa	N/A
Towards a More Realistic Simulator for CPU Scheduling Algorithms Binh T. Nguyen, Hung Q. Ta	N/A
Conical-Beam Planar Antenna for Drone Jamming Thi Them Truong, Cong Truong Giang Dao, Minh Hoang Pham, Quoc Cuong Nguyen, Minh Thuy Le	N/A