

2020 Asia Conference on Computers and Communications (ACCC 2020)

Singapore
18 – 20 September 2020



IEEE Catalog Number: CFP20Y49-POD
ISBN: 978-1-7281-8968-0

**Copyright © 2020 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:	CFP20Y49-POD
ISBN (Print-On-Demand):	978-1-7281-8968-0
ISBN (Online):	978-1-7281-8967-3

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

2020 Asia Conference on Computers and Communications (ACCC 2020)

Table of Contents

Preface.....	vi
Conference Committees.....	viii

Chapter 1: Electronic and Communication Engineering

Design of an Optimized Space Diversified Antenna Arrays for Extended FM-RF Propagation.....	1
<i>Fernando Jr. Mangubat</i>	
Design of the Triple Band Micro-strip Antenna with AMC Reflector	7
<i>Wei Gan, Xi Lu, Jia Yang, Ziqi Zhang, Fei Liu, Shuhui Yang</i>	
An Improved Quantum Algorithm for Spectral Regression	11
<i>Fanxu Meng, Xutao Yu and Zaichen Zhang</i>	
Design of a Quad-Band Microstrip Antenna Using AMC Reflector to Achieve Gain Improvement	16
<i>Xi Lu, Wei Gan, Ziqi Zhang, Jia Yang, Fei Liu, Shuhui Yang</i>	
Planar Near-field Diagnosis of the Large-Scale Antenna Arrays Using Particle Swarm Optimization	20
<i>Chong Guo, Wei Hong, Hanxuan Lin and Biao Wu</i>	
Design of a Simple Antenna Based on AMC Reflector for Dual Ultra Broadband Applications.....	25
<i>Fei Liu, Ziqi Zhang, Xi Lu, Wei Gan, Jia Yang , Shuhui Yang</i>	
Design of 2x2 Multimode Interference Beam Splitter Based on GaN/Si Structure	29
<i>Narendra Putra Dipta, Retno Wigajatri Purnamaningsih, Muhammad Raditya Gumelar and Syamsu E. Rijal</i>	
A Quad-AMC-Backed Multi-band Asymmetrical Antenna System Characterized with Low Profile	34
<i>Ziqi Zhang, Fei Liu, Xi Lu, Wei Gan, Jia Yang and Shuhui Yang</i>	
Design of a Single Balanced Diode Mixer with Low Noise	38
<i>Jian Ren, Guofa Guo, Xiaodong Li, Xu Ding, Jun Chang and Songrui Liu</i>	
Design of a Neoteric Quad-Band Microstrip Antenna Using an AMC Reflector Characterized with Five Zero-Phases in Reflection Coefficient	43
<i>Jia Yang, Xi Lu, Ziqi Zhang, Wei Gan, Fei Liu, Shuhui Yang</i>	

Chapter 2: Computer and Communication Engineering

Gait Biometric-based Human Recognition System Using Deep Convolutional Neural Network in Surveillance System	47
<i>Hsu Mon Lei Aung and Charnchai Pluempiwiriyawej</i>	
Optical Character Recognition for Printed Javanese Script using Projection Profile Segmentation and Nearest Centroid Classifier.....	52
<i>Aditya Wikan Mahastama, Lucia Dwi Krisnawati</i>	
False Data Injection Attack Detection before Decoding in DF Cooperative Relay Network.....	57
<i>Xinyao Ding, Yan Wang</i>	
Short-Term Travel Time Prediction from GPS Trace Data using Recurrent Neural Networks.....	62
<i>Charnwith Jakteerangkool and Veera Muangsin</i>	
Suitable Parameters to Optimize the Information and Communication Technology Resources in a Public Company of Ecuador.....	67
<i>Segundo Moisés Toapanta T., Luis Enrique Mafla Gallegos, Estefanía de los Ángeles Ureta M., Máximo Prado Solís</i>	
Investigation of Different Modulation Techniques under Strong FSO Turbulance Channel in South Africa .	75
<i>Solly P. Maswikaneng, Pius A. Owolawi, Sunday O. Ojo, Maredi I Mphahlele and Zanele L. Mahlobogwane</i>	

Chapter 3: Information System and Information Security

Security Prototype to Determine Critical Information and Improve the Management of a Public Organization	82
<i>Segundo Moisés Toapanta Toapanta, Nicole Mónica Morán Maldonado, Luis Enrique Mafla Gallegos, Máximo Prado Solís</i>	
Applying Basic Encoding Rule (ITU-T X.690) on Integer Expressionsusing Arithmetic Circuit Homomorphic Encryption	91
<i>Woon Hao Soh Kenneth, Cheng Jing Kwa, Chern Nam Yap</i>	
Evaluation of Algorithms and Security Protocols to Mitigate the Risks in Commercial Transactions carried out by Public Companies.....	96
<i>Segundo Moisés Toapanta Toapanta, Luis Enrique Mafla Gallegos, Alex Enrique Aranda Alvarado, Máximo Prado Solís</i>	
Multi-Precision Integer Arithmetic Processing Using Arithmetic Circuit Homomorphic Encryption	104
<i>Zheng Hong Tew, Jia Sheng Leong, Chern Nam Yap</i>	

Trust in Social Networks: A Computational Model Based on the Trust Features of Language Use	109
<i>Xianbo Li and Hao Hu</i>	
A Comparative Analysis of Kinematics of Industrial Robot KUKA KR 60-3 Using Scientific Computing Languages.....	114
<i>Ronald Gerson Villanueva Andrade and Leonardo Vinces</i>	
Intelligent Form Filling System of Original Invoice Voucher Based on WeChat Applet.....	120
<i>Tao Wang, Yiyu Chen</i>	
NausicaApp: a Hybrid Decentralized Approach to Managing Covid-19 Pandemic at Campus Premises...	124
<i>Giovanni Marotta, Fabrizio Billeci, Giuseppe Criscione, Fabio Merola, Giuseppe Pappalardo, Emiliano Tramontana</i>	