

2019 3rd International Conference on Imaging, Signal Processing and Communication (ICISPC 2019)

**Singapore
27 – 29 July 2019**



**IEEE Catalog Number: CFP19VVN-POD
ISBN: 978-1-7281-3664-6**

**Copyright © 2019 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:	CFP19VVN-POD
ISBN (Print-On-Demand):	978-1-7281-3664-6
ISBN (Online):	978-1-7281-3663-9

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

CURRAN ASSOCIATES INC.
proceedings
.com

2019 3rd International Conference on Imaging, Signal Processing and Communication (ICISPC)

Table of Contents

Preface.....	vi
Conference Committees.....	vii

✧ **Communication System**

Channel Estimation of MIMO Relay System Using Cascaded TUCKER Model	1
<i>Wang Rui, Rui Guo-sheng, Zhang Song</i>	
Graph-based Automatic Modulation Classifier for M-ary Generalized QAM Signals	6
<i>Xiao Yan, Guoyu Zhang, Jie Luo, Hsiao-Chun Wu, Qian Wang, Yiyang Wu</i>	
Target Detection System Design and FPGA Implementation Based on YOLO v2 Algorithm	10
<i>Fanghong Bi, Jun Yang</i>	
Enhancing the Computational Intelligence of Smart Fog Gateway with Boundary-Constrained Dynamic Time Warping Based Imputation and Data Reduction	15
<i>S. Balasubramanian, T. Meyyappan</i>	
An Array Interpolation based Compressive Sensing DOA Method for Sparse Array	24
<i>Ao Cui, Teng Xu, Weichuang Yu, Peiyu He, Zili Xu</i>	
Novel Precoding Structures Design of Multiuser with SWIPT for MIMO Downlink Systems	28
<i>Juinn-Horng Deng, Ming-Hsien Lin, An-Lun Teng, Keng-Hwa Liu</i>	
A Symmetrically Rotatory Ambiguity Cancelling Theorem to Resolve Ambiguities for SLA	33
<i>Ao Cui, Weichuang Yu, Peiyu He, Zili Xu</i>	
A High-Efficiency Diver-to-Diver Optical Communication System	38
<i>Mohammad Almanee, Suliman Aljutily</i>	

Analyzing Acoustics of Indian Music Audio Signal Using Timbre and Pitch Features for Raga Identification	42
<i>Kalyani C. Waghmare, Balwant A. Sonkamble</i>	
First and Second Order Iterative Null Broadening Beamforming.....	47
<i>Burak Ors, Raungrong Suleesathira</i>	
✧ Image Processing	
Hyperspectral Compressive Sensing Using Improved Linear Mixing Model	52
<i>Zhongliang Wang, Hua Xiao</i>	
Detecting diseases in Chilli Plants Using K-Means Segmented Support Vector Machine.....	57
<i>Abdul Hafiz Bin Abdul Wahab, Rahimi Zahari, Tiong Hoo Lim</i>	
Hybrid Scheme for Eye Center Localization in Color Images.....	62
<i>Garsah Farhan Al-Qarni, Farzin Deravi</i>	
Wear Particle Texture Analysis	67
<i>Mohammad Shakeel Laghari, Ahmed Hassan</i>	
Image Interpolation Based on Adaptive Neuro-Fuzzy Inference System	78
<i>Shiva Aghapour Maleki, Mohammad Ali Tinati, Behzad Mozaffari Tazehkand</i>	
Deep Learning for Semantic Segmentation of Brachial Plexus Nerves in Ultrasound Images Using U-Net and M-Net.....	85
<i>Nabila Abraham, Kandasamy Illanko, Naimul Khan, Dimitri Androutsos</i>	
Wavelet-Energy-Weighted Local Binary Pattern Analysis for Tire Tread Pattern Classification	90
<i>Ying Liu, Shuai Zhang, Fuping Wang, Kengpan Lim, Qiqi Liu, Yanbo Lei, Yanchao Gong, Jin Lu</i>	
Color Image Quality Assessment Based on VIF	96
<i>Tien-Ying Kuo, Yu-Jen Wei, Kuan-Hung Wan</i>	
Research on the Crowd Abnormal Behavior Recognition in Surveillance Video Based on Modified Social Force Model.....	101
<i>Meng Kang, Lei Xia, Hao Chen</i>	
Real-Time Classification of Green Coffee Beans by Using a Convolutional Neural Network.....	107
<i>Nen-Fu Huang, Dong-Lin Chou, Chia-An Lee</i>	
Nibble-Based Face Recognition Using Convolution of Hybrid Features	112
<i>Pattarakamon Rangsee, K. B. Raja, Venugopal K. R.</i>	

⌘ Data Analysis and Data Mining

Study on Diagnosis of Fatty Liver Based on Ultrasonic RF Signal	117
<i>Zhidong Liu</i>	
Plantar Pressure Characteristics in Obese Individuals: A Proposed Methodology.....	121
<i>Kadhem Al-Daffaie, Albert K. Chong, Zahra Gharineiat</i>	
Predicting 30 - Day Hospital Readmission for Diabetics Based on Spark	125
<i>Wenjuan Cheng, Wenjing Zhu</i>	
Smartphone Sensor vs Photogrammetry for Gait Analysis	130
<i>Mustafa N. Mnati, Albert K. Chong, Ammar Majeed</i>	
A New Algorithm for DCT Using Dual Split Radix and Recursive Technique	134
<i>Priyanka Jain</i>	
Deep Belief Neural Network Model for Prediction of Diabetes Mellitus.....	138
<i>P. Prabhu, S. Selvabharathi</i>	
Automated Pupillometer Using Edge Detection in OpenCV for Pupil Size and Reactivity Assessment	143
<i>Ramon G. Garcia, Glenn O. Avendaño</i>	
Sorting Pixels based Face Recognition Using Discrete Wavelet Transform and Statistical Features.....	150
<i>Divya A., K. B. Raja, Venugopal K. R.</i>	
TAG: Nucleus Detection in Colorectal Adenocarcinomas Histology Images Using Local Texture, Appearance, and Gradient Features.....	155
<i>Jansen Keith L. Domoguen, Jessie James P. Suarez, Prospero C. Naval, Jr.</i>	
GSC Adaptive Beamforming Using Fast NLMS Algorithm for Speech Enhancement	160
<i>S. Siva Priyanka, T. Kishore Kumar</i>	
3D Homologous Multi-Points Warping Application to Sexual Dimorphism in Human Face.....	166
<i>Olalekan Agbolade, Azree Nazri, Razali Yaakob, Abdul Azim Ghani, Yoke Kqueen Cheah</i>	
Author Index	