



The Association for Computing Machinery 2 Penn Plaza, Suite 701 New York New York 10121-0701

ACM COPYRIGHT NOTICE. Copyright © 2020 by the Association for Computing Machinery, Inc. Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, to republish, to post on servers, or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from Publications Dept., ACM, Inc., fax +1 (212) 869-0481, or permissions@acm.org.

For other copying of articles that carry a code at the bottom of the first or last page, copying is permitted provided that the per-copy fee indicated in the code is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, +1-978-750-8400, +1-978-750-4470 (fax).

ACM ISBN: 978-1-4503-8809-2

2020 6th International Conference on Communication and Information Processing (ICCIP 2020)

Table of Contents

Preface	.vii
Conference Committee	viii
Session 1: Software and data engineering	
Process Design and Evaluation of App Interface for Delivery Platform-Take Foodpanda as an Example Su-Wu Hu, Chung-Shun Feng, Ya-Hsin Wen	1
Use Text Mining for Financial Reports Analysis: Long Text to Image Converter Chia-Hao Chiu, Yun-Cheng Tsai	7
Development of the Oral Examination Assessment System (SIPENILAI) in Japanese Using Latent Semantic Analysis (LSA) Algorithm Fadhilah Siti Shalihah, Prima Dewi Purnamasari, Lea Santiar, Anak Agung Putri Ratna	. 12
AR Interface Use and Icon Design Demonstration Almanac Research - Take HOLA E-Commerce Website as an Example Chung-Shun Feng, Tsu-Wu Hu, Yi-Chun Kuo	. 20
A Study of Apparel Preferences for College Students Using Data Mining Techniques Chien-Hua Wang, Wei-Hsuan Lee, Chia-Hsuan Yeh, Chin-Tzong Pang	. 27
Evaluating the Performance of Android based Cross-Platform App Development Frameworks Mohammad Mahendra, Bayu Anggorojati	. 32
Research on the Application of Big Data Analysis in the Homestay Industry in Kinmen Li Zheng, Lin Chen, Chien-Hua Wang	. <i>38</i>

Session 2: Feature detection and extraction

Seption 2. I cutare acception and extraction	
Shadow Detection with Attention Feature Block and Multi-scale Weight Segmentation Network Di Xu, Zhili Wang	43
Research and Application of Improved RBPF-VSLAM Algorithm	
Chen Yong, Dang Shu-Wen, Li Lu-Jun	52
Incorporating Hand-crafted Features in a Neural Network Model for Stance Detection on Microblog	
Mumtahina Ahmed, Abu Nowshed Chy, Nihad Karim Chowdhury	57
Attention Guided YOLOv3 for Wearing Safety Helmet Detection	
Shanshan Huang, Jianhui Huang, Yongqiang Kong	65
Graph-based Feature Selection Method for Learning to Rank	7 0
Jen-Yuan Yeh, Cheng-Jung Tsai	70
Session 3: Image processing and application	
A Study on Personal Interests Estimation based on Machine Learning using SNS	
Chie Masumoto, Hiroki Yamaoka, Sho Ooi, Mutsuo Sano	74
Comparative of Techniques: Activation by Sequence, Morph Target Animation and CG/HLSL	
Programming in Surgery Incision Simulation for Virtual Reality	
Sebastian Mauro Espinoza Zamata, Pedro Yuri Marquez Solis	79
A Content-Driven Architecture for Medical Image Segmentation	
Bertram Sabrowsky-Hirsch, Stefan Thumfart, Richard Hofer, Wolfgang Fenz	89
Visual Feature and Machine Learning Approach for Arabica Green Coffee Beans Grade Determination	1
Muhammad N.S. Akbar, Ema Rachmawati, Febryanti Sthevanie	97
Named-Entity Recognizer for Common Nouns in Filipino Text	
Ria Ambrocio Sagum, Andrea Nicole Pinili, Kent Laurence Gentilezo, Kier Bryan Lopez	105
Session 4: Communication and signal system	
The Modern Cognitive Electronic Jamming System	
Pan Zhang, Yi Huang, Zhonghe Jin	110
LR-WPAN: Beacon Enabled Direct Transmissions on Ns-3	
Alberto Gallegos Ramonet, Taku Noguchi	115

Telecommunication	
Jaeyoung Seo, Seung Hwan Kang, Jang Hyun Baek	123
Fast Motion Estimation of One-Dimensional Laser Speckle Image and its Application on Real-Time Audio Signal Acquisition	
Nan Wu, Shinichiro Haruyama	128
Suppressing Residual Acoustic Echo Based on Deep BiGRU with Attention	
Chenggang Zhang, Xiaoqiang Wu	135
Op-Amp Gain-Bandwidth Measurement using Impulse Response	
John Mark M. Nieva, Glenn V. Magwili, Febus Reidj G. Cruz	140
Improved Data Accuracy Assessment Tool for Information Management Systems Hellen Maziku	148
Development of Medical Image Encryption System Using Byte-Level Base-64 Encoding and AES Encryption Method	
Muhammad Wito Malik, Diyanatul Husna, I Ketut Eddy Purnama, Inggrid Nurtanio, Afif Nurul Hidayati, Anak Agung Putri Ratna	153
Session 5: Advanced information technology and application	
Adversarial Metric Knowledge Distillation	
Zihe Dong, Xin Sun, Junyu Dong, Haoran Zhao	159
Short-term and Long-term Air Quality Forecasting Technique Using Stacked LSTM	
Shaon Hossain Sani, Md Shopon, Mashrur Hossain Khan, Moenul Hasan, M. F Mridha	165
Automated System Testing for FPGA-based ADC Reference Design Boards	
Trecia C. Agoylo, Glenn V. Magwili, Febus Reidj G. Cruz	172
Pectrum-Effect Correlation Analysis Based on Experimental Data of Cardiogenic Shock of Shenfu Injectionon	
Dongmei Xing, Guolian Xu, Zhao Jiang, Bingtao Li, Li Jiang	179
Dynamic Coupling of Learning with Operational Processes	
Florian Krenn, Christian Stary, Dominik Wachholder	185

Research on Usability of Digital Interface of Sports Events -Taking PAGO APP as an Example	
Tsu-Wu Hu, Chia-Wen Tsai, Chung-Shun Feng, Xin-Hui Chen 1	96
Modeling and Performance Analysis of Route-based Group Location Registration	
Zagdsuren Tumurkhuyag, Jaeyoung Seo, Jang Hyun Baek2	202

Preface

Welcome to the 6th International Conference on Communication and Information Processing (ICCIP

2020).

The World Health Organization officially declared the novel coronavirus COVID-19 a pandemic.

Governments around the world are now issuing restrictions on travel, gatherings, and meetings in an

effort to limit and slow the spread of the virus. For all of our participants health consideration, after

careful discussion within conference organizing committee, this year ICCIP will be held online during

Nov. 27-29. And we'll try to provide you with a good virtual conference experience.

This year ICCIP received submissions from universities, research institutes and industries. The papers

were accepted after careful reviewing by our technical committee members. Selection of the papers

depended on their quality and relevance to the conference. The proceedings covers the topics: software

and data engineering, feature detection and extraction, image processing and application,

communication and signal system, advanced information technology and application.

Putting together ICCIP2020 was a team effort. On behalf of the organizing committee, we would like to

thank the authors for providing the content of the program, the program committee members and the

technical reviewers, who worked very hard in reviewing papers and providing suggestions for their

improvements. We would like to thank the speakers for having accepted our invitation to deliver a

speech. And thanks for our staff.

Wish all participants a very successful and productive conference and look forward to seeing you all face

to face. Take care!

Conference Chair,

Prof. Masahiro Fujita,

The University of Tokyo, Japan

vii

Conference Committee

Advisory Committees

Hitoshi KIYA, Tokyo Metropolitan University, Japan Wenjing Lou, Virginia Polytechnic Institute, USA

Conference Chairs

Masahiro Fujita, The University of Tokyo, Japan Yun Li, Chongqing University of Posts and Telecommunications, China

Program Chairs

Masayuki Arai, Graduate School of Science and Engineering Teikyo University, Japan Junyu Dong, Ocean University of China, China

Publicity Chair

Yi Guo, Chongqing University of Posts and Telecommunications, China

Local Organizing Chair

Shinobu Nagasawa, Fujita Lab., The University of Tokyo, Japan

Technical Committee

Francesco Bianconi, Università degli Studi di Perugia, Italy

Robert Bestak, Czech Technical University in Prague, Czech Republic

Asadullah Shaikh, Najran University, Saudi Arabia

I-Hsien Ting, National University of Kaohsiung, Taiwan

Wassef Louati, University of Sfax, Tunisia

Eunice B. Custodio, Bulacan State University, Philippines

Liu Gang, College of Computer Science and Technology, Harbin Engineering University, China

Hadj Bourdoucen, Sultan Qaboos University, Oman

Ching-Chun Chang, Tsinghua University, China

Pascal Lorenz, University of Haute Alsace, France

Stefan Pickl, Uni Bw Munich, Germany

Zhe Chen, Dalian University of Technology, China

Chu-Ti Lin, National Chiayi University, Taiwan

Thumrongrat Amornraksa, King Mongkut's University of Technology, Thailand

Jun-Juh Yan, National Chin-Yi University of Technology, Taiwan

Glenn Paul P. Gara, University of the Immaculate Conception, Philippines

DANG Shu-wen, Shanghai University of Engineering Science, China

S.Sumathi, Sri Sairam Engineering College, India

Dietmar Pfahl, University of Tartu, Estonia

Chin-Tzong Pang, Yuan Ze University, Taiwan

Karim Bouamrane, Faculty of Exact and Applied Sciences University of Oran 1 Ahmed Ben Bella Oran, Algeria

Lu Zhongmei, GuiZhou Vocational Technology College of Electronics & Information, China

Huang Yu-Che, Chaoyang University of Technology, Taiwan Guangcun Wei, Shandong University of Science and Technology, China Ping Xie, The Computer College of Qinghai Normal University, China Shuwen Dang, SUES, China Yu Zhang, NRIET, China

Adel Sulaiman, Najran University, Saudi Arabia