2023 2nd International Conference on Computer Technologies (ICCTech 2023)

Kuantan, Malaysia
23 – 25 February 2023

IEEE Catalog Number: CFP23CK0-POD
ISBN: 978-1-6654-5583-1

Copyright © 2023 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:	CFP23CK0-POD
ISBN (Print-On-Demand):	978-1-6654-5583-1
ISBN (Online):	978-1-6654-5582-4

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

2023 2nd International Conference on Computer Technologies (ICCTech)

ICCTech 2023

Table of Contents

Preface ..... **viii**
Conference Organization ..... **ix**
Technical Program Committee ..... **x**
Reviewers ..... **xi**

Machine Learning and Intelligent Computing

A Short Survey on Deep Learning-Based Frameworks for Knowledge Graph Applications 1
Abdulkarim Kushk (University of Georgia, USA) and Krzysztof Kochut (University of Georgia, USA)

Machine Learning Classification Model for Identifying Internet Addiction among University Students 7
Hui Theng Tan (Universiti Tunku Abdul Rahman, Malaysia), Hou Kit Mun (Universiti Tunku Abdul Rahman, Malaysia), and Dini Handayani (International Islamic University Malaysia, Malaysia)

Pseudorandom Number Generator Based on Two-Dimensional Improved Modular Chaotic Map ... 12
Kuan Wai Wong (Universiti Tunku Abdul Rahman, Malaysia), Wun She Yap (Universiti Tunku Abdul Rahman, Malaysia), Bok Min Goi (Universiti Tunku Abdul Rahman, Malaysia), and Denis C. K. Wong (Universiti Tunku Abdul Rahman, Malaysia)

Intelligent Systems Context-Aware Adaptive Reinforcement Learning Approach for Autonomous Vehicles 17
Chandrasekaran Sakthivel (Colorado State University,) and V. Chandrasekar (Colorado State University,)

Applying Genetic Algorithm in ABC Analysis for Jewelry Raw Material Inventory Management 23
Rungchat Chompu-inwai (Chiang Mai University, Thailand) and Trasapong Thaiupathump (Chiang Mai University, Thailand)

Research on Boot Problem and Automatic Repair of an Embedded Real-Time Operating System 29
Haoshang Zhou (CRRC Dalian Electric Traction R&D Center Co., Ltd., China), Zhaoling Gao (Dalian Neusoft University of Information, China), Zhongfu Wang (CRRC Dalian Electric Traction R&D Center Co., Ltd., China), and Xiaopeng Wang (CRRC Dalian Electric Traction R&D Center Co., Ltd., China)

Research on Routing Planning Algorithm Introducing Necessary Constraints 34
Peng Zhu (Wuchang Shouyi University, China), Zhen-Ming Zhang (Wuchang Shouyi University, China), Qian Xiang (Wuchang Shouyi University, China), and Hong Sun (Wuchang Shouyi University, China)

Image Analysis and Interaction System Design

Visual Analysis on Adversarial Images 40
Jun Wei Tan (Multimedia University, Malaysia), Pey Yun Goh (Multimedia University, Malaysia), Shing Chiang Tan (Multimedia University, Malaysia), and Lee Ying Chong (Multimedia University, Malaysia)

A Semantic Segmentation-Based Method for Evaluating Students' Electronic Process Training Soldering Works 46
Deluan Kong (Jiangxi Science and Technology Normal University, China), Feng Ling (Jiangxi Science and Technology Normal University, China), and Chaosong Xiong (Jiangxi Science and Technology Normal University, China)

Implementation and Application of Intangible Cultural Heritage Virtual Interactive System Based on Knowledge Graph 52
Zirui Qiu (Hangzhou Normal University, China), Lizi Yang (Hangzhou Normal University, China), Wenjuan Zhu (Hangzhou Normal University, China), and Lei Huang (Hangzhou Normal University, China)

Communication Network and Information Security

An Efficient Distributed Framework for Secured Multimedia Content Using Cloud Storage 57
Yunus Parvej Faniband (King Fahd University of Petroleum & Minerals, Saudi Arabia), Iskandar Ishak (Universiti Putra Malaysia, Malaysia), Fatimah Sidi (Universiti Putra Malaysia, Malaysia), Marzanah A. Jabar (Universiti Putra Malaysia, Malaysia), and Deloria Shaniska Razin C.H. Yap (Universiti Putra Malaysia, Malaysia)

Investigation of LEDs Arrangement for VLC Based Classroom Assessment 64
Chia Chen Gee (UOW Malaysia KDU University College, Selangor, Malaysia), Seong Hong Chang (UOW Malaysia KDU Penang University College, Jalan Anson, Pulau Pinang), Thing Thing Goh (UOW Malaysia KDU University College, Selangor, Malaysia), and Sin Jin Tan (UOW Malaysia KDU University College, Selangor, Malaysia)

Improving the Efficiency and Security of Dynamic QR Code-Based Access Control Systems Using ECDSA and CTR-DRBG 69
Ade Reskita (Telkom University, Indonesia), Ari Moesriami Barmawi (Telkom University, Indonesia), and Prasti Eko Yunanto (Telkom University, Indonesia)

Performance Evaluation of Virtual Network Service Function Deployment in Docker Containers..... 74
Nithya Ganesan (International Institute of Information Technology Bangalore, India), Hrithik Sharma (International Institute of Information Technology Bangalore, India), Sahaj Vaghasiya (International Institute of Information Technology Bangalore, India), Prajwal Agarwal (International Institute of Information Technology Bangalore, India), Dev Patel (International Institute of Information Technology Bangalore, India), and B. Thangaraju (International Institute of Information Technology Bangalore, India)

Author Index **81**