

2022 14th International Conference on Software, Knowledge, Information Management and Applications (SKIMA 2022)

**Phnom Penh, Cambodia
2 – 4 December 2022**



**IEEE Catalog Number: CFP2282R-POD
ISBN: 978-1-6654-9335-2**

**Copyright © 2022 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:	CFP2282R-POD
ISBN (Print-On-Demand):	978-1-6654-9335-2
ISBN (Online):	978-1-6654-9334-5
ISSN:	2373-082X

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



Table of Contents

Topics	Page
About SKIMA 2022	ii
International Workshop on University & Digital Sustainability	iii
Program Outline	iv
Keynote Speakers	vii
Research Papers	
iTB-test: An Intelligent Image-enabled Diagnostic System for In Vitro Screening of Infectious Diseases	1
Optimal Placement of Phasor Measurement Units Ensuring Power System Observability	7
A Meta-Analysis of Healthcare Supply Chain Performance for Patient Safety	13
Designing a Classification Algorithm for Skin Lesions	21
A Framework of Ensemble CNN Models for Real-Time Sign Language Translation	27
Vibro-vestibular Wheelchair for Vehicle Riding Experience in Immersive Virtual Reality	33
Education Technology: Center of Excellent for Integration MySQL course to University of Health Sciences Students	39
A Novel Framework for Co-designing of An Artificial Intelligence Based Television-enabled Application to Address Social Isolation and Alleviating Loneliness for Older People	42
ETB-SRF: An Efficient Trust-Based Secure Routing framework in Mobile Ad-Hoc Networks	48
Evolutionary Constrained Optimization with Dynamic Changes and Uncertainty in the Objective Function	54
Historical Data Based Monitoring of Hydro Generator Using Machine Learning	61
Hypertension Prediction Using Optimal Random Forest and Real Medical Data	67
The New Progress and Methods of Privacy Protection on Medical and Health Big Data	73
Multi-Scale Electrical Appliance Load Signature for Non-Intrusive Load Monitoring Classification	79
Women Entrepreneur Capacity Building toward Digital Economy Using an All-in-One eCommerce Platform	84
A 5.4 kWp Microgrid Laboratory Development for Higher Education and Industrial Workshop	89
Data-Driven Approach to Raise the Marketing and Trade Strategy based on Halal Food Product Transactions of China Market	95
Fault Log Text Classification Using Natural Language Processing And Machine Learning For Decision Support	98

Topics	Page
Optimization of Battery Storage Capacity and Operation for Balancing Residential PV Installation	104
Electric Vehicle Impact Assessment on Distribution Network of Phuentsholing	110
Incorporating Extended Reality Technology for Delivering Computer Aided Design and Visualisation Modules	114
Multidimensional Disturbance Propagation Model for a Network of Bus Lines	120
A DL based Framework For Multimodal Data Fusion in Traffic Jam prediction	126
Indoor Air Quality Assessment using IoT-based Sensors in Nursing Homes	133
An Explainable Real-time Decision Support System for Identifying Fish Diseases and Analysing Water Quality	140
A T-Spherical Neutrosophic Fuzzy DEMATEL-ANP Approach to Problematiques of Blockchain Technology in Smart Cities	145
Evaluating Organization's Portfolio of Longhorizon Strategic Action Plans: An Integrated Delphi- DEMATEL-ANP Approach	151
Weeding Robot Based on Lightweight Platform and Dual Cameras	157
Drivers of Farmers' Continuance Intention on Smart Farming and Sustainability in Thailand	164
Design and Optimal Control of a Two-Stage Efficient and High PF AC-DC Converter for High Power Density Industrial Applications	170
A Clustering Based Priority Driven Sampling Technique for Imbalance Data Classification	176
Spatiotemporal Gait Analysis for Cardiovascular Disease	181
A New Fault Detection Approach in Wireless Sensor Networks	187
Classifying Time-Series of IoT Flow Activity using Deep Learning and Intransitive Features	192
Deep Facial Features for Analysing Artistic Depictions – A Case Study in Evaluating 16th and 17th Century Old Master Portraits	198
Deep Learning Assisted Kidney Organ Image Analysis for Assessing the Viability of Transplantation	204
Attention-Based Scene Graph Generation: A Review	210
On Impact of Adversarial Evasion Attacks on ML-based Android Malware Classifier Trained on Hybrid Features	216
Meta-Learning in Supervised Machine Learning	222
Performance Measurement and Improvement in Short Food Supply Chains: A Case Study from Lyon, France	228
Encoder-Decoder Language Model for Khmer Handwritten Text Recognition in Historical Documents	234
Integration of Augmented Reality With Blended Learning to Educate Manufacturing and Industrial Engineering: A Conceptual Framework	239
Agriculture 4.0 in Bangladesh: Issues and Challenges	245
A Statistical Analysis of the Staff Data to Evaluate the Influence of the Retention Factors in the NHS England	251

Topics	Page
Generation of High-Quality Relevant Judgments through Document Similarity and Document Pooling for the Evaluation of Information Retrieval Systems	261
Preparation of an Excellence Center in Industry 4.0based on Computer Engineering Paradigm	266
An Experimental Study on Hybrid Feature Selection Techniques for Sentiment Classification	270
Towards Smart Farming: Simulation Framework to Exploit Network Connectivity for End-to-End Data Transmission	276
Problem-based Redesign of the BIS Curriculum	280
Digital Transformation of Rural Villages in Developing Counties - Case study at Cambodia	285
Multi-Operator based Genetic Algorithm for Resource Constrained Project Scheduling	292
Evaluate the Effectiveness of Fall Prevention Exercise Posture for Elderly	298
A VR based children formula feed preparation training simulator with AI-enabled automated assessment features	303
Cybersecurity Readiness in Developing Countries: A Survey to Demonstrate Potential Risks of the Cambodians	309
Cambodia: Innovation-Driven EduTech Roadmap 2030	315
Family Background as the Determinant of University Student’s Technological Readiness: Evidence from Cambodia	322
Drying Herbs with a Smart Dehydrator	329
Author Index	334