# 2023 International Conference on Intelligent Computing and Control (IC&C 2023)

Wuhan, China 24-26 February 2023



**IEEE Catalog Number: ISBN:** 

CFP23DK2-POD 978-1-6654-5710-1

## 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:
 CFP23DK2-POD

 ISBN (Print-On-Demand):
 978-1-6654-5710-1

 ISBN (Online):
 978-1-6654-5709-5

#### 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 International Conference on Intelligent Computing and Control (IC&C)

## **IC-C 2023**

#### **Table of Contents**

Preface vi	ii
Conference Committee	ix
Reviewers	хi
Target Detection and Intelligent Recognition	
Multi-Modal Target Detection Based on Edge Computing Jinheng Yang (Beijing Forestry University, China), Shunshun Chen (Harbin Engineering University, China), Yufei Qi (Harbin Engineering University, China), Ziqi Li (Harbin Engineering University, China), Xilai Chen (Harbin Engineering University, China), and Qingbo Ji (Harbin Engineering University, China)	1
Focused Small Aerial Object Detection with Improved Feature Pyramid	7
Machine Learning Based on Air-Writing Recognition System	13
Yuao Ye (Waseda University, Japan), Jiang Liu (Waseda University,	
Japan), Wen Zhao (Waseda University, Japan), Peng Liu (Changchun	
University of science and technology, China), and Shigeru Shimamoto	
(Waseda University, Japan)	
AI-Based Intelligent System Development and Implementation	
Automated System for Hass Avocado Grading System	19
Katherine Melo-Susanibar (Universidad Continental, Peru), Cedy	
Victoria Renojo De La Cruz (Universidad Continental, Peru), and	
Herbert Antonio Vilchez-Baca (Universidad Continental, Peru)	
A Novel Architecture Definition for AI-Driven Industry 4.0 Applications	25
David Velásquez (Universidad EAFIT, Colombia; Vicomtech Foundation,	
Spain), Mauricio Toro (Universidad EAFIT, Colombia), Jan L. Bruse	
(Vicomtech Foundation, Spain), Xabier Oregui (Vicomtech Foundation,	
Spain), Mikel Maiza (Vicomtech Foundation, Spain), and Basilio Sierra	
(University of Basque Country (UPV/EHU), Spain)	
Dynamic Event-Triggered Model Predictive Control for BUCK Converter	32
Ren Tianping (Zhengzhou University, China) and Zhang Wei (Zhengzhou	
University, China)	

Development of AI-Based Maize Storage Monitoring System using IoT
Intelligent Robot System Design and Control Technology
Research Trends in Mobile Robots: A Comparative Analysis Within the Periods Before and After the Industry 4.0 Revolution
A Quick Employment of Markov Decision Process (MDP) in Partially Unknown Three-Dimensional Discrete Space
New Generation Artificial Intelligence Theory and Information Technology
Legacy Moderization: A Cloud Migration Strategy with Serverless Microservice Architecture 59 Qi Zhi Ang (University of Glasgow, United Kingdom), Peter ChunYu Yau (University of Glasgow, United Kingdom), Chin Sean Sum (Singapore Institute of Technology, Singapore), Qi Cao (University of Glasgow, United Kingdom), and Dennis Wong (Macao Polytechnic University, China)
Cost-Efficient SFC Provisioning in Container Environment
PPTD: A Privacy-Preserving Truth Discovery Scheme in Mobile Crowdsensing
A Comparative Study for Temperature Prediction by Machine Learning and Deep Learning 77  Heng Zhao (Shenzhen Technology University, China) and Yixing Chen (Shenzhen University, China)
Machine Learning-Based Channel Power Analysis Inside Aircraft Cabin

Integrated Sensing and Communication in Obstacle Avoidance System for Autonomous Vehicles . $90$
Yirui Liu (Beijing University of Posts and Telecommunications, China),
Yue Min (Beijing University of Posts and Telecommunications, China),
Wenyan Xu (Beijing University of Posts and Telecommunications, China),
Jiawei Du (Beijing University of Posts and Telecommunications, China),
and Zhiqing Wei (Beijing University of Posts and Telecommunications,
China)