2020 IEEE International Conference on Industry 4.0, Artificial Intelligence, and Communications Technology (IAICT 2020)

Bali, Indonesia 7-8 July 2020



IEEE Catalog Number:

ISBN:

CFP20AIE-POD 978-1-7281-9337-3

Copyright © 2020 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:
 CFP20AIE-POD

 ISBN (Print-On-Demand):
 978-1-7281-9337-3

 ISBN (Online):
 978-1-7281-9336-6

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





THE 2020 IEEE INTERNATIONAL CONFERENCE ON INDUSTRY 4.0, ARTIFICIAL INTELLIGENCE, AND COMMUNICATIONS TECHNOLOGY July 7-8, 2020 - Bali, Indonesia



Table of Contents

Table	e of Contents	ii
Welc	come Message from Chair of IAICT 2020	iv
Prog	ram at a Glance	v
Keyn	ote Speaker 1: Dr. Ign. Wiseto P. Agung (Chair of IEEE ComSoc Indonesia Chapter)	vi
Keyn	ote Speaker 2: Dr. Muhammad Imam Nashiruddin, SMIEE (Senior Member, IEEE)	vi
	ote Speaker 3: Dr. Muhammad Ary Murti (Director of Research Center Internet of Things	vii
	mittees of IAICT 2020	
Pap	er Titles	
1.	Utilizing Open ERP for Creating Medical Record Management System in Smart Hospital: A Case Study	1
2. 3.	Evaluation of the Maintainability Aspect of Industry 4.0 Service-oriented Production SigFox-based Internet of Things Network Planning for Advanced Metering Infrastructure Services in Urban Scenario	8 15
4.	Sigfox Based Network Planning Analysis for Public Internet of Things Services in Metropolitan Area	21
5.	Robot Service for Elderly to Find Misplaced Items: A Resource Efficient Implementation on Low-Computational Device	28
6.	Short-range Robotic Navigation and Exploration Tasks via Deep Q-Networks for Biomedical Applications	35
7.	Analyzing Different Unstated Goal Constraints on Reinforcement Learning Algorithm for Reacher Task in the Robotic Scrub Nurse Application	42
8.	Wheeled Robot Control with Hand Gesture Based on Image Processing	48
9.	Human Target Search and Detection Using Autonomous UAV and Deep Learning	55
10.	Detection of Motor Seizures and Falls in Mobile Application using Machine Learning Classifiers	62
11.	Human Activity Recognition System Using Smart Phone Based Accelerometer and Machine Learning	69
12.	Design of Detection Device for Sea Water Waves with Fuzzy Algorithm Based on Internet of Things	75
13.	Observation Imbalanced Data Text to Predict Users Selling Products on Female Daily with SMOTE, Tomek, and SMOTE-Tomek	81









THE 2020 IEEE INTERNATIONAL CONFERENCE ON INDUSTRY 4.0, ARTIFICIAL INTELLIGENCE, AND COMMUNICATIONS TECHNOLOGY



July 7-8, 2020 - Bali, Indonesia

14.	Identifying Fake News in Indonesian via Supervised Binary Text Classification	86
15.	Food Detection with Image Processing Using Convolutional Neural Network (CNN) Method	91
16	The Fast Flight Trajectory Verification Algorithm for Drone Dance System	97
	Development of a Hand Held Device for Automatic License Plate Recognition	102
18.	Web-Based Psychological Rothwell Miller Interest Blank (RMIB) Test Using Fuzzy Method	107
19.	Machine Learning Approach to Predicting the Acceptance of Academic Papers	113
20.	Implementation of Ensemble Learning and Feature Selection for Performance Improvement in Anomaly Based Intrusion Detection Systems	118
21.	Approximated Algorithm and Low Cost VLSI Architecture for Edge Enhanced Image Scaling	125
22.	Performance Analysis Secure Wireless Communication Using Antenna Subset Modulation	131
23.	Immersion Effect of Dielectric Lens Radiation Performances Fed with Double Crossed Terahertz Planar Bow-Tie Antenna	138
24.	Gain Performance Analysis of A Parabolic Reflector Fed with A Rectangular Microstrip Array Antenna	142
25.	Long Term Evolution (LTE) Network Planning in Jakarta-Cikampek Elevated Toll	146
26.	Payment System Innovations Package Add on IPTV Using Multi-services on Screen Subscription (MOSS) Case Studies USeeTV	151
27.	Refarming Performance Analysis of Mobile Broadband System in Indonesia	157
28.	Performance Analysis of FBMC-OQAM System for Barcode and QR Code Image Transmission	162

Author Index





