

2023 International Workshop on Intelligent Systems (IWIS 2023)

**Ulsan, South Korea
9-11 August 2023**



**IEEE Catalog Number: CFP23W67-POD
ISBN: 979-8-3503-4073-0**

**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:	CFP23W67-POD
ISBN (Print-On-Demand):	979-8-3503-4073-0
ISBN (Online):	979-8-3503-0504-3

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

High Precision Tracking Control Method Based on Model-Following Control and Equivalent-Input-Disturbance	1
<i>Ruoyu Jiang, Jinhua She</i>	
Gesture Recognition in Indonesian Sign Language Using Hybrid Deep Learning Models	5
<i>Muhammad Yusuf Daffa Izzalhaqqi, Wahyono</i>	
Analysis of the Capability of Deep Learning Algorithms for EEG-Based Brain-Computer Interface Implementation.....	11
<i>Kacper Ledwosinski, Pawel Czapl, Tomasz Kocejko, Kang-Hyun Jo</i>	
Spatio-Temporal Action Verification of Basketball Travelling Dribble Violation Using Mediapipe-YOLO-LSTM Framework.....	18
<i>Haryo Bimo Wicaksono, Wahyono</i>	
Enhancing Brain Tumor Classification Through Customization of the Vision Transformer Learning.....	24
<i>Xuan-Khoa Thai-Hoang, Van-Dung Hoang</i>	
Optimization of the System for Determining the Volume of Tissue Needed for Breast Reconstruction.....	29
<i>Julia Czalpinski, Andzelika Janicka, Jakub Rzepkowski, Mariusz Kaczmarek, Tomasz Kocejko, Kang-Hyun Jo</i>	
A Vision-Based Container-Code Checking System: Case Study at International Terminal	35
<i>Duc-Dat Ngo, Van-Hoang-Anh Phan, Huynh-The Pham, Tien-Tan Be, Van-Binh Nguyen, My-Ha Le</i>	
Modern Deep Learning Models for Skin Disease Diagnosis.....	41
<i>Hoang Van Thanh, Nguyen Duy Quang, Kang-Hyun Jo</i>	
Recalling Multiple Object Manipulation Candidates by Learning Based on Observation	47
<i>Makoto Sanada, Nobutaka Shimada, Yoshiaki Shirai</i>	
Uncertainty-Aware Quantitative Grasping Control of Granular Foodstuff Based on a Deep Model that Outputs Regression Coefficients	52
<i>Hiroki Fukada, Tadashi Matsuo, Nobutaka Shimada, Honda Atsushi, Ryuichi Yoshiura, Zhongkui Wang, Shinichi Hirai</i>	
A Modified UNet for Skin Lesion Segmentation Using Transfer Learning	56
<i>Afroza Akter, Kaushik Deb, Sharmistha Chanda Tista, Kang-Hyun Jo</i>	
Human Pose Estimation Using Parallel Architecture	62
<i>Shuhena Salam Aonty, Kaushik Deb, Dhruvajyoti Das, Kang-Hyun Jo</i>	
Dynamic Obstacle Avoidance in a Complex Environment Using Meta-Heuristic Algorithms for 4-wheel Robot.....	68
<i>Junmyeong Kim, Kwanho Kim, Kanghyun Jo</i>	
Two Proposed Solutions for Mitigating Blurred Output of Autoencoder	73
<i>Seongmin Kim, Kanghyun Jo</i>	
Perception-Map Generation for Autonomous Driving Vehicle.....	78
<i>Kwanho Kim, Kanghyun Jo</i>	

Detection for Illegal Right Turn Vehicles in the Korea Traffic System.....	84
<i>Donggue Kim, Kanghyun Jo</i>	
Simultaneous Person, Face, and Hand Detector Based on Improved YOLOv5	88
<i>Duy-Linh Nguyen, Xuan-Thuy Vo, Adri Priadana, Kang-Hyun Jo</i>	
Hierarchical Vision Transformers with Shuffled Local Self-Attentions.....	95
<i>Xuan-Thuy Vo, Duy-Linh Nguyen, Adri Priadana, Kang-Hyun Jo</i>	
A Simple Yet Effective Data Augmentation for Human Pose Estimation	101
<i>Tien-Dat Tran, Xuan-Thuy Vo, Ge Cao, Kang-Hyun Jo</i>	
DE-VSNet: Dense Efficient Vehicle State Classification Using Drone Traffic Dataset.....	107
<i>Youlkyeong Lee, Jehwan Choi, Kanghyun Jo</i>	
Gender Recognizer Based on Human Face Using CNN and Bottleneck Transformer Encoder.....	112
<i>Adri Priadana, Muhamad Dwisnanto Putro, Jinsu An, Duy-Linh Nguyen, Xuan-Thuy Vo, Kang-Hyun Jo</i>	
YOLOv5 with Dual Attention Network for Object Detection on Drone.....	118
<i>Jinsu An, Muhamad Dwisnanto Putro, Adri Priadana, Youlkyeong Lee, Junmyeong Kim, Kanghyun Jo</i>	
Vehicle Tracking System in Drone Imagery with YOLOv5 and Histogram.....	124
<i>Jehwan Choi, Seongbo Ha, Youlkyeong Lee, Kanghyun Jo</i>	
3D Human Pose Estimation with Dilated Sampled Frames	126
<i>Ge Cao, Qing Tang, Tran Tien Dat, Ashraf Uddin Russo, Kanghyun Jo</i>	
Light Source Detection from 2D Image	131
<i>Jongchae Lee, Kanghyun Jo</i>	
Evaluating the A* Algorithm Performance in Obstacle Avoidance Through Simulation.....	133
<i>Jaehyeon Sung, Kanghyun Jo</i>	
Depth Learner: An Advanced Learning Method with Edge Map for Monodepth2	135
<i>Minseung Kim, Seongmin Kim, Junmyeong Kim, Kanghyun Jo</i>	
Multi-Band Feature Fusion in Satellite Images for Land Cover Classification.....	139
<i>Russo Mohammad Ashraf Uddin, Xuan-Thuy Vo, Adri Priadana, Kang-Hyun Jo</i>	
Finding a Path to a Dynamic Object Using the A* Algorithm	143
<i>Minki Hong, Kanghyun Jo</i>	
Ethical Use of AI in Social Media	145
<i>Srikari Rallabandi, Ishan G S Kakodkar, Obulesh Avuku</i>	
Performance Improvement of Pure Pursuit Algorithm Using PID Control	154
<i>Sihyun Koo, Kanghyun Jo</i>	
The Role of Audio Features in Accent Recognition: A Comparative Analysis.....	156
<i>Anik Biswas</i>	
Daily Living Human Activity Recognition Using Deep Neural Networks.....	161
<i>Md Shihab Hossain, Kaushik Deb, Syed Md. Minhaz Hossain, Kang-Hyun Jo</i>	

A Robust Control Strategy for Robotic Manipulators with Finite-Time Stability	167
<i>Anh Tuan Vo, Thanh Nguyen Truong, Hee-Jun Kang</i>	
A Tracking Control Method for Robotic Manipulators with Active Disturbance Compensation Ability.....	172
<i>Thanh Nguyen Truong, Anh Tuan Vo, Hee-Jun Kang</i>	
Reinforcement Learning-Based Collision Avoidance of a Connected and Automated Vehicle at Merging Roads	178
<i>Minseok Seo, Seongjae Shin, Kyungjoong Kim, Kyunghwan Choi</i>	
Knowledge Distillation for Human Pose Estimation Using Channel Dropout Strategy.....	183
<i>Guangyao Zhou, Xiluo Teng, Kang-Hyun Jo</i>	
Camera Scheduling Techniques for Optimal Camera Placement	189
<i>Juhwan Kim, Dongsik Jo</i>	
Mixed Reality Human(MRH) Teacher for Guide for Manufacturing Operation.....	191
<i>Bo-Hee Kang, Dongsik Jo</i>	
Comparison of YOLO Series Algorithms in Mask Detection	193
<i>Bingshen Tong, Menglin Zhang</i>	
Unsupervised Person and Vehicle Re-Identification Via Relative Hard Samples in Industrial Surveillance System	198
<i>Qing Tang, Ge Cao, Kang-Hyun Jo, Hail Jung</i>	
Hybrid Deep Reinforcement Learning Model for Safe and Efficient Autonomous Vehicles at Pedestrian Crossings.....	204
<i>Alexandre Brunoud, Alexandre Lombard, Abdeljalil Abbas-Turki, Nicolas Gaud, Jo Kang-Hyun</i>	
A Comparative Study of Reinforcement Learning and Analytical Methods for Optimal Control.....	210
<i>Myeongseok Ryu, Junseo Ha, Minji Kim, Kyunghwan Choi</i>	
Establishment of Automatic Scoring System for Multiple-Choice Test Using a Tablet	215
<i>Siwon Lee, Daehwan Kim</i>	

Author Index