The 20th International Conference on Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP 2024)

October 4-6, 2024, Matsue, Japan

(IIHMSP 2024 will be held in conjunction with the ISME 2024)

Conference Program

(Onsite/Online Hybrid)

Time Zone for the Conference Program: GMT +09:00 (Japan)
Please visit https://voovmeeting.com/ for VooV Meeting clients

ISME 2024 Official Website: http://www.wcicme.com/Intconference/ISME2024/
IIHMSP 2024 Official Website: https://iihmsp24.github.io/

IIHMSP 2024 will be held in conjunction with the ISME 2024

ISME 2024 / IIHMSP 2024 Time Table

	October 3, 2024 (Thursday)		
09:00 | 10:15	ISME Workshop - Session 1 (Large Conference Room)		
10:45 | 12:00	ISME Workshop - Session 2 (Large Conference Room)		
12:00 | 13:00	Lunch		
13:00 | 14:15	ISME Workshop - Session 3 (Large Conference Room)		
14:45 | 16:00	ISME Workshop - Session 4 (Large Conference Room)		
16:00 | 18:00	Welcome Reception (Workshop Room 1)		
	October 4, 2024 (Friday)		
13:00 | 13:30	Opening Ceremony (Large Conference Room)		
13:30 | 14:30	Keynote Speech 1 *Speaker: Jeng-Shyang Pan, Professor, Nanjing University of Information Science and Technology* *Professor, Shandong University of Science and Technology* Title: Surrogate Assisted Approaches for Metaheuristic Optimization Algorithms (Large Conference Room)		
14:30 | 15:00	Coffee Break		
15:00 | 16:00	ISME General Track 1-1 (Middle Conference Room)	IIHMSP General Track 2-1 (Large Conference Room)	IIHMSP General Track 3-1 (Training Room 2)
16:15 | 17:15	ISME General Track 1-2 (Middle Conference Room)	IIHMSP General Track 2-2 (Large Conference Room)	IIHMSP General Track 3-2 (Training Room 2)
17:30 | 18:30	ISME General Track 1-3 (Middle Conference Room)	IIHMSP General Track 2-3 (Large Conference Room)	

	October 5, 2024 (Saturday)		
09:00 | 10:00	Keynote Speech 2 *Speaker: Peter Baranyi, Professor, Corvinus University of Budapest* Title: Crips vs Soft Computing in AI Driven Control Systems (Large Conference Room)		
10:00 | 10:30	Coffee Break		
10:30 | 11:30	ISME General Track 1-4 (Middle Conference Room)	IIHMSP General Track 2-4 (Large Conference Room)	IIHMSP Online Track A (VooV Meeting: 908-081-455)
11:30 | 12:40	Lunch		
12:40 | 18:00	Social Trip (Excursion in Matsue City)		
18:00 | 20:00	Banquet (Yushien Garden)		
	October 6, 2024 (Sunday)		
09:00 | 10:00	Keynote Speech 3 *Speaker: Aman Agarwal, Professor, Dean (IR) & Director (Rektor), Indian Institute of Finance* Title: Trust as a Financial Value (Large Conference Room)		
10:00 | 10:30	Coffee Break		
10:30 | 11:30	ISME General Track 1-5 (Middle Conference Room)	IIHMSP Online Track B (VooV Meeting: 665-044-276)	IIHMSP Online Track E (VooV Meeting: 344-971-446)
11:30 | 13:00	Lunch		
13:00 | 14:00	ISME General Track 1-6 (Middle Conference Room)	IIHMSP Online Track C (VooV Meeting: 665-044-276)	IIHMSP Online Track F (VooV Meeting: 344-971-446)
14:15 | 15:15	ISME General Track 1-7 (Middle Conference Room)	IIHMSP Online Track D (VooV Meeting: 665-044-276)	IIHMSP Online Track G (VooV Meeting: 344-971-446)
15:20 | 15:50	Closing Ceremony (Large Conference Room)		

IIHMSP General Tracks - Paper Presentation

IIHMSP General Track 2-1

Date: October 4, 2024 (Friday)

Time: 15:00-16:00

Room: Large Conference Room

Session Chair: Prof. Shi-Huang Chen, Shu-Te University, Taiwan

(1) **Paper ID: IIHMSP-2024-A39**
Paper Title: A Study on the Using Blockchain to Compress the Driving Data for the Internet of Vehicle Application
Author(s): Chuan-Sheng Hung, Shi-Huang Chen, and Chun-Hung Richard Lin

(2) **Paper ID: IIHMSP-2024-A40**
Paper Title: Development of a Bus Driver Driving Hours Management System Based on Blockchain and the Internet of Vehicles (IoV)
Author(s): Chuan-Sheng Hung, Shi-Huang Chen, and Chun-Hung Richard Lin

(3) **Paper ID: IIHMSP-2024-A33**
Paper Title: A Novel Image Compression Scheme Based on Decision Tree Structure
Author(s): Chun-Hsiu Yeh, Hui-Ching Chang, Yi-Teng Lin, and Yung-Chen Chou

IIHMSP General Track 2-2

Date: October 4, 2024 (Friday)

Time: 16:15-17:15

Room: Large Conference Room

Session Chair: Prof. Ruo-Wei Hung, Chaoyang University of Technology, Taiwan

(1) **Paper ID: IIHMSP-2024-A14**
Paper Title: The 1-Fair Domination Problem on Extended Supergrid Graphs
Author(s): De-Yu Wang, Ruo-Wei Hung, Jong-Shin Chen, and Fu-Hsing Wang

(2) **Paper ID: IIHMSP-2024-A15**
Paper Title: A Privacy-Preserving E-ticketing Protocol using Blockchain Technology
Author(s): Sue-Chen Hsueh and Shuang-Chiao Wan

(3) **Paper ID: IIHMSP-2024-A16**
Paper Title: A Ticketing System with Non-Fungible Token-Enabled Social Sharing
Author(s): Sue-Chen Hsueh and Pin-Yun Yeh

IIHMSP General Track 2-3

Date: October 4, 2024 (Friday)

Time: 17:30-18:30

Room: Large Conference Room

Session Chair: Prof. Ruo-Wei Hung, Chaoyang University of Technology, Taiwan

(1) **Paper ID: IIHMSP-2024-A17**
Paper Title: Construction of Course Intelligence Feature Matrix Based on Multiple Intelligences and LLM and Its Application in Cluster Analysis
Author(s): Tzu-Chuen Lu and Yu-Che Chien

(2) **Paper ID: IIHMSP-2024-A19**
Paper Title: Review of the Reversible Data Hiding in Encrypted Image
Author(s): Chin-Feng Lee and Zi-Yi Huang

(3) **Paper ID: IIHMSP-2024-A20**
Paper Title: A Deep Learning Sentiment Analysis for Depression Detection Using Chinese Social Media Comments
Author(s): Li-Hua Li and Yung-Cheng Chuang

IIHMSP General Track 3-1

Date: October 4, 2024 (Friday)

Time: 15:00-16:00

Room: Training Room 2

Session Chair: Dr. Xiaopeng Wang, VSB-Technical University of Ostrava, Czech Republic

(1) **Paper ID: IIHMSP-2024-A26**
Paper Title: An Enhanced Five Phases Algorithm Based on Fitness-Distance Balance Selection
Author(s): Xiaopeng Wang, Vaclav Snasel, Seyedali Mirjalili, Shu-Chuan Chu, and Rizk M. Rizk-Allah

(2) **Paper ID: IIHMSP-2024-A23**
Paper Title: Embedding Digital Signature into CSV Files Using Data Hiding
Author(s): Akinori Ito

(3) **Paper ID: IIHMSP-2024-A38**
Paper Title: Music Genre Classification Using Orthogonal Feature Fusion and Orthogonal Projection Loss
Author(s): Pei-Chun Chang, Yong-Sheng Chen, and Chang-Hsing Lee

IIHMSP General Track 3-2
Date: October 4, 2024 (Friday)
Time: 16:15-17:15
Room: Training Room 2
Session Chair: Dr. Xiaopeng Wang, VSB-Technical University of Ostrava, Czech Republic

(1) Paper ID: IIHMSP-2024-A06
Paper Title: Efficient Architecture Search for Super-Resolution Residual Dense Networks via Heuristic Optimization
Author(s): Shu-Chuan Chu, Ruhai You, Jeng-Shyang Pan, and Pei Hu

(2) Paper ID: IIHMSP-2024-A07
Paper Title: Discriminate the Authenticity of High-Resolution Videos Based on Deep Learning
Author(s): Jeng-Shyang Pan, Wei Wang, Shu-Chuan Chu, and Bin Yan

(3) Paper ID: IIHMSP-2024-A09
Paper Title: Improved Compact Gannet Optimization Algorithm with Auxiliary Particles
Author(s): Bing Sun, Shu-Chuan Chu, Li Zhang, and Jeng-Shyang Pan

IIHMSP General Track 2-4
Date: October 5, 2024 (Saturday)
Time: 10:30-11:30
Room: Large Conference Room
Session Chair: Prof. Shih-Hung Wu, Chaoyang University of Technology, Taiwan

(1) Paper ID: IIHMSP-2024-A18
Paper Title: Integration of Conversational AI and Voice Synthesis for Enhanced Interactive Virtual Characters
Author(s): Shih-Hung Wu, Ping-Hsuan Lee, Wen-Kai Shen, and Chi-Min Chou

(2) Paper ID: IIHMSP-2024-A21
Paper Title: Impact of Fragile Watermarking on Object Detection Accuracy under Image Tampering A YOLOv7-Based Study
Author(s): Chin-Feng Lee, Tong-Ming Li, and Iuon-Chang Lin

(3) Paper ID: IIHMSP-2024-A22
Paper Title: Real-time Detection of Rear Moving Objects in a Traffic Scene Using Yolo Models
Author(s): Ibrahim Yahaya Garta and Rung-Ching Chen

IIHMSP Online Tracks - Paper Presentation

IIHMSP Online Track A

Date: October 5, 2024 (Saturday)

Time: 10:30-11:30 (Japan Time Zone: GMT +09:00)

Room: VooV Meeting ID: 908-081-455 (or https://voovmeeting.com/dm/3AgBOSt74Dnh)

Session Chair: Prof. Chin-Shiuh Shieh, National Kaohsiung University of Science and Technology, Taiwan

(1) Paper ID: IIHMSP-2024-A51
Paper Title: Intrusion Detection in IEC-61850 with LSTM and Focal Loss Regulation
Author(s): Yu-Xiang Lin, Chin-Shiuh Shieh, Mong-Fong Horng, Lawton Liao, and Prasun Chakrabarti

(2) Paper ID: IIHMSP-2024-A27
Paper Title: Design and Analysis of Voltage Source Inverters with Robust and Intelligent Tracking Scheme
Author(s): En-Chih Chang, Yeong-Jeu Sun, and Chun-An Cheng

(3) Paper ID: IIHMSP-2024-A45
Paper Title: Depth-Guided Multimodal Fusion Network for Enhanced Light Field Saliency Detection
Author(s): Jiaxin Han, Tao Zhang, Huihui Bai, and Yao Zhao

(4) Paper ID: IIHMSP-2024-A50
Paper Title: Parallel Compact Dandelion Optimizer Algorithm
Author(s): Weimin Zheng, Liying Zhang, Ning Liu

IIHMSP Online Track B

Date: October 6, 2024 (Sunday)

Time: 10:30-11:30 (Japan Time Zone: GMT +09:00)

Room: VooV Meeting ID: 665-044-276 (or https://voovmeeting.com/dm/bKCDvQVIkhC2)

Session Chair: Prof. Liang-Cheng Shiu, National Pingtung University, Taiwan

(1) **Paper ID: IIHMSP-2024-A25**
Paper Title: No-Reference Quality Assessment of Light Field Images using Four-stream Convolutional Neural Network
Author(s): Junbo Wang, Jian Ma, Cheng Jin, Ping An, and Deyang Liu

(2) **Paper ID: IIHMSP-2024-A28**
Paper Title: Design A TCP/AQM Controller Using An Improved Red-tailed Hawk Algorithm
Author(s): Weimin Zheng, Jia Li, and Yanxin Li

(3) **Paper ID: IIHMSP-2024-A29**
Paper Title: The Tracker Based on Informer
Author(s): Chunyu Chen, Kaiyang Xing, Yulong Qiao, and Wantong Sun

(4) **Paper ID: IIHMSP-2024-A30**
Paper Title: SwinAGI: Advancing SwinIR's Global Information Modeling for Enhanced Image Super-Resolution Representation
Author(s): Lianguo Liu, Jian Ma, Sheng Chen, and Guoming Xu

IIHMSP Online Track C

Date: October 6, 2024 (Sunday)

Time: 13:00-14:00 (Japan Time Zone: GMT +09:00)

Room: VooV Meeting ID: 665-044-276 (or https://voovmeeting.com/dm/bKCDvQVIkhC2)

Session Chair: Dr. Lingping Kong, VSB-Technical University of Ostrava, Czech Republic

(1) **Paper ID: IIHMSP-2024-A24**
  Paper Title: A Topological Gradient Induced Sorting Approach for Multi-objective Optimization
  Author(s): Vaclav Snasel, Shu-Chuan Chu, Lingping Kong

(2) **Paper ID: IIHMSP-2024-A08**
  Paper Title: Fitness-distance Balance Based Tumbleweed Algorithm
  Author(s): Jeng-Shyang Pan, Yingying Wang, Shu-Chuan Chu, and Junzo Watada

(3) **Paper ID: IIHMSP-2024-A46**
  Paper Title: Application of Binary Adaptive Fish Migration Optimization Algorithm to Identify Parkinson's Disease
  Author(s): Yan Xia, Qing-Wei Chai, Shi-Lei Xu, and Wei-Min Zheng

(4) **Paper ID: IIHMSP-2024-A47**
  Paper Title: A Compact Black Hole Algorithm for Localization of Mobile Sensor Network
  Author(s): Yan Xia, Qing-Wei Chai, Shi-Lei Xu, and Wei-Min Zheng

IIHMSP Online Track D

Date: October 6, 2024 (Sunday)

Time: 14:15-15:15 (Japan Time Zone: GMT +09:00)

Room: VooV Meeting ID: 665-044-276 (or https://voovmeeting.com/dm/bKCDvQVIkhC2)

Session Chair: Dr. Usman Ahmad Usmani, Universiti Pendidikan Sultan Idris (UPSI), Malaysia

(1) Paper ID: IIHMSP-2024-A12

Paper Title: AI-Driven Strategies for Effective Disaster Management and Mitigation: Innovations, Challenges, and Resilience Building

Author(s): Usman Ahmad Usmani, Junzo Watada, and Abdullah Yousuf Usmani

(2) Paper ID: IIHMSP-2024-A13

Paper Title: Harmonizing Sustainability and Efficiency: Innovations in Energy Management and Green Engineering for a Greener Tomorrow

Author(s): Usman Ahmad Usmani, Junzo Watada, and Abdullah Yousuf Usmani

(3) Paper ID: IIHMSP-2024-A02

Paper Title: DustGAN: Unpaired Learning for Dust Image Simulation Based on ASM with GANs

Author(s): Yuxin Guo, Pengfei Cao, Yang Chen, Fuquan Zhang, Zhuoli He, Manying Shen, Jiayan Huang, and Chuansheng Wang

(4) Paper ID: IIHMSP-2024-A03

Paper Title: Benchmarking Single Image Dedusting

Author(s): Tianlin Fu, Fuquan Zhang, Pengfei Cao, Yang Chen, Zhuoli He, Jiayan Huang, and Xinxin Xu

(5) Paper ID: IIHMSP-2024-A04

Paper Title: Deep Learning Application for Egg Quality Detection in Ephestia kuehniella

Author(s): Dong-Wei He and Chao-Huang She

Date: October 6, 2024 (Sunday)

Time: 10:30-11:30 (Japan Time Zone: GMT +09:00)

Room: VooV Meeting ID: 344-971-446 (or https://meeting.tencent.com/dm/dORhvReAh6pH)

Session Chair: Prof. Chao-Yang Lee, National Yunlin University of Science and Technology, Taiwan

(1) Paper ID: IIHMSP-2024-A31
Paper Title: A Coupled SVM-CEEMDAN-BiLSTM Model for Improving Daily Precipitation Prediction: The Case Study in Poyang Lake Basin, China
Author(s): Liying Xiao, Yongcheng Guo, Pinggen Wang, Ming Ling, Yuxiang Chen, and Yinying Tang

(2) Paper ID: IIHMSP-2024-A34
Paper Title: Ship Detection in SAR Images Using DETR With Feature Pyramid Network
Author(s): Chao Wang, Jianglei Gong, and Baolong Guo

(3) Paper ID: IIHMSP-2024-A35
Paper Title: Research on Small Face Detection Algorithm Based on Lightweight Intra-group Attention Mechanism and Multi-scale Feature Fusion
Author(s): Zhe Yuan, Jianglei Gong, Baolong Guo, and Jiawei Song

(4) Paper ID: IIHMSP-2024-A41
Paper Title: Research on the Knowledge Graph of Synthetic Biology Industry Development in Changzhou City
Author(s): Ning He, Xiaohua Zou, and Xinghua Meng

IIHMSP Online Track F

Date: October 6, 2024 (Sunday)

Time: 13:00-14:00 (Japan Time Zone: GMT +09:00)

Room: VooV Meeting ID: 344-971-446 (or https://meeting.tencent.com/dm/dORhvReAh6pH)

Session Chair: Prof. Trong-The Nguyen, University of Information Technology, Vietnam

(1) Paper ID: IIHMSP-2024-A10
Paper Title: Optimizing the Drug Discovery Pipeline: A Multi-Objective Approach with Genetic Algorithms
Author(s): Thi-Kien Dao, Li Ting, Shaowei Weng, Thi-Xuan-Huong Nguyen, and Trong-The Nguyen

(2) Paper ID: IIHMSP-2024-A11
Paper Title: An Impact of Watermarking Technology on Digital Forensics and Copyright Enforcement
Author(s): Trong-The Nguyen, Longcun Wang, Shaowei Weng, Tiancong Zhang, Thi-Xuan-Huong Nguyen, and Thi-Thu-Thuy Nguyen

(3) Paper ID: IIHMSP-2024-A36
Paper Title: Research on Classification and Recognition of the She Ethnic Group Clothing Pattern Based on Convolutional Neural Network
Author(s): Ming-Yue Chen and Ke-Ke Sun

(4) Paper ID: IIHMSP-2024-A37
Paper Title: Design and Analysis of Intelligent Wheelchair Structure with Climbing and Obstacle Crossing Function
Author(s): Kai Li and Yi-Jui Chiu

IIHMSP Online Track G

Date: October 6, 2024 (Sunday)

Time: 14:15-15:15 (Japan Time Zone: GMT +09:00)

Room: VooV Meeting ID: 344-971-446 (or https://meeting.tencent.com/dm/dORhvReAh6pH)

Session Chair: Prof. Muhammad Al-Zafar Khan, Zayed University, UAE

(1) Paper ID: IIHMSP-2024-A52

Paper Title: Deep Learning Under Siege: Identifying Security Vulnerabilities and Risk Mitigation Strategies

Author(s): Jamal Al-Karaki, Muhammad Al-Zafar Khan, Mostafa Mohamad, Dababrata Chowdhury

(2) Paper ID: IIHMSP-2024-A42

Paper Title: Method for Generating Deceptive Bait in Industrial Control Systems Based on Software Simulation

Author(s): Fanghui Sun, Shuo Zhang, Zuofu Liu, Tingyue Yu, Zihong Chen, and Shen Wang

(3) Paper ID: IIHMSP-2024-A43

Paper Title: A Generalized Fuzzing Framework for Unknown Network Protocols

Author(s): Fanghui Sun, Boyu Zhang, Tingyue Yu, Zihong Chen, and Shen Wang

(4) Paper ID: IIHMSP-2024-A44

Paper Title: ArchInfer: An Automatic Protocol Format Inference Algorithm Based on Dynamic Program Analysis

Author(s): Kehan Wang, Fanghui Sun, Tingyue Yu, Zihong Chen, Zhengze Wu, and Shen Wang