

2025 International Conference on Wavelet Analysis and Pattern Recognition (ICWAPR 2025)

**Bali, Indonesia
12-15 July 2025**

IEEE Catalog Number:
ISBN:

CFP2519C-POD
979-8-3315-8740-6



Copyright © 2025, IEEE

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:	CFP2519C-POD
ISBN (Print-On-Demand):	979-8-3315-8740-6
ISBN (Online):	979-8-3315-8739-0
ISSN:	2158-5695

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

TABLE OF CONTENTS

Feature Selection via Synergistic Integration of Feature Correlation and Neighborhood Decision Mutual Information	1
<i>Wanting Wang, Eric C.C. Tsang, Weihua Xu</i>	
Improving Translation Accuracy for Long Sentences via Rule-Based and LLM-Driven Segmentation	7
<i>Hao Zong, Yiming Wang, Eric C. C. Tsang, Chao Bei, Wentao Chen, Conghu Yuan, Huan Liu Degen Huang</i>	
SUCA: Structural Guidance on Compressed Graphs for Augmenting Graph Contrastive Learning	15
<i>Xuping Yue, Hang Ni, Jingjing Song, Eric C.C. Tsang</i>	
Pruning Backdoors via Inductive Trigger-Based Detection	23
<i>Pei-En Liao, Jia-Hao Pan, Patrick P. K. Chan</i>	
MESIGCN: Multi-Scale Equidistant Spatio-Temporal Graph Convolution Networks	29
<i>Si-Wei Wei, Ding-Bo Hu, Xiang-Yuan Xu, Chun-Zhi Wang</i>	
Deep Learning Based Anatomical Brain Segmentation and Classification of Alzheimer’s Stages Using Multi-Facet Features	35
<i>Shruti Pallawi, Dushyant Kumar Singh, Abhimanyu Sahu</i>	
Quaternion Basis Pursuit via Iteratively Reweighted Least Squares	41
<i>Xue-Yan Tian, Cui-Ming Zou</i>	
Quaternion Generalized Orthogonal Matching Pursuit	47
<i>Feng-Jie He, Cui-Ming Zou</i>	
Robust Clustering via multi-view Low-Rank Representation	53
<i>Chuan-Wu Yang, Yue Zhao, Yu-Long Wang, Ran Duan, Xin-Ge You</i>	
Structure-Aware Mixup for Graph Neural Networks: Enhancing Graph Representation via Structural Similarity	60
<i>Zi-Yu Cui, Xin Yuan, Li-Xiang Xu, Bin Luo, Xin Niu, Yuan-Yan Tang</i>	
Defense Mechanism Driven Face Prototype Reconstruction: A Robust Framework against Adversarial Perturbations	66
<i>Rong Zhang, Minhua Xiao, Hanqing Liu, Meng Pang</i>	
Deep Learning for Accurate Classification of Pulmonary Edema Severity in Chest X-Rays: A Comparative Evaluation of CNN Models with Grad-CAM Feature Visualization	72
<i>Manosh Sur Choudhury, Rashedur Rahman, Siam Tahsin Bhuiyan, Sefatul Wasi, Saadia Binte Alam</i>	
Accelerating Violence Detection: A Comparative Study of Frame Difference and Traditional Methods on UCF Crime Dataset	78
<i>Saniul Islam Sani, Rashedur Rahman, Zahidul Islam, Siam Tahsin Bhuiyan, Mahmudul Haque, Sefatul Wasi Sajed Imtenanul Haque, Saadia Binte Alam</i>	
A Complex Wavelet-Based MIMO-OTFS Scheme for Joint Sensing and Communication LEO Satellite	84
<i>Saifur Rahman Sabuj, Han-Shin Jo</i>	
Leakage Detection in Sewer Pipes via Curvelet-Based Edge Enhancement and Motion Compensation	91
<i>Yushin Kawasaki, Amon Ogushi, Teruya Minamoto</i>	

Wavelet-Modulus edge Enhancement and Persistent-Homology Features for Crohn's-Disease Lesion Detection in Capsule Endoscopy	97
<i>Toshimasa Ogata, Teruya Minamoto</i>	
CAAF-ResUnet: Dynamic Fusion of Attention Mechanisms for Context-Aware Lung CT Scan Segmentation	103
<i>Thang Quoc Pham, Thai Hoang Le, Khai Dinh Lai, Dat Quoc Ngo, Tan Van Pham, Quang Hong Hua Khang Quang Le, Huyen Le Duy Mai, Tuyen Nguyen Ngoc Lam</i>	
Trend Prediction of NLP Research based on few-shot in-context Learning	109
<i>Mei-Qi Shao, Rui Liu, Wei-Song Li, Yu-Jie Liu</i>	
Can AI Predict Scientific Research? a Case Study on the NLP Domain	115
<i>Mei-Qi Shao, Rui Liu, Wei-Song Li, Yu-Jie Liu</i>	
MRS-Yolo: An Enhanced Efficient Object Detection Framework For Power Systems	121
<i>Wenchong Li, Yan Gao, Yaoxuan Shi, Zihan Wei</i>	
Collaborative Graph Embedding Learning with Sparse Regularization for Unsupervised Feature Selection	127
<i>Hong Li, Wei Song Li, Yanhua Cai, Fengrui Chang, Zhanbo Liang, Qiang Xu</i>	
Collaborative Subspace Learning for Unsupervised Feature Selection	133
<i>Yanhua Cai, Xingwei Yang, Fengrui Chang, Wei Fan, Hong Li, Hongwu Wen</i>	
Hotspot-Yolo: Enhanced Cross-Scale Attention Network for Infrared PV Hotspot Detection	139
<i>Xingwei Yang, Jianhua Chen, Hailin Chen, Zihan Wei</i>	
A Layerwise Transferability Approach For Quantum Architecture Search	145
<i>Zhengjie Zeng, Hongxiang Chen, Guohong Li, Zhengjiang Li, Zhimin He, Haozhen Situ</i>	