

Journal of Advanced Computational Intelligence and Intelligent Informatics

Vol. 29 No.6
Nov. 2025

Indexed in ESCI, SCOPUS,
COMPENDEX (Ei), DOAJ

In Cooperation with

International Fuzzy Systems Association (IFSA),

Japan Society for Fuzzy Theory and Intelligent Informatics (SOFT),

Brazilian Society of Automatics (SBA),

The Society of Instrument and Control Engineers (SICE)

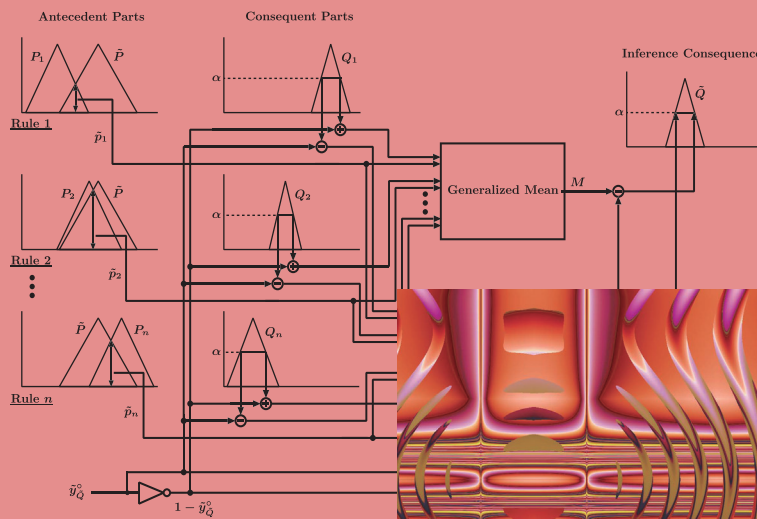
John von Neumann Computer Society (NJSZT),

Vietnamese Fuzzy Systems Society (VFSS),

Fuzzy Systems and Intelligent Technologies Research Society of Thailand (FIRST),

Korean Institute of Intelligent Systems (KIIS), and

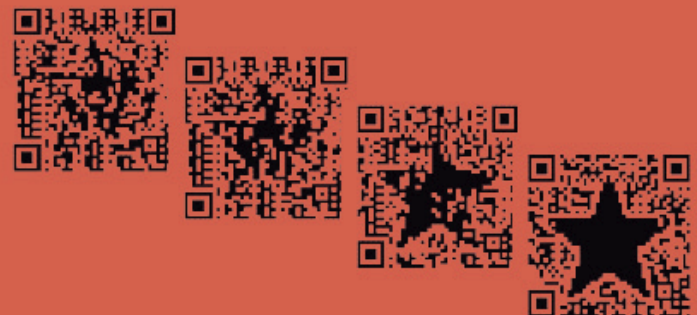
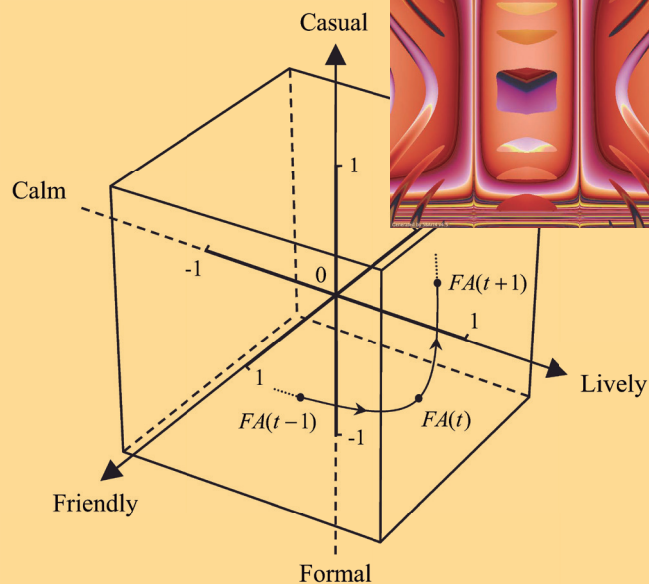
Taiwanese Association for Artificial Intelligence (TAAI)



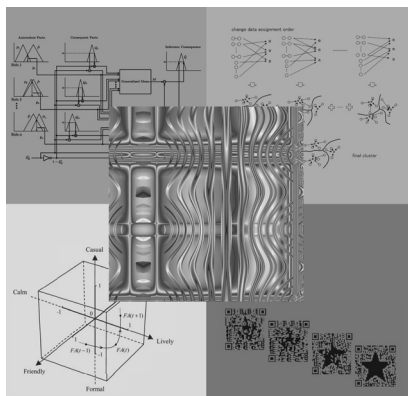
change data assignment order



final cluster



Vol.29 No.6
Nov. 2025



This journal is indexed in:

Emerging Science Citation Index (ESCI);
Scopus; Compendex (Ei); DBLP;
Ulrichsweb™ Global Serials Directory;
Genamics JournalSeek; Open J-Gate; J-Global;
CiNii Articles; CNKI; Cabell's Directory;
DOAJ

Special Advisors:

Prof. Jinhua She
(Tokyo University of Technology)
Prof. Bin Xin
(Beijing Institute of Technology)
Prof. Naruki Shirahama
(Shimonoseki City University)
Prof. Yasuo Narukawa
(Tamagawa University)
Prof. Vicenç Torra
(Umeå University)

Publishing Staff:

Managing Editor	Kunihiko Uchida
Associate Editor	Rongli Li
Art Director	Yuji Isa
Publisher	Y. Matsumoto

Published bimonthly by

Fuji Technology Press Ltd.
Ichigo Otemachi North Bldg. 2F
1-15-7 Uchikanda, Chiyoda-ku,
Tokyo 101-0047, Japan
Tel: +81-3-5577-3851
Fax: +81-3-5577-3861
E-mail: jaciii@fujipress.jp
URL: <https://www.fujipress.jp/jaciii/>

Copyright © 2025 Fuji Technology Press Ltd.



Articles in this journal are Open Access and published under the terms of the Creative Commons Attribution-NoDerivatives 4.0 International License (<http://creativecommons.org/licenses/by-nd/4.0/>).

Contents

- **Congratulations: JACIII Best Paper, Young Researcher, and Best Review Paper Awards 2025 .1243**
- **JACIII Distinguished Editor & Outstanding Reviewer Awards 20251247**

Regular Papers:

Research Papers:

- **Pedestrian Re-Recognition Based on Spatiotemporal Transformer Skeleton Contrastive Learning and Feature Optimization1249**
Yanru Jia, Yuanyuan Zhang, and Yilun Gao
- **Enhanced Stance Detection for Arabic Tweets . . .1262**
Abeer Almasoudi, Muhammad Arif, Ahlam Hashem, and Esraa Samkari
- **An Improved Byte Pair Encoding Method for Tibetan1273**
Kalzang Gyatso, Sonam Tshering, Tashi Norbu, Nyima Tashi, Tong Xiao, Jingbo Zhu, Garma Tashi, and Gaden Luosang
- **A Method for Recognizing Entities in Power News Texts Based on Dependency Syntactic Parsing . .1283**
Yun Wu, Xinru Liu, Yan Du, Jieming Yang, Zhenhong Liu, Kai Yang, and Ziyi Wang
- **Color Visual Expression in Product Packaging Design Based on Feature Fusion Network1292**
Zemei Liu
- **Vehicle Traffic Prediction and Analysis Using Hybrid Deep Learning Technique1305**
Betty Paulraj, Shilpi Sharma, Narayan C. Debnath, and Ramzi A. Haraty
- **Dual-Branch Residual Network for Enhanced Steel Plate Fault Detection1311**
Hao Chen and Jiaxin Lu

Cover Pictures:

Upper left:

The process of fuzzy inference based on α -cuts and generalized mean.
(Asso. Prof. Kiyohiko Uehara, Ibaraki University)

Upper right:

The process of boosting based cluster ensemble.
(Dr. Masayuki Okabe, Prefectural University of Hiroshima)

Center:

2D CG image drawn with “SBART,” a simulated breeding tool.
(Prof. Tatsuo Unemi, Soka University)

Lower left:

Fuzzy atmosfield represented in 3D fuzzy cubic space.
(Dr. Zhen-Tao Liu, China University of Geosciences, China)

Lower right:

QR code decoration using module-wise non systematic coding.
(Asso. Prof. Satoshi Ono, Kagoshima University)

Printed copy: one year subscription
Institutional rate JPY 138,000

- **Linear Transformer Based U-Shaped Lightweight Segmentation Network1319**
Hongli He, Changhao Sun, Zhaoyuan Wang,
and Yongping Dan
- **A Fast Depression Detection Method Based on AKRCC-KNN Model1329**
Jing Kan, Wei Tong, Bichen Wu, Yongchun Ma,
and Kewei Chen
- **Resource-Constrained and Time-Aware Reinforcement Learning Framework for Sustainable Fertilization Strategies1342**
Muhammad Alkaff, Abdullah Basuhail, Yuslena Sari,
and Kamal Jambi
- **Finite Element Simulation of Hydraulic System Based on TFY-YH Parking Anti-Slip Device1358**
Qunyan Xing, Yuchen Shi, and Yongle Ju
- **Research on the Knowledge Representation Method of Power News Text Based on Time Hyperplane . .1369**
Yun Wu, Ziyi Wang, Yan Du, Jieming Yang, Xinru Liu,
Zhenhong Liu, and Kai Yang
- **Research on the Application of Intelligent Object Recognition System in Classroom Attendance and Student Behavior Analysis in Universities1377**
Lin Yang, Gai Hang, and Xuehui Zhang
- **Anomaly Detection in Borehole Strain Data with CNN and Frequency-Aware VAE1390**
Xiaolong Wei, Qingjie Liu, and Zhian Pan
- **Posture Estimation and Obstacle Detection by Embedding Distance-Measuring Sensors in a Spherical Mobile Robot1402**
Ryota Nakagawa and Yuki Ueno
- **Type-2 Fuzzy Robust Regression with Two-Step Construction.1410**
Yoshiyuki Yabuuchi
- **Interactive Image Caption Generation Reflecting User Intent from Trace Using a Diffusion Language Model.1417**
Satoko Hirano and Ichiro Kobayashi

□ Generating Natural Language Sentences Explaining Trends and Relationships of Two Time-Series Data	1427
Yukako Nakano and Ichiro Kobayashi	
□ Mobile-YOLO: A Lightweight YOLO for Road Crack Detection on Mobile Devices	1443
Anjun Yu, Yixiang Gao, Yonghua Xiong, Wei Liu, and Jinhua She	
□ An Empirical Study of Consumer Purchase Behavior in Live Commerce	1454
Lu Jiang and Yukio Kodono	
□ Design Adaptive Non-Linear PID Control Using Reinforcement Learning for Optimal Autonomous Greenhouse Microclimate Regulation	1464
Hayder M. Abbood, Seyed Hamed Seyed Alagheband, Amer Matrood Imran, Salah Mahdi Ali, and Murtadha A. Hassan	
□ Multiscale Attention-Based Model for Image Enhancement and Classification.	1484
Mingyu Guo and Tomohito Takubo	
□ Intelligent Prediction of Uniaxial Compressive Strength Based on Multi-Source Information Fusion	1500
Quanxin Li, Hongbo Dong, Youzhen Zhang, Jun Fang, and Wangnian Li	
□ Multi-Task Prediction Method for User Behavior Utilizing Transformers	1507
Ke Li, Huan Fang, Chifeng Shao, and Yifei Xu	
□ A PID Control System for Lower-Limb Rehabilitation Robot with a Function for Pedal Torque Estimation.	1517
Yue Jing, Zewen Wang, Qiwei Wu, Jinhua She, and Seiichi Kawata	
□ Does Robot Clothing Really Help? User Preferences and Effects in Simulated Domestic Scenarios . . .	1530
Kazunari Yoshiwara and Kazuki Kobayashi	

Development Report:

- **Inclusion–Exclusion Integral Neural Networks:
A Framework for Explainable AI with Non-Additive
Measures.1541**

Yoshihiro Fukushima, Katsushige Fujimoto, Simon James,
and Aoi Honda

Research Papers:

- **On User’s Reception of Local Explanation:
An Argumentation Analysis1552**

Nguyen Duy Hung, Thanaruk Theeramunkong,
and Van-Nam Huynh

- **Revised Margin-Maximization Method for Nearest
Prototype Classifier Learning1565**

Yoshifumi Kusunoki and Tomoharu Nakashima

- **Acknowledgments to Reviewers I-1**

- **Contents of Journal of Advanced Computational
Intelligence and Intelligent Informatics Volume 29 . . I-4**

- **Keyword Index of Journal of Advanced Computational
Intelligence and Intelligent Informatics Volume 29 . I-12**

- **Author Index of Journal of Advanced Computational
Intelligence and Intelligent Informatics Volume 29 . I-17**