

Journal of Advanced Computational Intelligence and Intelligent Informatics

In Cooperation with

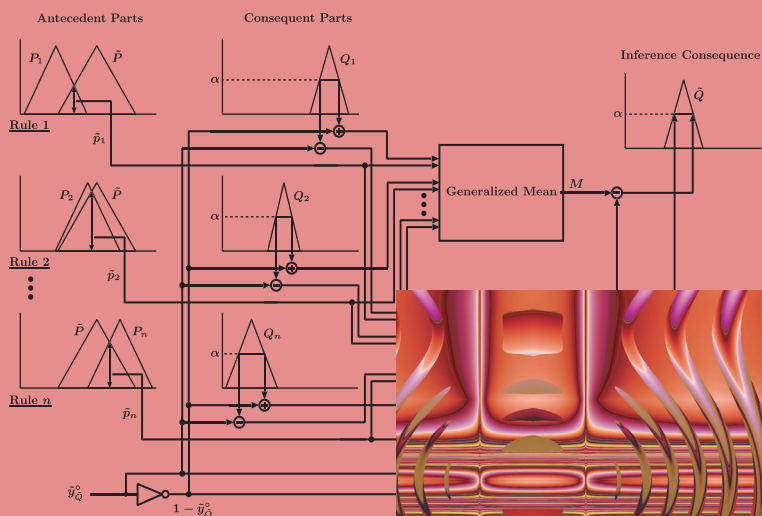
International Fuzzy Systems Association (IFSA),
Japan Society for Fuzzy Theory and Intelligent Informatics (SOFT),
Brazilian Society of Automatics (SBA),
The Society of Instrument and Control Engineers (SICE),
John von Neumann Computer Society (NJSZT),
Vietnamese Fuzzy Systems Society (VFSS),
Fuzzy Systems and Intelligent Technologies Research Society of Thailand (FIRST),
Korean Institute of Intelligent Systems (KIIS), and
Taiwanese Association for Artificial Intelligence (TAAI)

Vol. 27 No.6 Nov. 2023

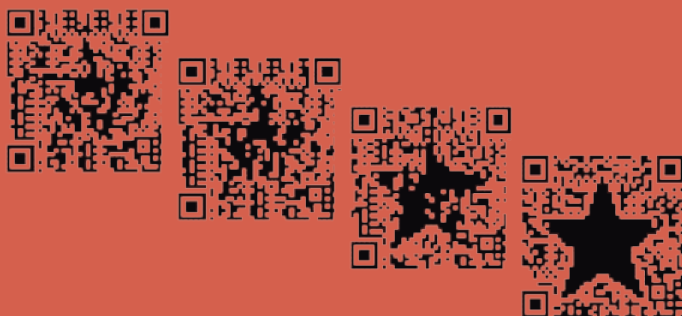
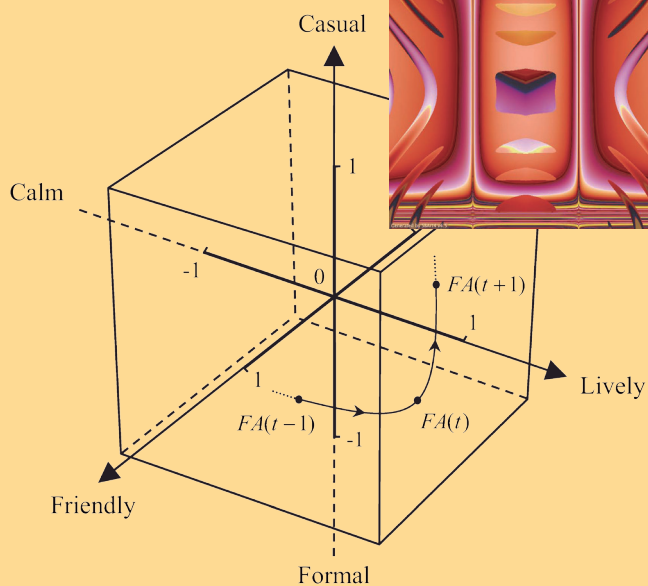
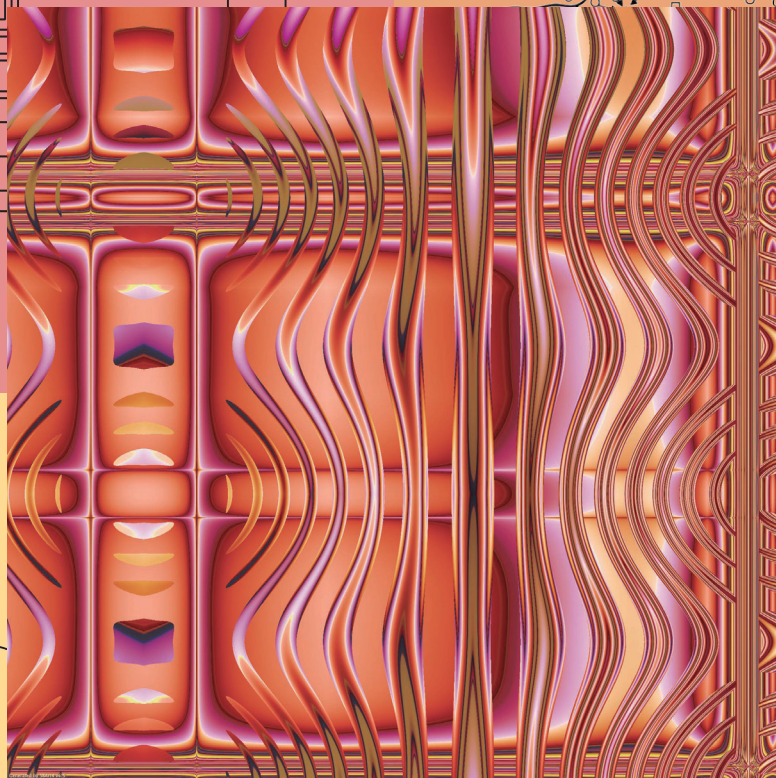
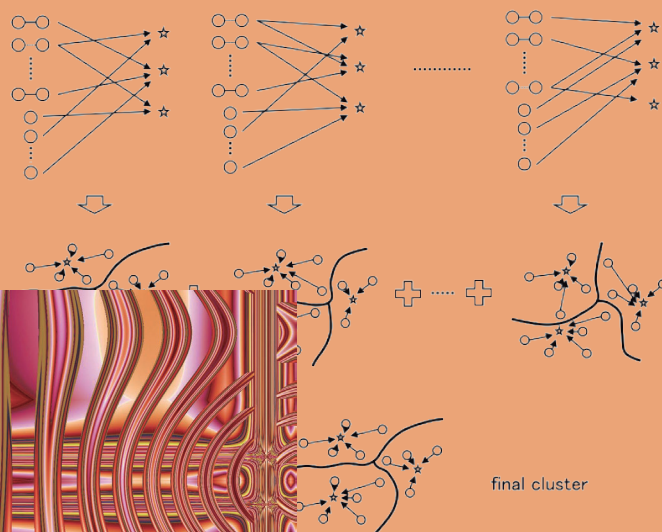
Indexed in ESCI, SCOPUS,
COMPENDEX (Ei), DOAJ

Journal of Advanced Computational Intelligence and Intelligent Informatics

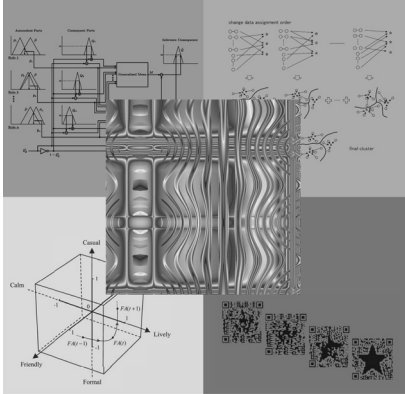
Vol. 27 No.6 November 2023



change data assignment order



Vol.27 No.6
Nov. 2023



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:

Dr. V. Jude Annie Cynthia (Stella Maris College)
Prof. Yasufumi Takama (Tokyo Metropolitan
University)
Prof. Bin Xin (Beijing Institute of Technology)
Prof. Hongbin Ma (Beijing Institute of
Technology)
Prof. Wentao Gu (Zhejiang Gongshang
University)
Prof. Bing Xu (Zhejiang Association of
Quantitative Economics)
Prof. Yasuo Narukawa (Tamagawa University)
Prof. Vicenc Torra (Umeå University)

Publishing Staff:

Honorary Editor	Keiji Hayashi
Managing Editor	Momoko Ohno
Associate Editors	Kunihiko Uchida Kiichi Chida
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 © 2023 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 and Young Researcher Awards 2023 993**

- Regular Papers:**
- Research Papers:**
- **Research on the Spatial-Temporal Disparity and Convergence Characteristics of Innovation and Economic Development in China: Based on Functional Data Analysis 999**
Dejin Zhao, Xiaming Tu, Yujie Meng, and Xindong Zhao
- **Stock Risk Warning and Financial Market Stability Based on the Perspective of Stock Price Crash Risk of Peer Enterprises 1012**
Jie Sun, Mingyang Sun, Xin Wang, and Yan Cheng
- **The Influence of Industrial Digitalization on the Quality Structure of the Labor Force: A Panel Threshold Model Based on Industrial Structure Upgrading 1025**
Zezhong Hao, Xianrong Zhu, and Xiuwu Zhang
- **Research on the Social Network Search Strategy from the Viewpoint of Comprehensive Influence Maximization. 1037**
Shumin Hui and Yuefei Wang
- **Effect of Urban Household Registration Controls on Labor Mismatch in China 1045**
Shangfeng Zhang, Ming Yi, Shisi Li, Yu Zhang, Jinyan Ye, and Wei Chen
- **A Study on Time-Varying Synergy of Energy Consumption, Economic Growth, and CO₂ Emissions in China 1056**
Xiaoxu Shang, Shipeng Huang, and Jing Zheng
- **Collaborative Filtering with q -Divergence-Based Relational Fuzzy c -Means Clustering 1070**
Yuchi Kanzawa, Kaoru Atsuta, and Genki Midorikawa

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 atmosphere 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

- **Fragility Fracture of Pelvis Prediction from Computed Tomography Using Boring Survey and Convolutional Neural Network1079**
Rashedur Rahman, Naomi Yagi, Keigo Hayashi,
Akihiro Maruo, Hirotsugu Muratsu, and Syoji Kobashi
- **A Lightweight and Accurate Method for Detecting Traffic Flow in Real Time1086**
Zewen Du, Ying Jin, Hongbin Ma, and Ping Liu
- **Real-Time Dynamic Gesture Recognition Algorithm Based on Adaptive Information Fusion and Multi-Scale Optimization Transformer1096**
Guangda Lu, Wenhao Sun, Zhuanping Qin,
and Tinghang Guo
- **Square Difference Labeling of Bloom Graph1108**
V. Jude Annie Cynthia, P. Poorani, and M. Helda Mercy
- **An Approach for Egg Parasite Classification Based on Ensemble Deep Learning1113**
Narut Butploy, Wanida Kanarkard, Pewpan M. Intapan,
and Oranuch Sanpool
- **Is Stylistic Coach Leadership Style Suitable for Young Student Athletes? The Effect on Team Cohesion and Team Performance1122**
Chih Ming Tsai and En-Ning Chang
- **Lattice Based Communication P Systems1130**
Junli Xu, Xiyu Liu, and Jie Xue
- Letter:**
- **Urinary Sodium/Potassium Ratio Index Estimates Ionic Balance in Humans1137**
Yutaka Yoshida, Yuta Tarusawa, Asahi Nishimura,
and Emi Yuda
- Research Papers:**
- **Task Assignment of UAV Swarms Based on Auction Algorithm in Poor Communication Environments1142**
Zihao Chen, Juan Li, Chang Liu, and Jie Li

□	Entity and Entity Type Composition Representation Learning for Knowledge Graph Completion.	1151
	Runyu Ni, Hiroki Shibata, and Yasufumi Takama	
□	Predicting Student Performance Through Data Mining: A Case Study in Sultan Ageng Tirtayasa University	1159
	Rocky Alfan, Raphael Kusumo Hendrianto, and Al Hafiz Akbar Maulana Siagian	
□	Clustering and Topic Modeling of Verdicts of Narcotics Cases Using Machine Learning.	1168
	Ilmiyati Sari, Rifki Kosasih, and Dina Indarti	
□	Reclining Public Chair Behavior Detection Based on Improved YOLOv5	1175
	Liu-Ying Zhou, Dong Wei, Yi-Bing Ran, Chen-Xi Liu, Si-Yue Fu, and Zhi-Yi Ren	
□	Multi-Robot Cooperative Multi-Area Coverage Based on Circular Coding Genetic Algorithm.	1183
	Bin Xin, Heng Wang, and Ming Li	
□	ASCNet: Attention Mechanism and Self-Calibration Convolution Fusion Network for X-ray Femoral Fracture Classification	1192
	Liyuan Zhang, Yusi Liu, Fei He, Xiongfeng Tang, and Zhengang Jiang	
□	Optimization of Briquette Classification Using Deep Learning	1200
	Norbertus Tri Suswanto Saptadi, Ansar Suyuti, Amil Ahmad Ilham, and Ingrid Nurtanio	
□	An Ensemble of Deep Convolutional Neural Networks Models for Facial Beauty Prediction	1209
	Djamel Eddine Boukhari, Ali Chems, Riadh Ajjou, and Mohamed Taher Bouzaher	
□	An Automatic and Robust Visual SLAM Method for Intra-Abdominal Environment Reconstruction	1216
	Guodong Wei, Weili Shi, Guanyuan Feng, Yu Ao, Yu Miao, Wei He, Tao Chen, Yao Wang, Bai Ji, and Zhengang Jiang	

- **Acknowledgments to Reviewers I-1**
- **Contents of Journal of Advanced Computational Intelligence and Intelligent Informatics Volume 27 . . I-4**
- **Keyword Index of Journal of Advanced Computational Intelligence and Intelligent Informatics Volume 27 . I-11**
- **Author Index of Journal of Advanced Computational Intelligence and Intelligent Informatics Volume 27 . I-16**