

Mufti Mahmud · M. Mostafizur Rahman ·
M. Shamim Kaiser · Md. Atiqur Rahman Ahad ·
Shuqiang Wang · David J. Brown (Eds.)

Communications in Computer and Information Science

3206

Applied Intelligence and Informatics

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**Communications
in Computer and Information Science**

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Preface

The term ‘Intelligence’ is defined as the ability to perceive or infer information and to retain it as knowledge for application towards adaptive behaviours within an environment or context. It can be the capacity for logic, understanding, self-awareness, learning, emotional knowledge, reasoning, planning, creativity, critical thinking, and problem-solving. ‘Informatics,’ on the other hand, is the study of the structure, behaviour, and interactions of natural and engineered computational systems. It studies the representation, processing, and communication of information in natural and engineered systems. Applying intelligence and informatics to solve the most complex problems in science, engineering, real-life manufacturing, defence, management, government, and industrial domains.

The 6th International Conference on Applied Intelligence and Informatics (AII 2026) provides a premier international forum for researchers and practitioners from diverse domains to share cutting-edge research results obtained through the application of intelligence and/or informatics to solve problems that would otherwise be impossible to solve. AII 2026 also fosters the exchange and dissemination of innovative, practical methodologies and technologies with real-life applications.

Recent years have seen tremendous growth in artificial intelligence (AI) and informatics-based methods for solving real-life problems, with very promising results. However, most of these methods remained proprietary, limiting others’ access to reproduce the results, which is crucial to ensuring the reliability and validity of findings, leading to scientific progress and their adoption in mission-critical domains. Reproducibility allows other researchers to verify results, reducing errors and biases. It promotes transparency and trust in scientific studies, facilitating the translation of research into real-world applications. Moreover, reproducible results enable cumulative knowledge building, where new research can build on validated findings, accelerating innovation and technological advancement. Ensuring reproducibility ultimately strengthens the integrity and impact of scientific endeavours in applied research fields. The AII 2026 conference provides an avenue for discussing the reproducibility of research results by sharing methods and datasets. The AII conference series has a keen focus on the applications of Artificial Intelligence and Informatics in all walks of life.

This first edition of AII (AII 2021) was planned to be held in Nottingham, UK, but this was not possible due to the extenuating circumstances caused by COVID-19. The second edition (AII 2022) was successfully organised in the beautiful city of Reggio Calabria in Southern Italy, the third edition (AII 2023) took place in the vibrant city of Dubai, UAE, the fourth edition (AII 2024) took place in the multicultural city of London, UK, the 5th edition (AII 2025) was organised in Washington, D.C., USA, and this edition (AII 2026) is again organised in the world’s most vibrant and multicultural city of London, UK. The AII 2026 conference was supported by the Applied Intelligence and Informatics

Lab (AII), the King Fahd University of Petroleum and Minerals (KSA), the Web Intelligence Consortium (WIC), Nottingham Trent University (UK), and the International Neural Network Society.

The AII 2026 addressed broad perspectives on applied research to facilitate the reproduction of results. These papers provide a good sample of state-of-the-art research advances in the applications of artificial intelligence and informatics across diverse fields and disciplines. The selected papers cover four major tracks: (1) Emerging Applications of AI and Informatics, (2) Application of AI and Informatics in Healthcare, (3) Application of AI and Informatics in Pattern Recognition, and (4) Application of AI and Informatics in Network, Security, and Analytics.

The AII 2026 conference attracted 119 submissions from 30 countries across all four tracks. The submitted papers underwent a single-blind review process, soliciting expert opinion from at least three experts: at least two independent reviewers and the track chair. After the rigorous review reports from the reviewers and the track chairs, the respective papers and, finally, 31 full papers from 14 countries, were accepted for presentation at the conference. The AII 2026 conference proceedings contain those 31 papers presented at the conference. The presenters came from countries, including Australia, Bangladesh, France, Hungary, India, Ireland, Israel, Italy, Oman, Saudi Arabia, South Africa, the UK, and the USA.

We would like to express our gratitude to all AII 2026 conference committee members for their instrumental and unwavering support. AII 2026 had a very exciting programme, which would not have been possible without the generous dedication of the Programme Committee members in reviewing the conference papers. AII 2026 could not have taken place without the great team efforts and the generous support from our sponsors.

We would especially like to express our sincere appreciation to our kind sponsors, including Springer-Nature and the Springer CCIS team. We also thank the AII Lab for sponsoring 21 author registrations, which were selected based on the quality of the submitted papers and the authors' need for financial support.

Last but not least, we thank all our contributors and volunteers for their support during this challenging time, which made AII 2026 a success.

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Contents

Emerging Applications of AI and Informatics

Unsupervised Quantum Kernel Learning of Symmetry Protected Topological Phases via Geometric Tensor Weighting	3
<i>Mejbah Ahammad, Md. Ashrafur Babu, M. Mostafizur Rahman, Md. Fayz-Al-Asad, and Tashin Islam</i>	
Capacity-Constrained Multi-Robot Task Allocation via Quantum Approximate Optimisation: A Reproducible Benchmark on Solomon VRPTW C101	18
<i>Sandeep Gupta, Sazzad Hossain, Akmal Akhatov, Nurmamatov Mekhriddin, and Kanad Ray</i>	
Explainable Variational Quantum Policy Gradient: SHAP-Based Interpretability of Quantum Reinforcement Learning Agents on CartPole	33
<i>Sandeep Gupta, Sazzad Hossain, Akmal Akhatov, Nurmamatov Mekhriddin, and Kanad Ray</i>	
Human Interpretive Presence in AI-Assisted Qualitative Research: A Reproducible Workflow for Social and Emotional Learning (SEL)	47
<i>Anat Korem and Sigal Chen</i>	
Modeling progressive neuronal ablation in biomimetic hardware Spiking Neural Networks	58
<i>Sam Zahedi Ghasabei, Federico Barban, Marta Carè, Timothée Levi, and Michela Chiappalone</i>	
An Assessment of Quantum Principal Component Analysis	77
<i>Mehjabin Khatoon and Niha Kamal Basha</i>	
Transfer Learning in Genetic Algorithms for Combinatorial Optimization Using Fitness Lineage	92
<i>George Mweshi, Nelishia Pillay, and Thambo Nyathi</i>	
Generative AI for Inclusive Higher Education: Evaluating an inclusive education toolkit for improving participation in Bangladeshi HE and TVET	107
<i>David J. Brown, Mufti Mahmud, Nicholas Shopland, Andrew Burton, Muhammad Arifur Rahman, M Mostafizur Rahman, M Shamim Kaiser, Md. Saiful Islam, Md Saef Ullah Miah, and Akarsh K. Nair</i>	

Application of AI and Informatics in Healthcare

Knowing When Not to Act: Toward Capability-Aware Healthcare AI	123
<i>Marzia Hoque Tania</i>	
An Explainable Cleanlab-Guided Uncertainty-Based Active Learning Framework for Data-Efficient Parkinson's Disease Classification	135
<i>Md. Shakil Ahmed, Shakila Shafiq, and M Shamim Kaiser</i>	
RetinaFusionNet: Gated Multimodal Fusion for Classifying Carotid Intima-Media Thickness	150
<i>Mahir Shadid and Rashed Mustafa</i>	
CARE-Lung: Calibrated, Cross-Validated Cycle-to-Patient Aggregation with Conformal Referral for Respiratory Sound Screening	165
<i>Arnob Aich Anurag, Shamiul Islam, Nuren Tasnim Risha, Md. Sadman Hossain, Trisha Sarker, Sifat Rahman Ahona, and Juena Ahmed Noshin</i>	
Systematic Evaluation of Data Augmentation Strategies for Ordinal BI-RADS Classification in Breast Ultrasound: A Benchmark on BUS-BRA	180
<i>Hadeel Saad Alghamdi, Mufti Mahmud, Abdullah Faisal Al-Battal, and Ammar Alsheghri</i>	
Assessing Dysarthric Speech Intelligibility via Generative Augmentation and Self-Supervised Linguistic Representations	194
<i>Davide Lillini, Carlo Aironi, Lucia Migliorelli, Leonardo Gabrielli, and Stefano Squartini</i>	
A Comparative Evaluation of Machine Learning, Deep Learning, and Vision Transformer Models for Alzheimer's Disease Classification	209
<i>Noushath Shaffi, Viswan Vimbi, Abdelhamid Abdesselam, and Rachid Hedjam</i>	
Explainable Multi-model Attention-based Deep Learning Algorithm for Brain Tumor Segmentation	225
<i>Nayon Karmoker, Shrawman Majumder Rudra, Fahima Tabassum, Risala Tasin Khan, and M. Shamim Kaiser</i>	

Application of AI and Informatics in Pattern Recognition

Patient-Guided Attention Gate for False-Negative-Aware Melanoma Detection Using Hybrid CNN-ViT Architecture on ISIC 2024 SLICE-3D .	243
<i>Md Kamrul Islam, Md Naimul Islam, Mizanur Rahman, Sanjida Afrin, Hasan Sarwar, and Md. Saef Ullah Miah</i>	

Evaluating Few-Shot Learning for Cherry Leaf Disease Classification in Real-World Agricultural Settings	261
<i>Dostonbek Nazirzhonov, Md Easin Arafat, Nazrul Islam, and Utkarsh Mall</i>	
Evidence From Within: Explainable YOLOv8 for Reproducible Brain Tumour Localisation	276
<i>Connor Mc Cabe, Dost Muhammad, and Malika Bendeche</i>	
ColourMag: A Learning-Based Colour Magnification Framework for Remote Heart Rate Estimation	291
<i>Zakia Batool Turabee, David J. Brown, Mufti Mahmud, Andreas Oikonomou, Muhammad Arifur Rahman, Andrew Burton, and Nicholas Shopland</i>	
An explainable ensemble deep learning model for multiclass skin disease classification using dermoscopic images	306
<i>Ekrumul Hasib, Touhidul Islam Masfi, S M Abdullah Shafi, Abhijit Bhowmik, Md. Saef Ullah Miah, and S. A. M. Manzur H. Khan</i>	
Improving Underwater Marine Species Classification through Imbalance-Aware Learning and Cross-Dataset Evaluation	325
<i>Md Sazzad Hossain, Mosa. Farjana Eti, Md Saimul Haque Shanto, and Suzad Mohammad</i>	
Incongruity-Aware Sarcasm Detection	340
<i>Obydullah Sayed, M. Showaib Rahman Tanveer, M. Samirul Islam, Saiful Azad, Sudip Ghoshal, Shankha Shubhra Sarkar, and Tanpia Tasnim</i>	
Calcification-Informed BI-RADS Categorization of Mammograms: A Combined Detection and Classification Approach	355
<i>Debapriya Chakraborty, Uddalak Mukhopadhyay, Sarbani Palit, and Ujjwal Bhattacharya</i>	
 Application of AI and Informatics in Network, Security, and Analytics	
Agentic-DVC: Autonomous Software Risk Mitigation	373
<i>Sadman Sakib, Aritri Roy Priota, Hossain Mohammad Sami, and Abhijit Bhowmik</i>	
Usage and Perceptions of Generative AI in Learning among University Students in Bangladesh	388
<i>K. M. Tahsin Kabir, Koushik Biswas Arko, Arizit Chaki Artha, Md. Fahim Kabir Chowdhury, Md. Mortuza Ahmmed, Md. Ashraf Babu, and M. Mostafizur Rahman</i>	

Disaster Classification and Progression Detection from Social Media Data Using Deep Learning	403
<i>Md Saimul Haque Shanto, Suzad Mohammad, Ibna Masud Rana Parvej, Manzur Kabir Ayon, and Sadia Sharmin</i>	
An Explainable Hybrid Machine Learning Framework for Smart Irrigation Prediction and Anomaly-Aware Decision Support	418
<i>MD Ashfi Ar Raihan, Sabrina Islam Tesa, Antu Chakrabarty, Mhamud Hasan Kwoshick, Tawfiqul Hasan, Sultanul Arifeen Hamim, Md. Mazid-Ul-Haque, Abhijit Bhowmik, and Md Manirul Islam</i>	
Determination of PM2.5 from distant views: Across the miles with machine learning	437
<i>Sarbani Palit, Sagarnil Chakraborty, Joydip Rakshit, Priyasha Halder, and Anushka Mukherjee</i>	
Federated Learning for Early Prediction of Cardiovascular Disease in Privacy-Constrained Healthcare Environments	452
<i>Nitya Puspaceno, Muhammad Arifur Rahman, Mufti Mahmud, Nicholas Shopland, Andrew Burton, and David J. Brown</i>	
Mapping Fiscal Landscapes: Understanding of Public Sector Finances through Data Visualisation	465
<i>Abhishek Shrikant Jangam, Muhammad Arifur Rahman, Nicholas Shopland, Taha Osman, and David J. Brown</i>	
Author Index	483