

Editorial

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Volume 23, Issue 2 of the Computer Science and Information Systems journal is comprised of 10 regular articles. Once again, we express our gratitude for the hard work and enthusiasm of all authors, reviewers, and guest editors, without whom the current issue and the publication of the journal itself would not be possible.

The first article, “Joint Heart Sound Denoising Using DTCWT and Adaptive Sparsity-Assisted Signal Smoothing Algorithm,” by Jianqiang Hu et al., proposes a joint heart sound signal denoising method which employs the Dual-Tree Complex Wavelet Transform (DTCWT) and Adaptive Sparsity-Assisted Signal Smoothing (ASASS) algorithms. The signal is first decomposed by DTCWT to obtain the multi-scale feature representation. Subsequently, ASASS suppresses pseudo-Gibbs artifacts around signal boundaries of DTCWT while implementing adaptive thresholding strategies to maximize the Signal-to-Noise Ratio (SNR).

In the second article, “Transformer Substation Network Disconnection Prediction via Semantic Reasoning with Causal Modeling,” Jie Ren et al. propose a causal-driven disconnection prediction framework that integrates semantic reasoning with structural causal modeling, in order to address the limitations of existing correlation-based approaches for network disconnection prediction. Heterogeneous monitoring data are unified into structured events, and a causal graph is constructed to capture semantic, temporal, and topological dependencies among event sequences. A pluggable inference module is further introduced, combining path analysis, structural causal models, and counterfactual reasoning to enable root-cause identification and high-confidence risk prediction.

Fangyuan Xiong et al., in “YOLO-BDM: An Improved Ship Detection Algorithm Based on YOLOv11n,” introduce YOLO-BDM, an improved ship detector from Synthetic Aperture Radar (SAR) data, based on YOLOv11. The Diverse Branch Block (DBB) is introduced into the backbone to enhance feature representation through multi-branch training and reparameterized inference. A Multi-scale Contextual Attention (MCA) mechanism is integrated into the backbone and neck to strengthen multi-scale semantic modeling and background discrimination. Additionally, a four-layer Bidirectional Feature Pyramid Network (BiFPN) is employed for efficient multi-scale feature fusion.

“Enhanced ROCKET for the Automated Detection of Epileptic Tonic-Clonic Seizures Using Accelerometer Data,” by Krisztian Buza et al. develop an algorithm which may contribute to recognition of tonic-clonic epileptic seizure based on accelerometer data that can be collected from mobile and wearable devices, framing this task as a multivariate time-series classification problem. The state-of-the-art Random Convolutional Kernel Transform (ROCKET) machine-learning approach is enhanced by replacing standard con-

volution with dynamic convolution. Since dynamic convolution was originally defined for univariate time series, this work extends it to multivariate time series.

The article “An Incremental Network Information Extraction Technology for Web Topic Detection Based on Big Data,” authored by Mo Chen, proposes an incremental network information extraction approach for Web topic detection, where the algorithm of theme similarity measurement for incremental network information extraction can extract Web instances related to theme, and calculate importance of Web instances related to the theme. Furthermore, the designed algorithm of incremental instance extraction for Web topic detection can analyze Pattern and BasePattern according to the extracted Web instance URL, conduct segmentation for Web instance title and text content, and extract keywords which are capable of describing the Web topic.

Lijue Liu et al., in their article “Development and Validation of a Few-Shot Rapid Screening Model for Gastrointestinal Cancers Using AGI Large Vision Models,” develop a screening framework leveraging a large vision model for coarse-grained classification of gastric and colorectal tissues, to address the limitation of existing deep learning models in digital pathology which typically require extensive labeled data and show limited generalization across organs. The model was evaluated on multicenter cohorts and under limited-data conditions, and demonstrated excellent performance on both internal and external test sets.

“A Pilot Study of Multi-Method Evaluation of Machine Translation in Macedonian,” by Jana Kuzmanova and Katerina Zdravkova, offers a linguistic evaluation of six machine translation systems: GPT-4o, GPT-5, Gemini 2.5 Flash, Google Translate, Microsoft Translator, and NLLB-600M applied to the translation of a short excerpt of Orwell’s “1984” into Macedonian. The analysis consisted of three interconnected experiments: manual annotation of translation errors and comparison with human output, evaluation using eight popular machine translation (MT) metrics, and sentence-level similarity analysis via three different similarity/distance measures. The findings underscore the importance of combining manual and metric-based evaluation to fully understand MT quality, particularly in low-resource settings.

In “HAQCCN: A Hybrid Quantum–Classical Convolutional Network with Asymmetric Kernels for Remote Sensing Image Classification,” Lianghai Chen et al. address the limitations of conventional convolutional neural networks (CNNs) concerning computational capacity and struggling to efficiently process the rapidly growing volume of remote sensing data by proposing HAQCCN (Hybrid Asymmetric Quantum–Classical Convolutional Network), a novel hybrid architecture that integrates quantum computation into the classical convolutional framework through asymmetric quantum convolutional circuits.

“FPCA: A Fully Constant-Length and Policy Updating Cross Data Domain Access Control for Cloud-Edge Collaborative Environment,” by Shiwen Zhang et al., is an approach which addresses the challenges of low data access control efficiency and a lack of dynamism in such environments. This is achieved by proposing three algorithms: the Multi Data Domains Key Generation (MDKG) algorithm maintains constant secret key length and enables cross data domain access without attribute conversion, the Constant-Length Ciphertext Encryption (CLCE) algorithm maintains constant ciphertext length, reducing decryption overhead, and the Access Policy Update (APU) algorithm updates the access policy with constant-length update message and low computational complexity.

Finally, in their article entitled “A Framework for the Automated Thematic Annotation of Open Government Data,” Abdul Aziz et al. tackle the limitation of open data portals that often lack consistent and scalable mechanisms for thematic annotation, limiting dataset discoverability, by proposing a framework for automated thematic classification of open government data which integrates (1) thematic annotation quality assessment, (2) supervised machine learning models trained on annotated metadata corpora, and (3) embedding-based semantic similarity methods for theme assignment in the absence of reliable annotations.