

Editorial

With the March 2026 (Vol. 34, No. 1) issue, *CIT. Journal of Computing and Information Technology* enters its 34th year of continuous publishing. Professor Xiaohua Li decided to leave the Editorial Board for other professional endeavors, and I would like to thank him for his valuable service over the years. The current issue brings four papers from the areas of optimization, ontologies, cyber-physical systems modeling, and virtual reality.

The first paper in this issue, titled *A Dynamic Multi-objective Optimization Algorithm for Black-Box Optimization in Dynamic Irregular Environment*, deals with complex optimization issues. Namely, the authors of the paper, Sanyi Li, Shuang Liu, Wenjie Hou, and Yuanyuan Zhang introduce a novel Initial Population Prediction Algorithm (IPPA) designed to solve irregular black-box dynamic multi-objective optimization problems (DMOPs). The algorithm detects environmental changes using clustering and constructs an environment vector, then initializes populations through a combination of a feedforward neural network, retention of elite solutions, and random generation to maintain diversity. Unlike many existing methods, IPPA does not require explicit knowledge of objective functions, making it suitable for complex black-box scenarios with unpredictable changes. The approach leverages historical data to improve convergence speed and track shifting Pareto optimal solutions in DMOPs more effectively. Experimental results on dMOP and FDA test suites demonstrate that IPPA performs competitively on simpler problems and significantly outperforms other algorithms in more complex cases.

In the paper, titled *VICBO – An Ontology-Enhanced Blockchain for Efficient and Adaptive Vehicle Insurance Claim Management*, the author Minh Duc Nguyen proposes a hybrid system called VICBO that combines blockchain technology and semantic ontologies to improve vehicle insurance claim management. The architecture integrates smart contracts with a domain ontology (VICOn) and semantic rules to enable context-aware, automated decision-making, including handling jurisdiction-specific requirements and eligibility criteria. By using decentralized storage and semantic reasoning, VICBO enhances transparency, reduces fraud, and addresses limitations of traditional and purely blockchain-based systems. The system was implemented using Hyperledger Fabric and evaluated through scenario-based testing and performance experiments. Results show that VICBO achieves strong semantic adaptability while maintaining acceptable efficiency, even under increased transaction loads. The study concludes that combining ontological reasoning with blockchain infrastructure can significantly improve automation, consistency, and trust in insurance processes.

Modern rail systems increasingly rely on cloud-based and interconnected infrastructures, making them more vulnerable to sophisticated cyber-physical attacks. Ensuring their security is critical, as successful attacks could disrupt transportation systems, endanger public safety, and cause significant economic damage. In the paper, titled *A SARSA-Driven Cyber-Physical Risk Modeling Framework for Cloud-Based CBTC Systems*, the authors Lin Deng, Zhao Ping, and Hui Xiong propose a novel cyber-physical risk assessment framework for cloud-based communication-based train control systems (CBTCs), which face complex security threats due to tight integration of physical and digital components. The model combines complex network theory, fault tree analysis, and attack graphs to quantify node importance and multi-step attack probabilities. To identify the most dangerous attack scenarios, the SARSA reinforcement learning algorithm is used to simulate attacker behavior and discover optimal attack paths with maximum cumulative risk. Experimental results show that the method effectively identifies critical system nodes and high-risk attack paths, with the optimal path

reaching a risk value of 85.4. After implementing security measures, the system risk was significantly reduced by over 60%, demonstrating the practical effectiveness of the approach. The authors show that the framework provides a dynamic and quantitative method for improving security in complex cyber-physical environments.

In the last paper of the issue, titled *A Lightweight Spatiotemporal Saliency Detection Framework for VR Panoramic Dynamic Scenes*, the authors Dezhi Kong, Huijuan Hao, and Bo Gao deal with the challenge of saliency detection in virtual reality. In this context, saliency refers to the degree to which certain regions of a scene attract a user's visual attention. The authors propose TAD-Net, a lightweight spatiotemporal framework for saliency detection in VR panoramic dynamic scenes. TAD-Net addresses challenges of geometric distortion and high computational cost. It uses cubemap projection to reduce distortion and enable efficient 2D convolutional processing, combined with a dual-stream architecture that captures both spatial and temporal features. A temporal attention module enhances the detection of motion-driven saliency, while knowledge distillation transfers long-term temporal knowledge from a larger model to a lightweight one for real-time use. Adversarial training is further applied to improve the sharpness of saliency boundaries. Experimental results on Salient360-Dynamic dataset show that TAD-Net achieves state-of-the-art performance while maintaining real-time inference speeds. Also, strong generalization on VR-EyeDynamic dataset was observed.

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