

## Guest Editorial Preface

### Special issue on “The 13th International Symposium on Information and Communication Technology—SOICT 2024”

Since 2010, the Symposium on Information and Communication Technology—SOICT has been organized annually. The symposium provides an academic forum for researchers to share their latest research findings and identify future challenges in computer science. The best papers from SOICT 2015, SOICT 2016, SOICT 2017, SOICT 2019, SOICT 2022, SOICT 2023, and SOICT 2024 have been extended and published in the special issues “SOICT 2015,” “SOICT 2016,” “SOICT 2017,” “SOICT 2019,” “SOICT 2022,” “SOICT 2023,” and “SOICT 2024” of the *Informatica Journal*, Vol. 40, No. 2 (2016), Vol. 41, No. 2 (2017), Vol. 42, No. 3 (2018), Vol. 44, No. 2 (2020), Vol. 47, No. 3 (2023), and No. 3 (2025), respectively.

In 2024, SOICT was held in Furama resort Danang, from December 13–15. The symposium covered major areas of research including AI Foundations and Big Data, Networking and Communication Technologies, Multimedia Processing, Software Engineering, AI Applications, Generative AI, Applied Operations Research and Optimization, Recent Advances in Cyber Security.

Among 224 submissions from 24 countries, 84 papers were accepted for oral presentation at SOICT 2024 and 66 papers for posters. Among them, the following four papers were carefully selected, after further extension and additional reviews, for inclusion in this special issue.

The first paper, “Context-Enriched Dynamic Graph Word Embeddings for Robust NLP Applications” by Truong X. Tran, Ryan E. Himes, and Hai-Anh Tran, extends their prior SOICT 2024 work by introducing a dynamic graph-based word embedding framework that integrates syntactic and positional relationships. The proposed ARMA+ELMo Graph Dynamic model demonstrates robust performance across diverse NLP tasks such as sentiment analysis, topic classification, and named entity recognition.

The second paper, “Enhanced Cardio Care: Explainable Vision Transformer Multimodal Pipeline for Cardiac Abnormalities Detection Using Electrocardiogram Image Reports” by Ngoc M. To, Vu Q. Vo, Quoc Cuong Ngo, Dinesh Kumar, Minh N. Dinh, Dang V. Nguyen, and Dan V. B. Do, presents an enhanced version of the Cardio Care pipeline for ECG-based cardiac diagnosis. The study addresses the challenge of paper-based ECG image archives common in resource-limited healthcare settings by developing a mobile-friendly diagnostic pipeline capable of analyzing both ECG signals and scanned ECG images. Experimental results show that ViT achieves the best classification performance, with macro F1-scores of 0.99 and 0.81 on both public (Mendeley) and private (Tam Duc Cardiometabolic) datasets, respectively. Furthermore, the integration of Grad-CAM-based visualization

enhances interpretability, demonstrating strong potential for scalable and cost-effective cardiac screening in underserved healthcare environments.

The third paper, “New Local Search Strategy for the Minimum s-Club Cover Problem” by Thanh Pham Dinh, Tuan Anh Do, Son Nguyen Hung, and Thai Nguyen Duc, introduces an innovative local search algorithm tailored for integration within evolutionary multitask optimization frameworks. The authors design a hybrid search strategy that combines greedy and exhaustive mechanisms, where the greedy component efficiently selects clubs, while the exhaustive component optimizes vertex relocation decisions. Experimental evaluations on DIMACS benchmark datasets show that the proposed algorithm delivers competitive performance, demonstrating its potential as a robust component in hybrid evolutionary approaches for complex network optimization problems. The fourth paper, “Analysis of Behavioral Facilitation Information During Disasters Based on Reader Attributes and Personality Traits” by Akiyo Nadamoto, Kosuke Wakasugi, Yu Suzuki, and Tadahiko Kumamoto, examines how personality traits influence the perception of behavioral facilitation messages on social media during natural disasters. Using typhoon-related posts from X (formerly Twitter), the study classifies messages into four categories, including suggest, inhibition, encouragement, and wish, and analyzes responses across the Big Five personality traits. Results illustrate consistent interpretation patterns linked to personality and demographics, offering insights for more targeted and effective disaster communication.

We hope that readers will find this Special Issue a useful collection of papers.

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