Guest Editorial Preface
Information and Communication Technology

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 to identify future challenges in computer science. The best papers from SoICT 2015, SoICT 2016, SoICT 2017, and SoICT 2019 have been extended and published in the Special issues "SoICT 2015", "SoICT 2016", "SoICT 2017", and "SoICT 2019" of the Informatica Journal, Vol.40, No.2 (2016), Vol. 41, No. 2 (2017), Vol. 42, No. 3 (2018), and Vol. 44, No 2 (2020), respectively.

In 2022, SoICT was held in the scenic Ha Long Bay, Vietnam, from December 1–3. The symposium covered four major areas of research including Artificial Intelligence and Big Data, Information Networks and Communication Systems, Human-Computer Interaction, and Software Engineering and Applied Computing.

Among 102 submissions from 14 countries, 42 papers were accepted for oral presentation at SoICT 2022 and 20 papers for posters. Among them, the following six papers were carefully selected, after further extension and additional reviews, for inclusion in this special issue.

The first paper, "Lightweight Multi-Objective and Many-Objective Problem Formulations for Evolutionary Neural Architecture Search with the Training-Free Performance Metric Synaptic Flow" by An Vo, Tan Ngoc Pham, Van Bich Nguyen and Ngoc Hoang Luong employed a widely-used multi-objective evolutionary algorithm, i.e., the non-dominated sorting genetic algorithm II (NSGA-II), to approximate the optimal Pareto-optimal fronts for Neural Architecture Search problem formulations. Experimental results on the NAS benchmark NATS-Bench show the advantages and disadvantages of each formulation.

The second paper, "An Automatic Labeling Method for Subword-Phrase Recognition in Effective Text Classification" by Yusuke Kimura, Takahiro Komamizu, and Kenji Hatano, proposed new technique to add subword-phrase recognition as an auxiliary task and utilizing it for text classification.

The third paper, "Motion Embedded Images: An Approach to Capture Spatial and Temporal Features for Action Recognition", by Tri Le, Nham Huynh-Duc, Chung Thai Nguyen and Minh-Triet Tran, investigated the use of motion-embedded images in a variant of two-stream Convolutional Neural Network architecture, in which one stream captures motion using combined batches of frames, while another stream employs a normal image classification ConvNet to classify static appearance.

The fourth paper, "Complaints with Target Scope Identification on Social Media", by Kazuhiro Ito, Taichi Murayama, Shuntaro Yada, Shoko Wakamiya, and Eiji Aramaki, benchmark the annotated Japanese text dataset by machine learning baselines and obtain the best performance of 90.4 F1-score in detecting whether a text was a complaint or not, and a micro-F1 score of 72.2 in identifying the target scope label. This paper experimented on these models to demonstrate that identifying a target scope of complaints is useful for sociological analysis.

The fifth paper, "Khmer-Vietnamese Neural Machine Translation Improvement Using Data Augmentation Strategies", by Thai Nguyen Quoc and Huong Le Thanh, employs a pre-trained multilingual model and fine-tunes it by using a small bilingual dataset. The proposed approach is applied to the Khmer-Vietnamese machine translation.

The last paper, "A Hybrid Deep Learning Approach to Keyword Spotting in Vietnamese Stele Images", by Anna Scius-Bertrand, Marc Bui, and Andreas Fischer, presents a hybrid approach to spot keywords in stele images that combines data-driven deep learning with knowledge-based structural modeling and matching of Chu Nom characters.

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