

Managing Editor's Column

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Dear Readers,

At the end of this year, it gives me great pleasure to announce another regular issue of J.UCS. In this issue, various topical aspects of computer science are covered in 6 articles by 14 authors from 7 countries – Armenia, Chile, Germany, Poland, South Africa, United Kingdom, and Vietnam.

I would like to thank all the authors for their sound research and the editorial board and guest reviewers for the highly valuable review effort and suggestions for improvement. These contributions, together with the generous support of the KOALA initiative, maintain the quality of our journal. I am looking forward to continuing my work as Editor-in-Chief with the J.UCS community also in 2026.

In an ongoing effort to further strengthen our journal, I would like to expand the editorial board: If you are a tenured associate professor or above with a strong publication record, you are welcome to apply to join our editorial board. We are also interested in high-quality proposals for special issues on new topics and trends. Please consider yourself and encourage your colleagues to submit high-quality articles or special issue proposals to our journal. Finally, we are preparing to offer a J.UCS portal on ResearchGate as well as the Altmetric and Web of Science reviewer recognition service with beginning of the next year.

In the last regular issue in 2025, I am very pleased to introduce 6 accepted articles covering various aspects of computer science.

Nguyen Thi Hoang Phuong, Phan Minh Nhat, and Nguyen Van Hieu from Vietnam introduce in their study NirMACNet, a multi-scale convolutional neural network incorporating a residual mechanism to address the limitations of existing methods in predicting compositional attributes from raw near-infrared spectra across diverse materials. Experimental evaluations on milk and soil datasets demonstrate that NirMACNet significantly enhances feature extraction, eliminates the need for complex preprocessing, and outperforms state-of-the-art techniques in prediction accuracy.

Nadia van Niekerk, Brink van der Merwe, and Louwrens Labuschagne from South Africa introduce in their work a mining software repositories approach to unravel insights from the expansive landscape of zero-knowledge proofs development. Through a metrics-driven analysis, the authors unveil patterns in tool popularity, development trends, and historical perspectives, offering a comprehensive understanding of the ZKP tooling ecosystem.

In a collaboration between researchers from Germany and Armenia, Wolfram Luther and Ashot Harutyunyan present in their article an extensive literature review on the importance of fairness and absence of bias in society, science, the world of work and leisure, with a focus on healthcare and risk prediction tools. Based on this findings,

relevant approaches to a general definition of algorithmic fairness for individuals and groups are presented, assessed from the perspective of the concerned sciences, and requirements for the decision-making processes are formulated.

Alexandru Pinteau from UK researches in his article how sensor data can be used by robust AI models to accurately estimate the number of people present in a room while considering real-time monitoring as a primary use case. The study explores sensor positioning and model hyperparameters for numerous models in order to optimize the robustness and performance of inhabitation monitoring systems.

Przemyslaw Jatkiewicz from Poland proposes in his work to integrate artificial intelligence techniques - specifically machine learning, neural networks, and user behaviour analysis - to enhance corporate data protection through real-time anomaly detection and adaptive authentication. The research demonstrates that AI-based access control systems significantly improve security by enabling dynamic threat detection and prediction, and provides practical recommendations for implementing machine learning-based anomaly detection systems in combination with traditional authentication methods, while ensuring data protection through techniques such as anonymisation, encryption, and federated learning.

Claudio Gutiérrez-Soto, Marco A. Palomino, Patricio Galdames, and Cristian Duran-Faundez from Chile address in their study the challenge of identifying determinants of academic success in higher education by integrating descriptive student profiling with Bayesian predictive modelling. Using enriched datasets from the University of Bio-Bio, the approach achieves over 97% accuracy, advancing learning analytics through reliable forecasting.

Season greetings to all of you, relaxing holidays and 'Enjoy Reading'!

Best regards,



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