Editorial

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Biographical notes: Zheng Xu is currently a Professor at Shanghai Polytechnic University, China. He has authored or co-authored more than 200 publications. He is with over 4300 citations (H-index 32). He is the Editor-in-Chief of *Cyber-Physical Systems*, and *International Journal of Information Technology, Communications and Convergence*. His paper entitled 'Ensemble-based multi-filter feature selection method for DDoS detection in cloud computing' obtained EURASIP Best Paper Awards 2019.

Vijayan Sugumaran is currently a Distinguished Professor of Management Information Systems and the Chair of the Department of Decision and Information Sciences, Oakland University, Rochester, MI, USA. He is also the Center for Data Science and Big Data Analytics Co-Director of Oakland University. He is the Editor-in-Chief of *International Journal of Intelligent Information Technologies*.

Octavio Loyola-González received his PhD in Computer Science at the National Institute for Astrophysics, Optics, and Electronics, Mexico, in 2017. Currently, he is an AI Executive Consulting Manager at NTT Data and responsible for overseeing the operations and activities of data scientists. He is actively involved in publishing scientific papers and books in reputable journals to promote advancements in AI research.

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1 Introduction

With the rapid development of modern science and technology, the performance requirements for key components of high-end equipment are becoming higher and higher. That puts forward higher requirements for the processing and materials of products. Contemporary research includes work on modern metallic and non-metallic materials in the context of innovative applications. To improve machining properties and achieve satisfactory exploitation properties, it is important to determine the possibility of modifying chemical composition. Research focuses on microstructure analysis, strength assessment, wear resistance, and resistance to external influences, among others. Researchers face a number of challenges in targeting innovative solutions for specific applications. This issue includes four papers as part 1.

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