

Editorial

The Special Issue on *Innovation in Computing, Engineering Science & Technology 2025–26* in the *Advances in Science, Technology and Engineering Systems Journal (ASTES Journal)* reflects a period of accelerated transformation in which technological innovation is reshaping the foundations of research, industry, and society. As computing capabilities expand and engineering methodologies evolve, the integration of intelligent systems, advanced analytics, and emerging technologies is enabling solutions that were once considered unattainable. This issue captures the spirit of that progress by presenting a collection of contributions that highlight novel ideas, experimental advancements, and practical implementations across a broad spectrum of scientific and engineering domains.

A defining aspect of this Special Issue is the central role of innovation as both a driver and an outcome of interdisciplinary research. The featured studies demonstrate how advances in artificial intelligence, machine learning, cloud and edge computing, and data-driven engineering are transforming conventional approaches to problem-solving. Researchers have explored new computational models, optimization techniques, and system architectures that enhance performance, scalability, and adaptability. These innovations are not confined to theoretical constructs; rather, they are applied to real-world challenges such as smart infrastructure, healthcare technologies, sustainable energy systems, and industrial automation, illustrating the tangible impact of cutting-edge research.

The engineering dimension of this issue emphasizes the transition toward smarter, more efficient, and resilient systems. Contributions highlight breakthroughs in materials science, structural design, and system integration, often supported by advanced computational tools that enable precise modeling and simulation. The convergence of digital technologies with traditional engineering practices is particularly evident in areas such as cyber-physical systems, Internet of Things (IoT) applications, and intelligent manufacturing. These developments signal a shift toward highly interconnected environments where data flows seamlessly between components, enabling real-time decision-making and enhanced system performance.

Equally important is the growing focus on sustainability and responsible innovation. As global challenges such as climate change, resource scarcity, and urbanization intensify, the need for environmentally conscious and socially responsible solutions becomes paramount. The research presented in this issue reflects this priority by incorporating energy-efficient designs, sustainable materials, and eco-friendly technologies. At the same time, authors engage with critical considerations related to ethics, data security, and privacy, ensuring that technological advancements are aligned with broader societal values and expectations.

Another notable feature of this Special Issue is the strong emphasis on collaboration and knowledge integration. The complexity of contemporary challenges necessitates contributions from diverse disciplines, and this issue showcases how collaborative efforts between computing experts, engineers, and scientists can lead to more comprehensive and impactful outcomes. By bridging theoretical insights with practical applications, these contributions foster innovation that is both rigorous and relevant. The involvement of academic institutions, industry stakeholders, and research organizations further strengthens the connection between research and real-world implementation.

From an editorial perspective, this Special Issue underscores the journal's commitment to promoting high-quality research that advances the frontiers of computing, engineering science, and technology. It serves as a platform for disseminating innovative ideas that not only expand academic knowledge but also contribute to technological progress and societal development. The breadth and depth of the contributions reflect the dynamic nature of the field and the continuous evolution of interdisciplinary research.

The collection ultimately illustrates that innovation is an ongoing and collaborative endeavor, shaped by the interplay of ideas, technologies, and societal needs. By bringing together diverse perspectives and forward-looking research, this Special Issue contributes to a deeper understanding of how computing and engineering innovations can be harnessed to create more intelligent, sustainable, and resilient systems for the future.

Guest Editor

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