Special Issue

Advances in Artificial Intelligence and Emerging Machine Learning Applications

Message from the Guest Editors

This Issue focuses on novel algorithmic development, deep learning architectures, transformer and diffusion models and their cross-disciplinary applications, particularly in domains such as computer vision, medical imaging, cybersecurity, and autonomous systems, emphasizing:

Deep learning frameworks; generative models and selfsupervised learning; interdisciplinary applications in healthcare, remote sensing, IoT, smart cities, and bioinformatics;hybrid models integrating traditional ML with domain-specific knowledge; emerging areas such as explainable AI (XAI), responsible AI, and federated learning

While numerous publications address AI and ML separately or in specific fields, we uniquely integrates theoretical advances with application-driven insights. It bridges the gap between core algorithmic innovation and deployment in high-impact domains. By featuring interdisciplinary research and cross-domain experimentation, it aims to

highlight synergies between diverse Al techniques; offer comparative evaluations and benchmarks; address limitations of existing models through practical use case, propose new directions for responsible and interpretable Al.

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Message from the Editor-in-Chief

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