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About the Journal

The *Journal of Emerging Applied Sciences, Engineering, and Technology (JEASET)* is an interdisciplinary, peer-reviewed scholarly journal that publishes original research articles, review papers, and technical contributions in applied sciences, engineering, and emerging technologies. The journal aims to disseminate high-quality research that bridges theoretical advances and real-world applications, addressing contemporary scientific, technological, and societal challenges.

Primary Journal Information

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Scope of the Journal

JEASET covers a broad spectrum of disciplines, including but not limited to:

- Emerging trends in mechanical, civil, electrical, electronics, and computer engineering
- Applied research in physics, chemistry, biology, and environmental sciences
- Artificial intelligence, machine learning, deep learning, blockchain, robotics, nanotechnology, and IoT

- Sustainable engineering solutions addressing climate change, energy efficiency, and resource management
- Cybersecurity, digital transformation, and secure computing systems
- Data science and AI applications in healthcare, finance, manufacturing, and smart cities
- Health technology innovations including biomedical engineering, telemedicine, bioinformatics, and medical devices

Vision

To be a globally recognized platform that integrates applied sciences, engineering innovation, and technological advancement to foster sustainable development through interdisciplinary research.

Mission

JEASET aims to:

- Promote the application of emerging technologies to solve real-world problems
- Encourage interdisciplinary and industry-oriented research
- Support innovations that contribute to sustainable development and societal well-being
- Facilitate collaboration among academia, industry, and government

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Editorial Team

Editor-in-Chief

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Editorial Board Members

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EDITORIAL NOTE

It is with great pleasure that we present the latest issue of the *Journal of Emerging Applied Sciences, Engineering and Technology (JEASET)*. This volume continues our objective of serving as a bridge between theoretical foundations and real-world advances in emerging engineering and applied science domains.

The current technological landscape is undergoing a rapid transformation, driven by artificial intelligence, machine learning, edge computing, digital twins, smart manufacturing, and cyber-physical systems. These developments are not merely enhancements to existing processes—they represent a paradigm shift in how society interacts with technology. Academic research is now expected not only to generate new knowledge, but also to provide practical validation and scalable solutions that can be adopted by industry. JEASET has been founded on this philosophy: to encourage research that is scientifically sound, ethically responsible, and industrially relevant.

This issue features a collection of articles that reflect both depth and diversity in research contributions across engineering disciplines. Each paper included in this issue has undergone a structured peer review process, involving independent subject experts to ensure academic integrity and technical quality. Manuscripts were evaluated on novelty, clarity of methodology, reproducibility of results, ethical compliance, and alignment with journal scope. We sincerely thank our reviewers for their commitment, constructive feedback, and timely responses, which helped refine and improve the submitted manuscripts.

The first article in this issue introduces an intelligent IoT-driven predictive analytics framework for smart manufacturing. This research emphasizes how sensor data, machine-level telemetry, and lightweight analytics can be used to anticipate failures, optimize resources, and improve accuracy in production environments. In the context of Industry 5.0, this type of research highlights the importance of integrating human expertise with autonomous technologies to achieve sustainability and resilience in manufacturing systems.

The second article explores the potential of deep learning–enhanced digital twin models. By synchronizing physical industrial assets with high-fidelity virtual replicas, digital twins offer unprecedented insight into system behaviour. The authors demonstrate how machine learning improves system forecasting, anomaly detection, and asset health monitoring. As global industries undergo digital transformation, digital twin technology has become a cornerstone for next-generation smart factories, intelligent automotive platforms, and automated robotics.

The third contribution focuses on federated machine learning for privacy-preserving industrial applications. With data originating from distributed nodes—machines, companies, manufacturing units—traditional centralized AI approaches often raise privacy and compliance issues. The authors present solutions that train AI models collaboratively without sharing sensitive raw data. This research is especially relevant for supply chain collaborations, cross-company benchmarking, and sensitive industrial environments, where proprietary data cannot be exposed.

Subsequent articles explore innovative approaches to intelligent analytics, advanced machine-learning techniques for condition monitoring, and fault detection in robotic systems. These works collectively demonstrate how computational intelligence can be integrated into industrial systems to reduce downtime, improve operational reliability, and support strategic decision-making. We believe that the interdisciplinary nature of these contributions is a key factor in shaping the future of applied science and engineering.

As an emerging journal, we are continuously improving our editorial processes, publishing standards, and ethical guidelines to align with international norms. We encourage authors to adhere to transparency, reproducibility, responsible citation practices, and respect for intellectual property. We remain committed to providing an open and credible platform for researchers, educators, practitioners, and innovators to disseminate their work.

On behalf of the editorial team, I extend our sincere gratitude to all authors, reviewers, and readers for their continued support. We invite prospective contributors from academia and industry to submit their research and join us in shaping the future of applied sciences and engineering.

We hope you find this issue insightful, thought-provoking, and valuable to your ongoing research and professional activities.

Dr.Lordwin Cecil Prabhaker

Editor-in-Chief

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Index