

## Al for Engineering



# Message from the Editor-in-Chief

Welcome to AI for Engineering, a pioneering international journal dedicated to the convergence of artificial intelligence and engineering disciplines. We bridge the critical gap between rapid AI advancements and practical engineering applications across civil, mechanical, electrical, and chemical fields. Our platform champions innovative research in intelligent design, manufacturing, optimization, and system control, while also prioritizing crucial discussions on ethics, trustworthiness, and sustainable development. Committed to academic rigor and innovative research, we provide a dynamic forum for groundbreaking work that transforms engineering into a precision-driven, efficiency-focused, intelligence-empowered discipline.

Editor-in-Chief Prof. Dr. Yike Guo

#### **Aims**

Al for Engineering (ISSN 3042-8831) is an international, open access journal on the application of artificial intelligence (AI) across all branches of engineering. The journal welcomes original research articles, review articles, and short communications.

Our aim is to encourage scientists to publish research on the theoretical foundations, methodologies, and practical implementations of AI techniques in engineering design, analysis, manufacturing, control, and operation. There is no restriction on the maximum length of the papers. Full methodological details should be provided to facilitate replication studies. Software and associated electronic files can be deposited as supplementary materials.

#### Scope

Specific areas of interest include, but are not limited to:

- Al-driven design and optimization, including generative design, topology optimization, multi-objective optimization, and design space exploration using Al techniques.
- Al for manufacturing and automation, focusing on robotics, process automation, predictive maintenance, quality control, and supply chain optimization.
- Al in control systems, addressing model predictive control, reinforcement learning for control, fault detection and diagnosis, and autonomous systems.
- Software and systems engineering, including the construction and validation of AI-based software, intelligent programming environments, and hardware architectures.
- Al for civil, mechanical, electrical, chemical, and other engineering disciplines, highlighting specific applications and challenges within each domain.
- Ethical considerations and societal impacts of AI in engineering, encouraging discussions on responsible AI development, bias mitigation, and the societal implications of AI-driven engineering solutions.
- Explainable AI (XAI) in engineering applications, focusing on methods for improving transparency and interpretability of AI models used in engineering contexts.

#### **Author Benefits**

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