Special Issue

Application of Machine Learning in Power Electronics

Message from the Guest Editors

The objective of this Special Issue, "Application of Machine Learning in Power Electronics", is to investigate the integration of modern machine learning (ML) methods in the area of power electronics. Machine learning offers effective methods to analyze the complex, non-linear, and dynamic behaviors that are characteristic in power electronic systems. This issue encourages papers that focus on the efficient use of machine learning techniques to improve the design, functioning, and reliability of power electronics applications, such renewable energy systems, electric vehicles, smart grids, power converters, and motor drives. Submissions demonstrating novel methods, modeling, or real applications in industries are especially appreciated. Topics of interest:

- Design and optimization
- Control strategies
- Fault detection and diagnosis
- Energy management
- Predictive maintenance⊠
- Advanced ML techniques⊠
- Simulation and modeling
- Case studies and applications.

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About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).

