Special Issue

Recent Applications of Machine Learning in Quantum Networks

Message from the Guest Editors

The convergence of machine learning and the computational capabilities of quantum computing is attracting increasing interest as a novel methodology that leverages principles borrowed from quantum mechanics to provide a robust speedup to current AI approaches, reduce the amount of data necessary for training, overcome the computational constraints of current AI approaches and open new possibilities both for generative AI and general optimization tasks. Quantum machine learning (QML) has shown enormous potential, raising the performance bar in algorithm optimization and computational cost in a wide variety of tasks. QML approaches range from Quantum Support Vector Machines (QVMs), Quantum Variational Circuits (QVC), and Quantum Neural Networks (QNNs). Such approaches and recent advances in quantum machine learning, both from a theoretical and application perspective, are the focus of this Special Issue. It will provide up-to-date findings in theories, approaches, and experiments for a broad range of readers.

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Deadline for manuscript submissions

15 November 2025

Electronics

an Open Access Journal by MDPI

Impact Factor 2.6
CiteScore 6.1

mdpi.com/si/211553

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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 guest-edited by leading experts in selected topics of interest.

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