Special Issue

Artificial Intelligence in Quantum Computing and Quantum Information

Message from the Guest Editors

- Recent advances in quantum computing have opened new opportunities for integrating artificial intelligence (AI) techniques with quantum information processing. Beyond early demonstrations of quantum speedups, there is growing recognition that AI can play a fundamental role in the design, optimization, control and interpretation of quantum systems, while quantum computing offers new computational paradigms for learning and decision-making. This Special Issue focuses on Artificial Intelligence in Quantum Computing and Quantum Information, spanning both fundamental methodologies and real-world applications.
- We invite contributions that address theoretical foundations, algorithmic innovations and practical implementations of Quantum AI, including quantum machine learning, quantum reinforcement learning, variational quantum algorithms, hybrid classical–quantum architectures, symmetry in quantum neural architecture and learning-based quantum control. Particular emphasis is placed on AI-assisted quantum system design, architecture search, noise mitigation and adaptive experiment optimization...

Guest Editors

Dr. Samuel Yen-Chi Chen
Wells Fargo Bank, New York, NY, USA
Dr. Yun-Cheng Tsai
Department of Technology Application and Human Resource Development, National Taiwan Normal University, Taipei, Taiwan

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Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

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