Special Issue

Quantum Algorithms and Quantum Machine Learning

Message from the Guest Editor

This Special Issue focuses on recent theoretical and practical developments in quantum algorithms, quantum complexity, and quantum machine learning. It aims to provide a forum for high-quality contributions addressing algorithmic design, complexity analysis, and implementation-oriented optimization techniques. Topics of interest include, but are not limited to, quantum algorithmic frameworks, quantum learning models, quantum circuit optimization and design automation, quantum finite automata, and complexity-theoretic aspects of quantum computation. Particular attention is also given to resource-efficient methods suitable for NISQ-era devices, as well as rigorous analyses that deepen our understanding of quantum advantage. By bringing together researchers from quantum computing, theoretical computer science, and machine learning, this Special Issue seeks to highlight emerging trends, identify open challenges, and stimulate cross-disciplinary collaboration. We welcome original research articles, reviews, and perspectives that advance the foundations and applications of quantum algorithms and quantum machine learning.

Guest Editor

Dr. Shenggen Zheng
Quantum Science Center of Guangdong-Hong Kong-Macao Greater Bay Area, Shenzhen, China

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

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Editor-in-Chief

Prof. Dr. Kevin H. Knuth
Department of Physics, University at Albany, 1400 Washington Avenue, Albany, NY 12222, USA

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