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Applications of Quantum Computing in Artificial Intelligence

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Message from the Guest Editor

Today's computational requirement for solving complex problems involves giant data sets and massive and sophisticated learning structures that commonly use neurons, fuzzy logic, and optimization algorithms. Machine learning is a field of artificial intelligence with many computationally intractable complex problems. The emerging field of quantum machine learning (QML) integrates quantum computing, aiming to provide in the future an exponential speed-up with respect to classical machine learning methods. Different quantum research trends exist in algorithms of interest in the QML field and other closely related fields. This Special Issue aims to publish novel theoretical and practical proposals for QML, quantum learning theory, quantum deep learning, quantum convolutional neural networks, quantum transfer learning, quantum optimization algorithms, and any other techniques that combine quantum computing with learning algorithms.

Keywords

- quantum machine learning
- quantum intelligent systems
- quantum learning systems
- quantum deep learning
- quantum transfer learning
- quanvolutional neural networks

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Message from the Editor-in-Chief

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