

2nd International Workshop on Machine Learning and Quantum Computing Applications in Medicine and Physics



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Quantum Computing Hardware with QGates

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In this workshop, a modular hardware will be presented that enables an introduction to the basic algorithms of quantum computing such as the Shor algorithm (factorization of 15 and 21), the Grover algorithm, the quantum K-means algorithm, etc. The low-cost hardware is based on microcontrollers and enables exact quantum simulations of quantum circuits with up to 8 qubits with so-called “QGates”. The modular design consisting of several identical boards enables the complexity to be cascaded and thus a didactic introduction to the complexity and challenges of the upcoming quantum computers.

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