Contribution ID: **8** Type: **Parallel talk**

Full-stack quantum machine learning on hybrid quantum-classical platforms

We discuss about applications of hybrid quantum-classical computing and present Qiboml, an open-source software library for Quantum Machine Learning (QML) integrated with the Qibo quantum computing framework. Qiboml interfaces most used classical Machine Learning frameworks such as TensorFlow, PyTorch and Jax with Qibo. This combination enables users to construct quantum or hybrid classical-quantum models that can be executed on any type of hardware accelerators: multi-threading CPU, GPU and multi-GPU for quantum simulation on classical hardware (using state-vector and tensor network approaches) and Quantum Processing Units (QPU) for execution on self-hosted quantum devices. We present a High-Energy Physics application executed on a superconducting single-qubit device through Qiboml.

AI keywords

quantum-machine-learning, hybrid-computing

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