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Quantum Machine Learning for Event Classification and Event Simulation in Nuclear Physics, High-Energy Physics and Gravitational Wave experiments

Friday, July 1, 2022 11:30 AM (20 minutes)

In this project we plan to address the opportunities offered by Quantum Machine Learning for event classification and event simulation at nuclear physics, high-energy physics and gravitational wave experiments. We draw on already developed work in the area of jet-tagging in events from the LHCb experiment and develop further more advanced algorithms, evaluating the cost-benefit tradeoff of a larger number of qbits and comparing results of the quantum algorithms with the state-of-the-art offered by well-established classical algorithms.

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