

Theory-driven Quantum Machine Learning for HEP

Tuesday, 14 November 2023 14:00 (1 hour)

Machine Learning is, in most cases, powerful but a black-box application. In this talk, we will tackle this very problem from a quantum mechanics point of view, arguing that an optimisation problem, such as classification or anomaly detection, can be studied by “rephrasing” the problem as a quantum many-body system or a mixed state. Such an approach allows us to employ the entire arsenal of quantum theory for data analysis techniques. Hence, this talk will present a small step towards fully theory-driven and interpretable quantum machine learning applications.

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Session Classification: Quantum Computing