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Perspectives on the current status of and future prospects for ML in lattice QFT

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The lattice community, and more widely the physics community, has a long track record of using and even building advanced Statistical & Machine Learning tools (e.g. HMC). On the other hand, the Machine Learning, and specifically the Deep Learning, community has itself been seeking inspiration from Physics. Geometry and symmetries are inspiring many ML papers and research directions. Those ideas are often designed for applications to images, sounds or 3D data. As such, they are not usually readily applicable to Lattice QFT and need to be adapted.

In this talk, I wish to show examples of such successful interactions, with a particular emphasis on Lattice. I will highlight both difficulties and opportunities that arise from such interactions.

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