

HEP NN training

Monday, 12 October 2020 10:30 (2 hours)

This session will introduce aspects of unsupervised (and weakly supervised) learning methods and demonstrate these concepts using concrete problems from particle physics. The availability of high-quality synthetic data from Monte Carlo (MC) simulation is a key ingredient for the success of particle physics. However, the production and storage of these MC simulations occupies a large fraction of computing resources of big experimental collaborations. We will introduce generative machine learning models such as generative adversarial networks (GANs) and autoencoders which promise a way to greatly speed-up simulation. Furthermore, we will explore the idea of unsupervised searches for anomalies as a novel way of data quality monitoring and potential discovery.

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Session Classification: Parallel Session ML/AI