

A Normalized Autoencoder for LHC triggers

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The main goal for the upcoming LHC runs is still to discover BSM physics. It will require analyses able to probe regions not linked to specific models but generally identified as beyond the Standard Model. Autoencoders are the typical choice for fast anomaly detection models. However, they have shown to misidentify anomalies of low complexity signals over background events. I will present an energy-based Autoencoder called Normalized AE, a density-based high-performance anomaly search algorithm. I will discuss how NAE is able to symmetrically tag QCD and top jets and I will discuss the possibility of implementing NAEs on FPGAs for the LHC L1 trigger.

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