

# Using Graph autoencoders to trigger on new physics at the LHC

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We investigate the potential of graph neural networks in unsupervised search for new physics signatures in the extremely challenging environment at the L1 at the Large Hadron Collider (LHC). On a dataset mimicking the hardware-level trigger input, we demonstrate that graph autoencoders can significantly enhance new physics contributions. Moreover, we implement the graph autoencoder on FPGA to check if the strict constraints from the L1 are satisfied.

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