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Nanosecond ML for calorimeter segmentation

Effective pile-up suppression, particle ID and clustering are essential for maximising the physics performance of the Phase-II Global trigger of the ATLAS experiment. To address this, we train both convolutional and DeepSets neural networks to exploit cluster topologies to accurately predict calorimeter cell labels, and benchmark performance against existing approaches. We optimise the networks for firmware deployment and obtain resource and timing estimates.

Focus areas

HEP

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