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Jet Identification in L1 Trigger at HL-LHC based on DNN implemented on FPGA

We investigate the possibility of using Deep Learning algorithms for jet identification in the L1 trigger at HL-LHC. We perform a survey of architectures (MLP, CNN, Graph Networks) and benchmark their performance and resource consumption on FPGAs using a QKeras+hls4ml compression-aware training procedure. We use the HLS4ML jet dataset to compare the results obtained in this study to previous literature on Fast Machine Learning applications on FPGAs.

Significance

References

Speaker time zone

Compatible with Europe

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Session Classification: Posters: Apple

Track Classification: Track 2: Data Analysis - Algorithms and Tools