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Deep learning in ATLAS ttH(H->bb) analysis

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The associated ttH production was observed at the LHC in 2018, mostly driven by the multilepton and gammagamma final states. The H->bb final state remains so far elusive. The latest results from ATLAS in this channel rely on boosted decision trees, used to assign jets to partons and to separate the ttH signal from the main ttbar+HF background. In this talk several new ways to tackle this challenging analysis are investigated, using RNN based on jet combinations, testing the performance with low-level variables rather than physics-motivated ones, and integrating physics knowledge into the learning procedure via parse trees.

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