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Statistics meets Machine Learning

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How to Unfold Top Decays

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Many physics analyses at the LHC rely on algorithms to remove detector effect, commonly known as unfolding. Whereas classical methods only work with binned, one-dimensional data, Machine Learning promises to overcome both problems. Using a generative unfolding pipeline, we show how it can be build into an existing LHC analysis, designed to measure the top mass. We discuss the model-dependence of our algorithm, i.e. the bias of our measurement towards the top mass used in simulation and propose a method to reliably achieve unbiased results.

Primary Field of Research

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