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Top tagging with deep neural networks [Vidyo]

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Recent literature on deep neural networks for top tagging has focussed on image based techniques or multivariate approaches using high level jet substructure variables. Here, we take a sequential approach to this task by using anordered sequence of energy deposits as training inputs. Unlike previous approaches, this strategy does not result in a loss of information during pixelization or the calculation of high level features. We also propose new preprocessing methods that do not alter key physical quantities such as jet mass. We compare the performance of this approach to standard tagging techniques and present results evaluating the robustness of the neural network to pileup.

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