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## Interaction networks for jet characterisation at the LHC

*Monday, 4 November 2019 11:30 (15 minutes)*

We study the use of interaction networks to perform tasks related to jet reconstruction. In particular, we consider jet tagging for generic boosted-jet topologies, tagging of large-momentum  $H \rightarrow b\bar{b}$  decays, and anomalous-jet detection. The achieved performance is compared to state-of-the-art deep learning approaches, based on Convolutional or Recurrent architectures. Unlike these approaches, Interaction Networks allow to reach state-of-the-art performance without making assumptions on the underlying data (e.g., detector geometry or resolution, particle ordering criterion, etc.). Given their flexibility, Interaction Networks provide an interesting possibility for deployment-friendly deep learning algorithms for the LHC experiments.

### Consider for promotion

Yes

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