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Looking into Jets with Machine Learning

Friday 17 January 2020 10:50 (20 minutes)

In this talk, we review how machine learning is changing the way we are thinking about jets. First, we present a simplified model to aid in machine learning research for jet physics, that captures the essential ingredients of parton shower generators in full physics simulations. We study how to unify generation and inference, where we aim to invert the generative model to estimate the clustering history (or posterior distribution on histories) conditioned on the observed particles. For this task, we introduce new algorithms (in the context of jet physics), together with visualizations, and metrics to compare them and probe the generative model.

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