ACAT 2019



Contribution ID: 420

Type: Oral

Reinforced Jet Grooming

Tuesday 12 March 2019 18:40 (20 minutes)

We introduce a novel implementation of a reinforcement learning algorithm which is adapted to the problem of jet grooming, a crucial component of jet physics at hadron colliders. We show that the grooming policies trained using a Deep Q-Network model outperform state-of-the-art tools used at the LHC such as Recursive Soft Drop, allowing for improved resolution of the mass of boosted objects. The algorithm learns how to optimally remove soft wide-angle radiation, allowing for a modular jet grooming tool that can be applied in a wide range of contexts.

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Session Classification: Track 2: Data Analysis - Algorithms and Tools

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