12th International Workshop on Boosted Object Phenomenology, Reconstruction and Searches in HEP (BOOST 2020 webinars)

Contribution ID: **26** Type: **Abstract for poster-session**

Explainable AI for ML jet taggers using expert variables and layerwise relevance propagation

Thursday 23 July 2020 17:00 (9 minutes)

A method is presented to extract salient information from a deep neural network classifier of jet substructure tagging techniques, using expert variables that augment the inputs, using layerwise relevance propagation. The results show that these eXpert AUGmented (XAUG) variables can be used to easily interpret the behavior of the classifier, and in some cases can capture the behavior of the classifier completely. This can be used both to understand the behavior of complicated classifiers, and also to utilize them to guide development of expert variables that can encapsulate the physics the classifier is learning.

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Session Classification: Session 6

Track Classification: Taggers and performance