

Self-Supervised Learning for Jet Tagging

Monday 10 July 2023 19:00 (2 hours)

Limited by the lack of truth labels on real data, fully supervised ML algorithms are constrained to training only with simulated samples. With self-supervised learning, we can leverage vast amounts of unlabeled real data to facilitate training. We investigate the application of VICReg, a contrastive learning model, on a classification task: discriminating signal jets (e.g. $H \rightarrow b\bar{b}$ jets) from background jets (e.g. QCD jets). We also explore the use of jet augmentations in contrastive learning.

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