

Efficient machine learning for model-independent tests

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The likelihood-ratio test can be used to perform a goodness-of-fit test between a reference model and observations if the alternative hypothesis is selected from data by exploring a rich parametrised family of functions. The New Physics Learning Machine (NPLM) methodology has been developed as a concrete realisation of this idea, to perform model-independent searches at collider experiments. In this presentation, I will focus on a recent implementation based on kernel methods, which is extremely efficient and highly flexible (arXiv:2204.02317). I will present studies on new physics searches, data quality monitoring, and recent results on the evaluation of generative models.

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Classifica Sessioni: Novel Techniques

Classificazione della track: Novel Techniques