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PHYSTAT

Statistics meets Machine Learning

IMPERIAL

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Interpolated Likelihoods for Fast Reinterpretations

We present a method to accelerate Effective Field Theory reinterpretations using interpolated likelihoods. By employing Radial Basis Functions for interpolation and Gaussian Processes to strategically select interpolation points, we show that we can reduce the computational burden while maintaining accuracy. We apply this in the context of the Combined Higgs Boson measurement at CMS, a complex statistical model with many thousands of parameters requiring large computing power to evaluate.

Primary Field of Research

Particle Physics

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