



Contribution ID: 25

Type: not specified

pyhf: pure-Python implementation of HistFactory with tensors and automatic differentiation

The HistFactory p.d.f. template [CERN-OPEN-2012-016] is per-se independent of its implementation in ROOT and it is useful to be able to run statistical analysis outside of the ROOT, RooFit, RooStats framework. pyhf is a pure-python implementation of that statistical model for multi-bin histogram-based analysis and its interval estimation is based on the asymptotic formulas of “Asymptotic formulae for likelihood-based tests of new physics” [arXiv:1007.1727]. pyhf supports modern computational graph libraries such as TensorFlow and PyTorch in order to make use of features such as autodifferentiation and GPU acceleration.

Primary authors: FEICKERT, Matthew (Univ. Illinois at Urbana Champaign (US)); Dr STARK, Giordon Holtsberg (University of California,Santa Cruz (US)); HEINRICH, Lukas Alexander (CERN)

Presenter: FEICKERT, Matthew (Univ. Illinois at Urbana Champaign (US))

Session Classification: Collider

Track Classification: Higgs and colliders