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Differentiable Programming in the Scikit-HEP Ecosystem

Monday 9 June 2025 16:00 (25 minutes)

Using tooling from the Scikit-HEP ecosystem we implement differentiable analysis pipelines for representative HEP analysis use cases and provide complimentary examples to the IRIS-HEP Analysis Grand Challenge. This presentation details the process and related development work and covers the example workflows that benefit from gradient-based optimization, compared to bespoke hand optimization, the challenges that were faced during the process, and the approaches used to address these challenges. We also provide context on future work in this area as well as provide recommendations for broader engagement of the field.

Authors: HELD, Alexander (University of Wisconsin Madison (US)); SANDESARA, Jay Ajitbhai (University of Wisconsin Madison (US)); GERLACH, Lino Oscar (Princeton University (US)); FACKELDEY, Manfred Peter (Princeton University (US)); FEICKERT, Matthew (University of Wisconsin Madison (US)); ALY, Mohamed (Princeton University (US))

Presenter: ALY, Mohamed (Princeton University (US))

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