

Pepper: a CMS columnar analysis framework

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This talk presents Pepper, a coffea-based, general purpose, CMS-endorsed analysis framework. Pepper is designed to run on the CMS NanoAOD dataset without intermediate ntuples, aiming to allow full analyses with fast time-to-insight. Its features include substantial book-keeping and histogram-filling capabilities, implementation of standard CMS objects, problematic file handling, resumption from saved states and scale-out via HTCondor. A broad range of analyses are supported, with support for techniques from data-driven background estimation to unfolding. In particular, the talk will focus on the main performance bottlenecks in real analysis scenarios (very commonly memory limits) and the examples of common user experiences, which will hopefully be informative for developer of other packages in the scikit-HEP ecosystem, on which Pepper relies.

Primary author: STAFFORD, Dominic (Deutsches Elektronen-Synchrotron (DE))

Co-authors: Dr JEPPE, Laurids (CERN); Mr BAATRUP, Mads (Deutsches Elektronen-Synchrotron (DE))

Presenter: STAFFORD, Dominic (Deutsches Elektronen-Synchrotron (DE))

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