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Fast and readable analysis with Bamboo

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ROOT's RDataFrame is a powerful tool to implement an analysis in a declarative way, reducing boilerplate and abstracting away technical details, but can be considered a low-level interface around which a complete analysis framework needs to be built.
Bamboo implements a high-level interface to RDataFrame that allows users to express the analysis logic in a concise functional style in terms of objects (collections of variables) and collections of objects.
This effectively represents an analysis description language embedded in python, with performance approaching that of dedicated native code thanks to the underlying RDataFrame and cling JIT compilation.
In addition, Bamboo provides many features needed for a complete analysis, such as the book-keeping of input samples, handling of systematic uncertainties, submission and monitoring of jobs on a batch cluster, etc., making it a complete turnkey analysis framework.
This talk presents the motivation behind Bamboo, an overview of its most useful features, and the plans for developments in the near future.

Summary

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