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RDataFrame: ROOT's Declarative Approach for Manipulation and Analysis of Datasets

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ROOT's Declarative Approach for Manipulation and Analysis of Datasets

ROOT proposed a modern, declarative approach to the treatment of columnar datasets, RDataFrame. Conceived initially as a way to implement functional chains, RDataFrame became a highly performant Swiss-Army knife for dataset manipulation and analysis.

This contribution discusses RDataFrame's minimal and modern interface from the programming model point of view and how it allowed to manage internally performance optimisations and parallelism. The blurring of compiled and jitted code aiming to a simplification of the programming model is discussed: a unique feature in the C++ landscape to our knowledge.

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