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Evolving ROOT’s Python Interfaces

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ROOT provides automatic and dynamic Python bindings that expose its powerful C++ core to the broader scientific Python ecosystem. As Python usage continues to grow across the HEP community, ROOT continues to evolve to offer a more intuitive, Pythonic experience while ensuring its interfaces interoperate smoothly with the rest of the ecosystem.

This contribution presents recent developments across ROOT’s Python interfaces, enabling more direct interaction with other Python packages, whether for analysis through the Unified Histogram Interface (UHI) or machine learning through RDataLoader. We also discuss underlying infrastructure upgrades supporting these interfaces, and the design considerations involved in extending and maintaining them.

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