



PURSUE 2024: Python for HEP

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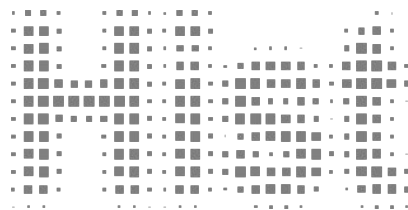




What is Scikit-HEP?

- It is a software ecosystem which offers tools for high-energy physics.
- Each package is designed to handle different aspects of the data analysis and computational tasks in HEP

uproot



Awkward
Array

VECTOR

*i*minuit



Goals

- Understand how to do a basic setup and workflow when using Python for HEP
- Gain familiarity with the Scikit-HEP ecosystem.
- Learn how to use these tools to work with HEP data formats, namely ROOT files
- Understand how to efficiently handle complex, nested data structures common in HEP
- Be able to utilize visualization tools to make your own histograms
- Learn the basics of array-oriented programming





Material

- This session will utilize the following material
 - [HSF Uproot Tutorial](#)
 - [HSF Scikit-HEP Tutorial](#)
 - [CoDaS-HEP: Columnar Analysis Tutorial](#)
- Links to the lecture notes can be found in the dedicated repo found [here](#)
- Structure:
 - Morning: Lecture and practice based dynamic
 - Afternoon: Lecture and practice based dynamic + analysis exercise



Let's get started!