



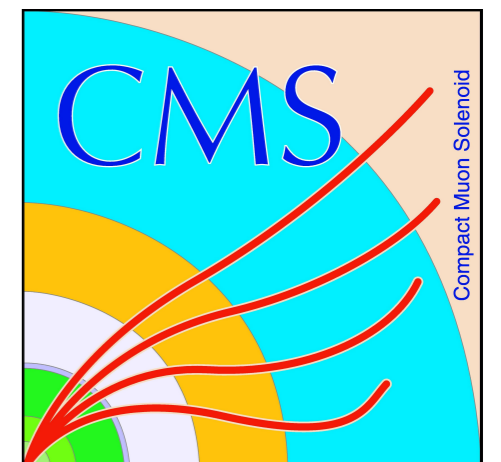
Intro

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PyHEP.dev

Hello

- PhD student at UC San Diego (w/ Javier Duarte), currently based at Fermilab
- CMS experiment
- Research interests:
 - Boosted di-Higgs and jets searches
 - Machine learning for simulations and jet classification
- Grateful to coffea, scikit-hep, IRIS-HEP for allowing me to not use ROOT for most of my PhD
- The only thing missing: combine!
 - Main interest at the workshop: can we in CMS switch over to modern tools?



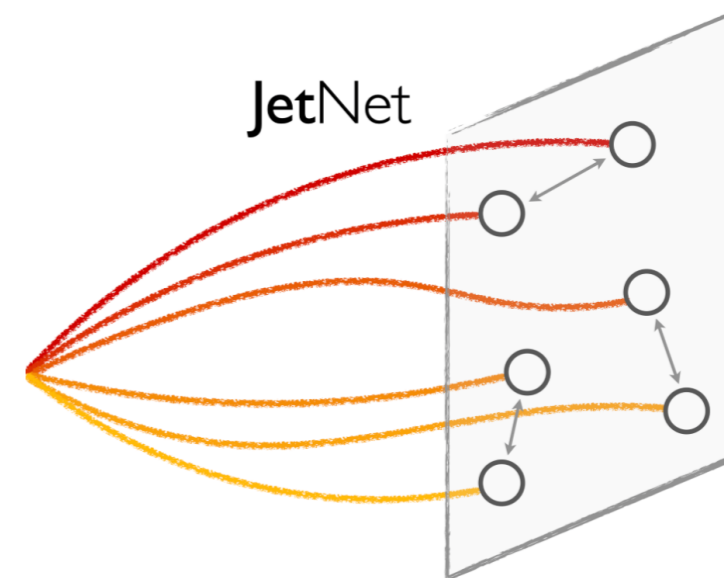
FastJet

- Co-maintainer
- Interface for C++ Fastjet library
 - Mostly written by Aryan, Jim, and Lindsey
- Potential points of discussion:
 - Refactoring with LayoutBuilder
 - Improving build
 - Incorporating more fastjet-contrib packages



JetNet

- Lead developer and maintainer
- Standard interface for HEP + ML datasets (currently only jets)
 - Previously datasets were scattered in different places and formats
- Standard implementations of HEP evaluation metrics, loss functions, ML utilities
- Growing number of very cool research using JetNet:
 - e.g. transformers for jets [1, 2], diffusion for jets [3, 4], Lorentz-equivariant networks [5]
- Points of discussion:
 - More datasets, lazy-loading
 - Integration with scikit-hep ecosystem



For developing and reproducing ML + HEP projects.