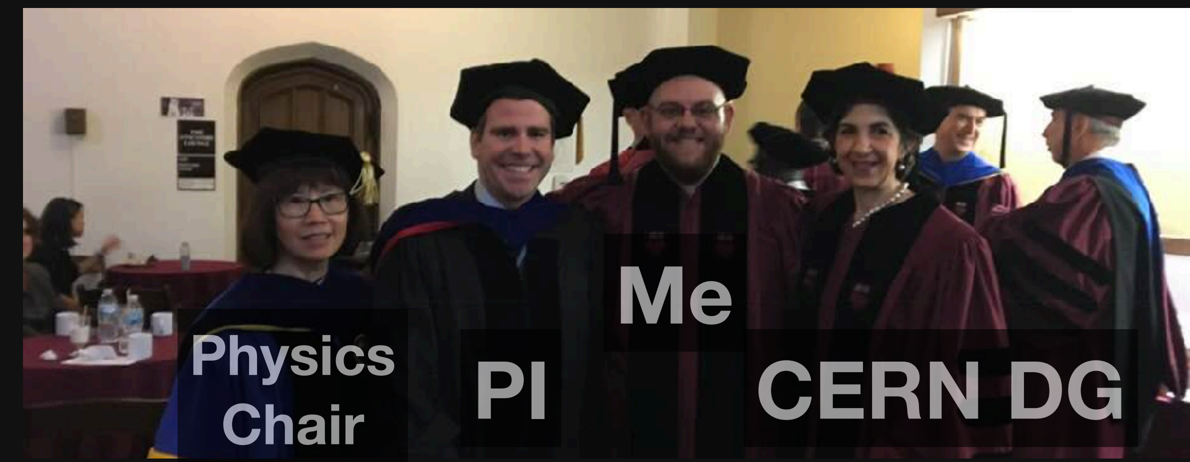
About Me



- B.S Caltech 2012 (LIGO)
  - Brownian Thermal Noise
- PhD UChicago 2018 (ATLAS)
  - Search for new (hadronic) physics and instrumentation upgrades (hardware filtering)
- Working on ATLAS since 2014 (10 years this December!)
- Currently project scientist at SCIPP, UC Santa Cruz since Aug 2024
  - Postdoc from Aug 2018- Jul 2024
  - Searches for new (electroweak) physics, large-scale physics analysis combinations, Standard Model measurements, software development, and instrumentation upgrades (gFEX, ITk)
- Lots of outreach/teaching/DEI experience (bootcamps, workshops, committees)

Project Scientist at SCIPP, UCSC

Things I do

- Involved with SciKit-HEP and HSF
  - pyhf core developer
  - “lightly” contributed to various other projects (uproot, cookie, coffea, etc)
  - Wrote the HSF GitLab Pipelines tutorial (inspired the GitHub variant)
- Within ATLAS, I’ve developed and/or maintained *many* projects including:
  - xAODAnaHelpers, AnaAlgorithms, Jet/MET substructure tools, ITk database interfacing (itkdb), ITk Module QC tooling (packages: mqt, mqat, mqdbt; libs: mqdt, labRemote, Audrey II; GUI: mqneg, website: localDB), EOS HTTP API, stare (Glance API interface), and probably a few more?
- Starting Oct 2024 (FY25), will be officially under USATLAS Analysis Support to support/stitch ATLAS AMG workflows for ATLAS derivations and columnar analysis packages
  - not a permanent position: primary goal is to be the one pushing our analysis teams away from their old legacy frameworks into modern (python) tooling that we have today!
- Interested in:
  - improving UX/UI for end-users (analyzers), developing better pedagogy for new students in HEP to support their learning
  - spreading the gosepl of columnar analysis, python-bindings to enable accessibility of C++ tooling, workflows, web development, and statistics
  - baking(!), biking, board-games, video games, science fiction, public transit (NUMTOT), and hiking

Projects I have

- HS3<->pyhf integration
  - jsonschema, refactoring parts of pyhf
- uproot support for memberwise (de)serialization
  - been working on this for just nearly 4 years now (HistFactory / RooWorkspaces are stored memberwise)
- "PyRooFit" (perhaps calling it "PyHS3")
  - similar to Jonas Rembser's standalone RooFit
- Next-generation systematics handling in coffea
- ATLAS Coffea Schema for centralized Ntuples
- Next-generation ATLAS Glance API interfacing
- Interactions between awkward, parquet, arrow, and HEP analysis (python-bindings, columnar analysis)
- Serializing all kinds of neural networks for analysis preservation
- Feynman diagrams database
- Find a permanent job

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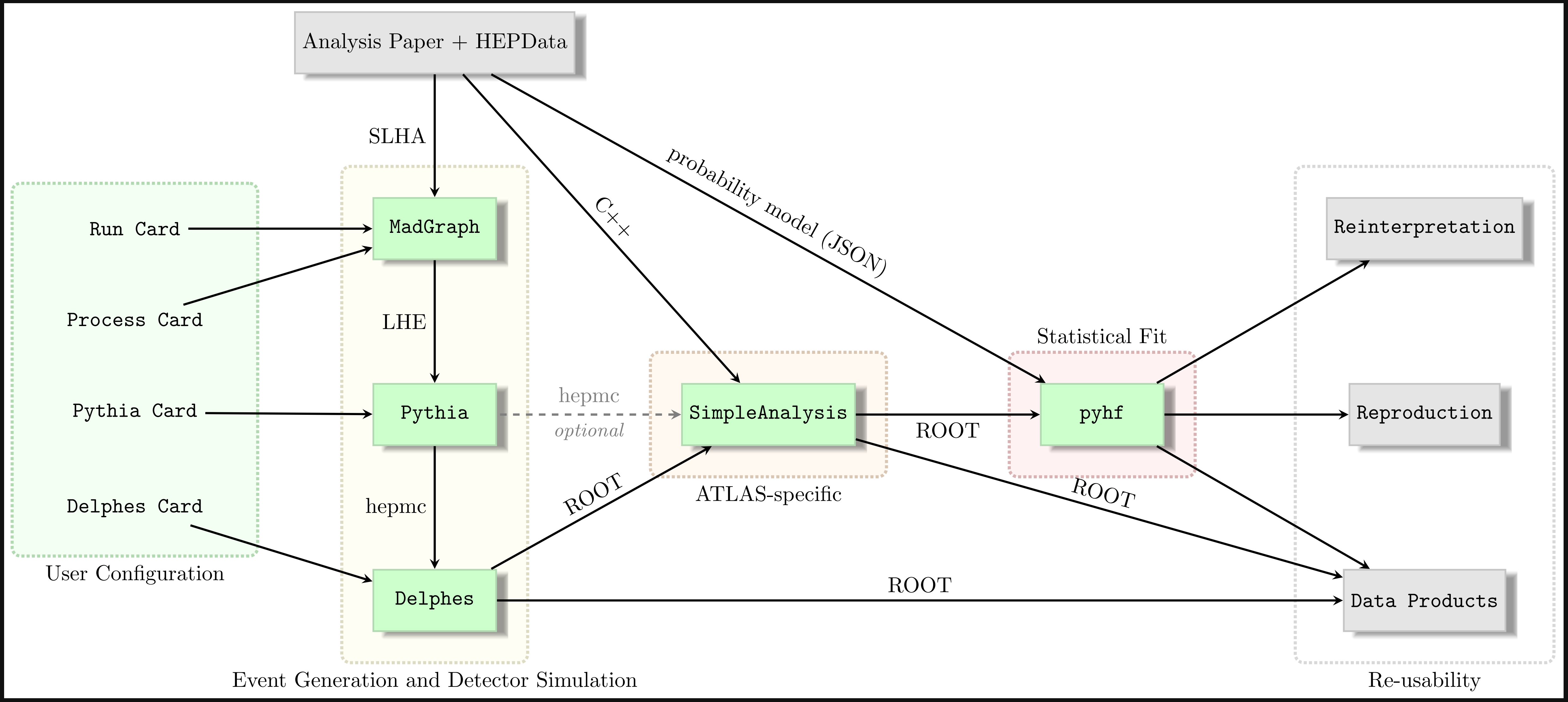

- https://www.youtube.com/watch?v=YtXvmopQdT0