LST data analysis hands-on

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Menu

The menu is adjustable to the tastes of the guests

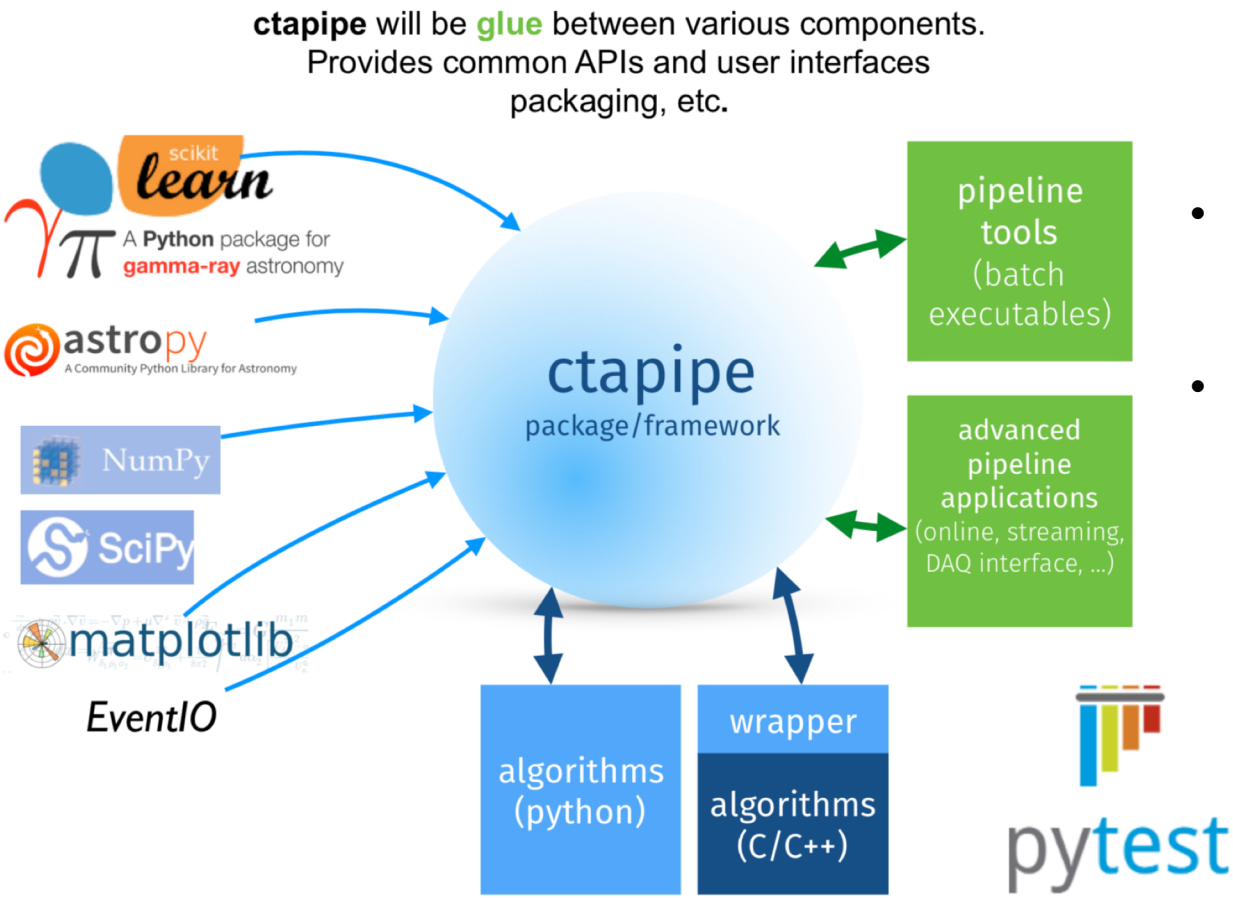
- Environnement setup
- Introduction to ctapipe
- Introduction to lstchain and mono analysis
- Pipeline overview
  - Training a model
  - Reconstructing data
  - Making IRF
- Remote data analysis, a demo
- Introduction to hipeCTA
- Introduction to GammaLearn

Install conda
https://www.anaconda.com/distribution

```
git clone https://github.com/cta-observatory/cta-lstchain.git
cd cta-lstchain
conda env create --name cta-dev --file environment.yml
conda activate cta-dev
pip install https://github.com/cta-observatory/ctapipe/archive/master.tar.gz
pip install https://github.com/cta-sst-1m/protozfitsreader/archive/v1.4.2.tar.gz
pip install https://github.com/cta-observatory/ctapipe_io_lst/archive/master.tar.gz
pip install -e .
```

```
conda install jupyter
```

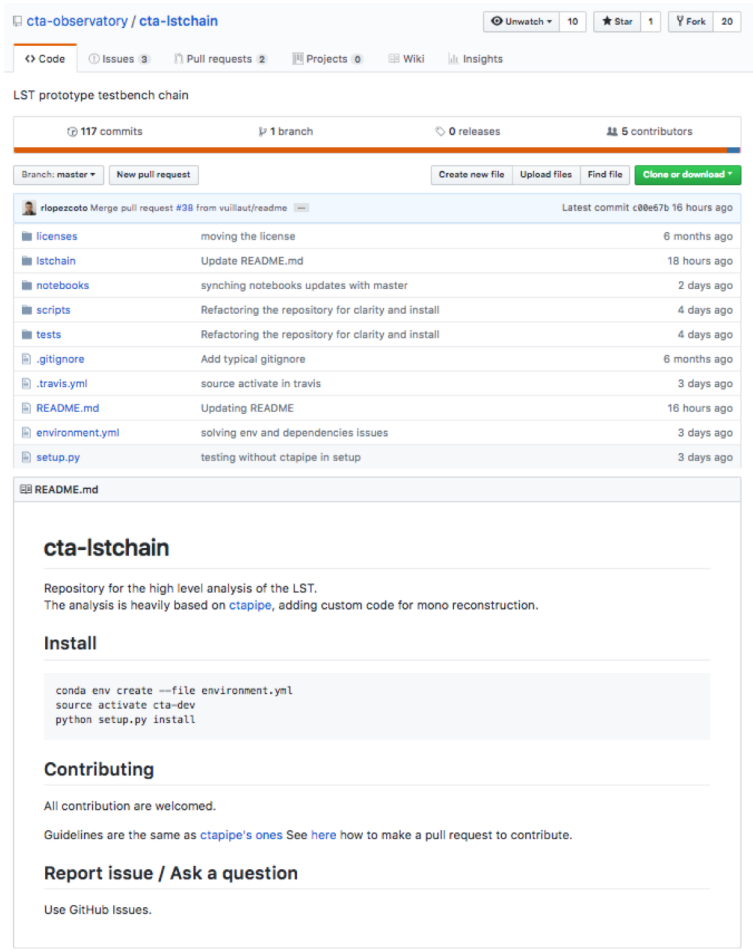
- https://github.com/cta-observatory/ctapipe



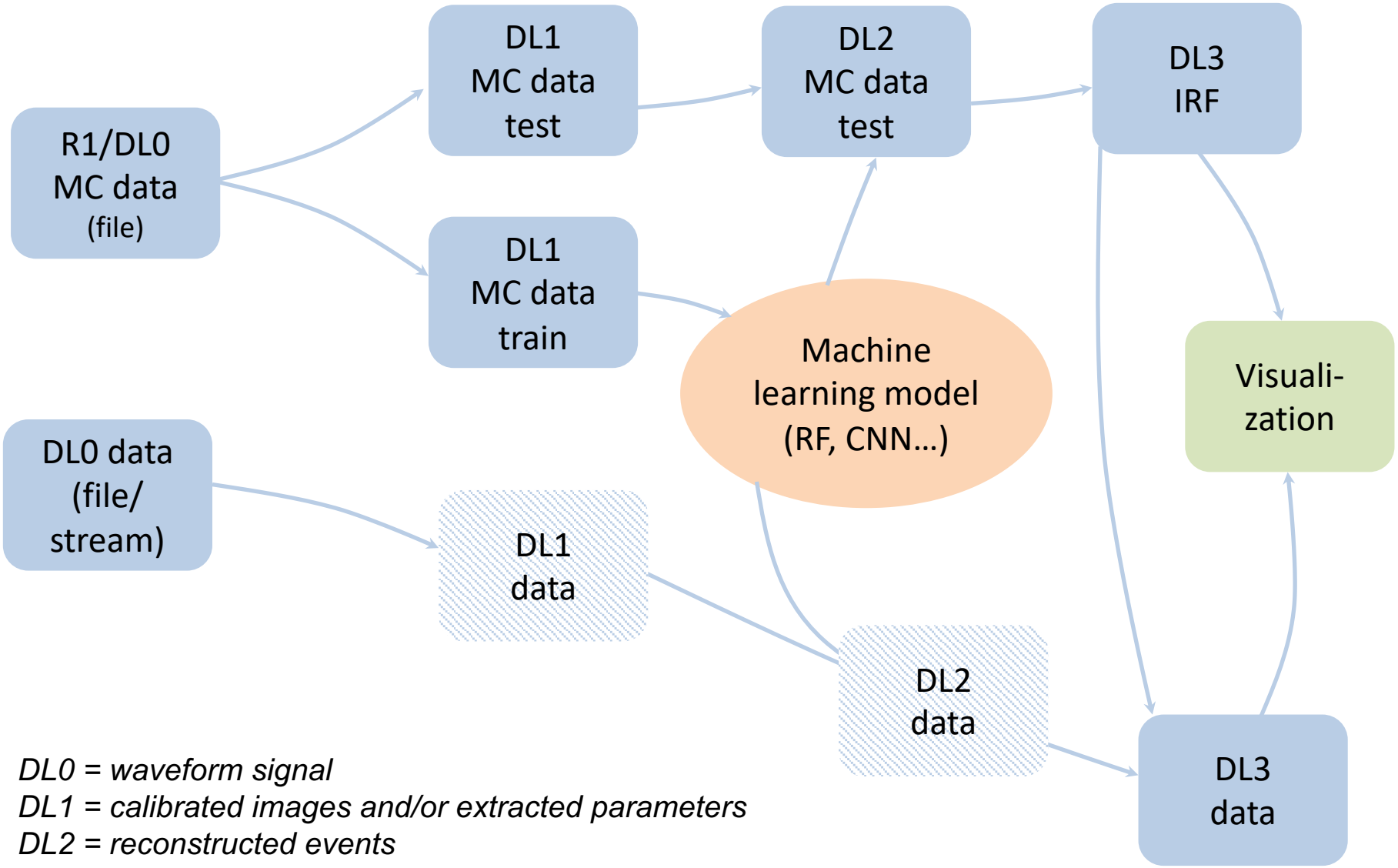
- Common library
- Provides a framework and analysis tools for CTA data analysis
- 34 contributors (7 in the core team)
- Latest release: v0.6.2
  - soon v0.7
  - not stable
  - currently lot of changes

https://github.com/cta-observatory/cta-lstchain

- A side repository to prepare a low-level reconstruction for LST data
- Heavily based on ctapipe
- Custom code for mono reconstruction
- Easier and quicker to prototype here rather than in ctapipe
- A few active contributors



(Mono) Pipeline overview



DL0 = waveform signal
DL1 = calibrated images and/or extracted parameters
DL2 = reconstructed events
DL3 = reconstructed photon list

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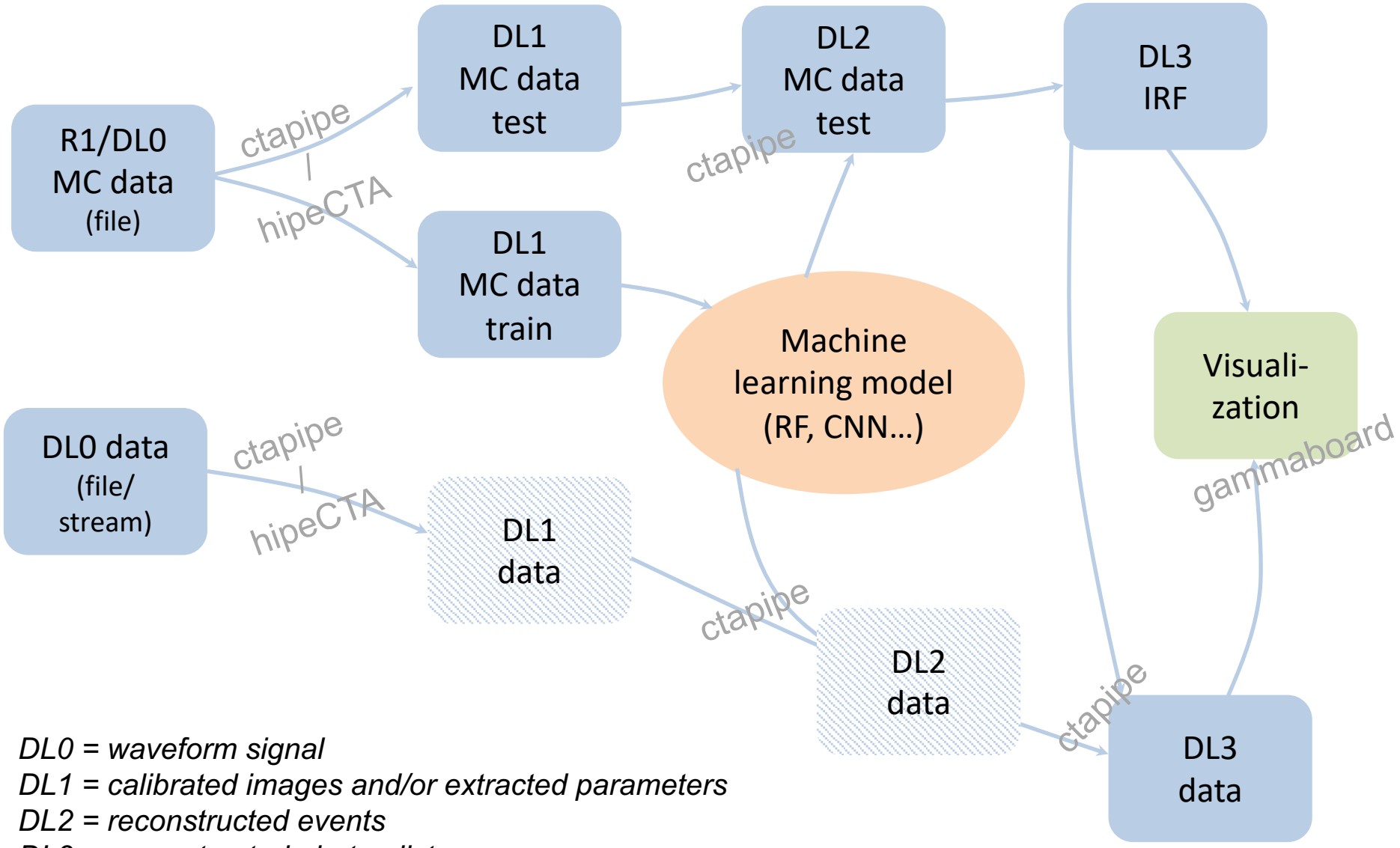

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