

# LST data analysis hands-on

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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

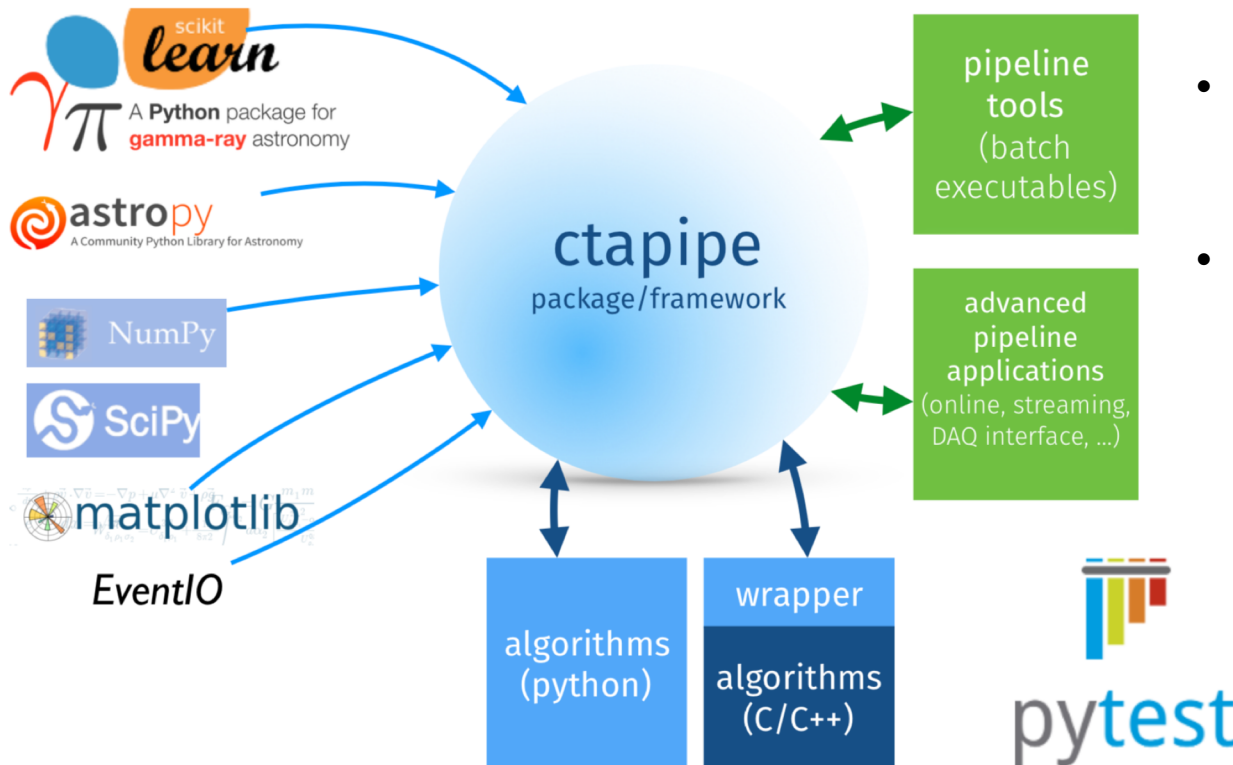
<https://www.anaconda.com/distribution>

```
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>

**ctapipe** will be **glue** between various components.  
Provides common APIs and user interfaces  
packaging, etc.



- 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-istchain>

- 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

cta-observatory / cta-istchain

Unwatch 10 Star 1 Fork 20

Code Issues 3 Pull requests 2 Projects 0 Wiki Insights

LST prototype testbench chain

117 commits 1 branch 0 releases 5 contributors

Branch: master New pull request Create new file Upload files Find file Clone or download

Latest commit c00e67b 16 hours ago

|                 |                                                    |              |
|-----------------|----------------------------------------------------|--------------|
| licenses        | moving the license                                 | 6 months ago |
| istchain        | Update README.md                                   | 18 hours ago |
| notebooks       | synching notebooks updates with master             | 2 days ago   |
| scripts         | Refactoring the repository for clarity and install | 4 days ago   |
| tests           | Refactoring the repository for clarity and install | 4 days ago   |
| .gitignore      | Add typical gitignore                              | 6 months ago |
| .travis.yml     | source activate in travis                          | 3 days ago   |
| README.md       | Updating README                                    | 16 hours ago |
| environment.yml | solving env and dependencies issues                | 3 days ago   |
| setup.py        | testing without ctapipe in setup                   | 3 days ago   |

README.md

### cta-istchain

Repository for the high level analysis of the LST.  
The analysis is heavily based on [ctapipe](#), adding custom code for mono reconstruction.

### Install

```
conda env create --file environment.yml
source activate cta-dev
python setup.py install
```

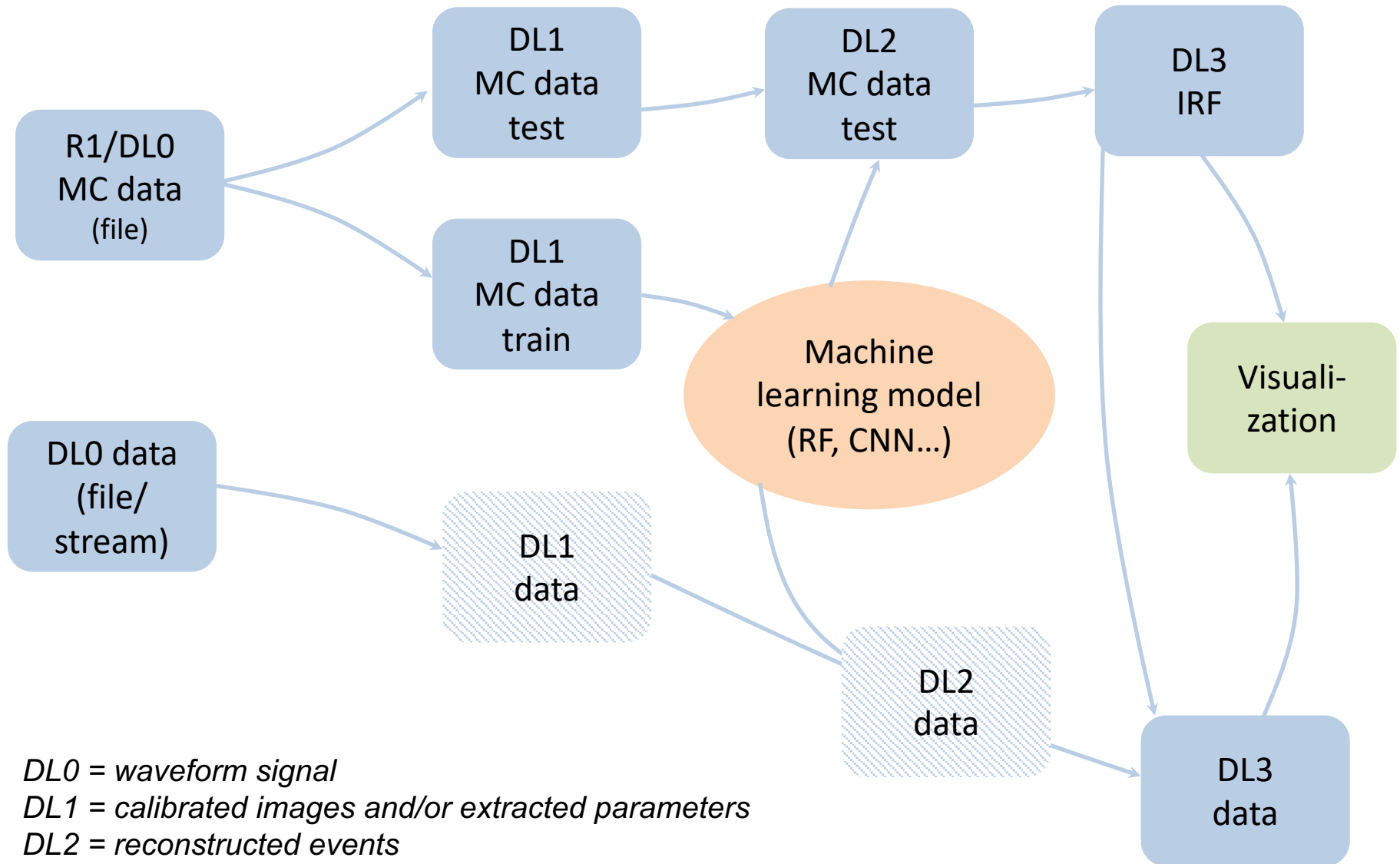
### Contributing

All contribution are welcomed.

Guidelines are the same as [ctapipe's ones](#) See [here](#) how to make a pull request to contribute.

### Report issue / Ask a question

Use GitHub Issues.



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

