keep calm and julearn
run_cross_validation

mHealth Datenmanagement **Machine Learning**

From Neuroimaging to ML models without expert-level coding skills

Building, evaluating, reproducing and interpreting ML models from neuroimaging is not easy. `julearn` enables domain experts without highly developed programming and technical skills to analyze brain images and build complex ML pipelines, while neuroimaging and ML experts can easily extend the libraries with custom methods.

Minimal coding: Easily create and evaluate models

Complex tasks made simple: Estimate model performance using cross-validation, easy hyperparameter tuning

Robust: Made to prevent user-related errors like data-leakage

Open and established: Built on top of state-of-the-art libraries (e.g. scikit-learn)

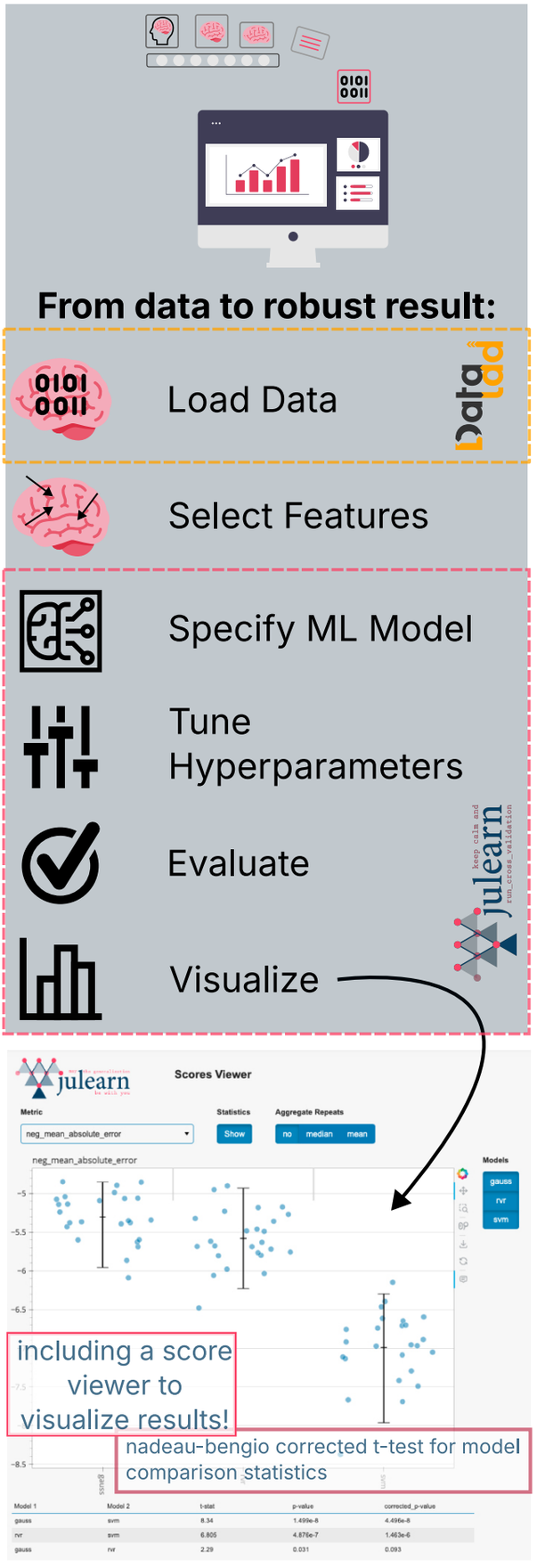
Free and open source Python software, available on all operating systems.

```
> pip install julearn
> conda install -c conda-forge \
  julearn
```

code:

docs:

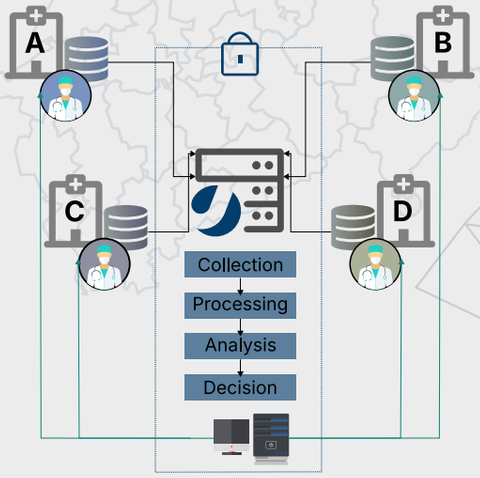
tutorial:



ABCD-J

Accessing Behavior for Clinical Data and Joint Usage: NRWs platform for digital biomarker and mobile health

ABCD-J is a joint project of FZ Jülich and the University Hospitals of Aachen, Bonn, Cologne and Düsseldorf. Together we are working on a platform for digital biomarkers and mobile health in North Rhine-Westphalia.



What is it about?
Clinical data is usually only collected in contact with doctors. Wearables from patients provide medical professionals with valuable data that complements the casual observations of individual patients in the clinical setting and from which digital biomarkers for health and disease can be derived.
To this end, the ABCD-J platform provides an integrated collection and analysis environment for digital biomarkers & mobile health in North Rhine-Westphalia - by clinical researchers for clinical researchers. We look forward to further cooperation partners!

What does ABCD-J offer clinical researchers?

Create and manage your own studies in just a few minutes.

Objective data collection in an everyday setting, minimizes typical survey errors and bias.

Both continuous data collection and targeted data collection possible.

Anonymized data management on Jülich servers.

Simple study overviews.

1. Create a study and send it via QR code.

2. Test subjects record EMA and digital neuro-psychology via app.

3. Data overview and ML analyses in the online dashboard. FAIR & secure.

Our tools: Free and interoperable research software in product quality

Mobile Health
JTRACK

Data management
DataLad

Machine Learning
julearn

Curious? Turn the page for an overview of our software. For additional information or support: the virtual office hours of the INM-7

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RWTH AACHEN UNIVERSITY · UNIVERSITÄT BONN · University of Cologne · hhu Heinrich Heine Universität Düsseldorf · JÜLICH Forschungszentrum · abcd-j.de

JTRACK

mHealth Datenmanagement Machine Learning

A platform for collecting digital biomarkers

ABCD-J

Smartphones enable high-frequency, high-quality health data collection, complementing sparse in-clinical assessments. The JTrack Platform streamlines study management, and data collection in a single platform via the JTrack Social and JTrack EMA apps, along with the JDash monitoring dashboard.

Easy administration: Create, share and analyze studies in a few clicks

Passive monitoring: Via smartphone sensors such as gyroscope or GPS

Active monitoring: Questionnaires or ecological momentary assessments

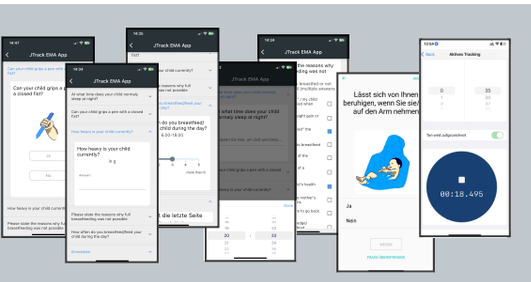
Available on Desktop, iOS and Android.

Google Play

App Store

JTRACK SOCIAL

JTrack EMA+



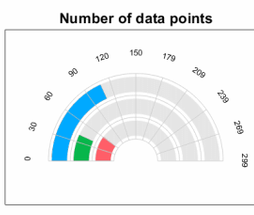
From idea to acquisition:

- Create studies and questionnaires
- Generate & send QR code to participants
- Participant registers, completes tasks, transmits acquired data
- Manage, control and download via JDash

iOS:

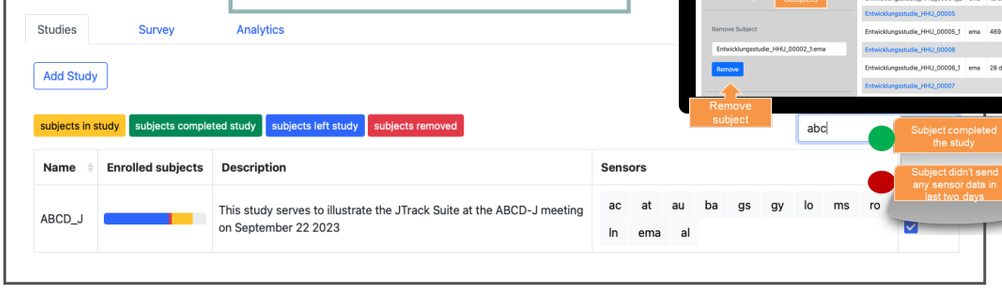
Android:

Docs:



JDash for administration and analysis

Extensive functionality and search



DataLad

mHealth **Datenmanagement** Machine Learning

Step by step to FAIR data and reproducibility management.

FAIR data management is the foundation of scientific discovery and efficiency, but difficult to achieve in practice. DataLad aids data management with version control, streamlined data publication and -retrieval routines, and reproducible data analysis.

Data discovery: File-level access to > 500TB of openly available datasets

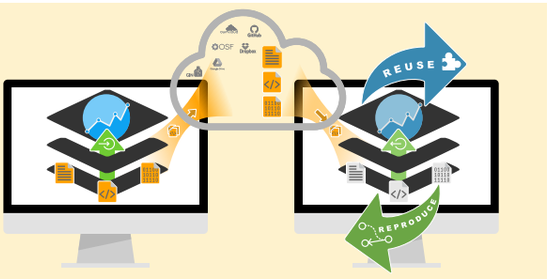
Simplified version control: Easy tracking, built upon industry standards

Decentral: No central server/ service required - your computer suffices

Interoperable: Integrates with third party services for data/code hosting

Reproducibility and trust built-in: Data provenance for science and security, optional encryption & credentials

Open and established: Used by portals and consortia (OpenNeuro, CRCs, ...)



Manage, reproduce, reuse:

Create a dataset

Track data regard-less of size or format

Capture processing reproducibly julearn

Publish data to infra-structure you like

Clone and get others' datasets

Extract and expose metadata

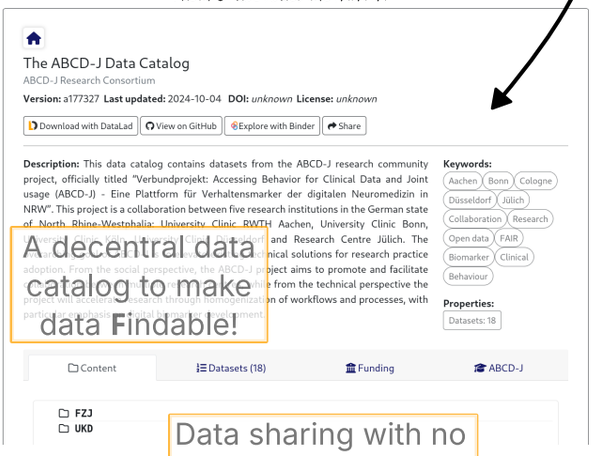
git

Free and open source Python software, available on all operating systems.

DataLad is an ecosystem of software, with just the right extension for your usecase.

DataCat

GENERATE A USER-FRIENDLY DATA BROWSER FROM STRUCTURED METADATA



A decentral data catalog to make data Findable!

Data sharing with no breach of privacy

website:

chat:

handbook: