
ABrASIV

Release 0.0.1

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ABrASIV is a toolkit designed to simplify the process of working with data pertaining to EEG data containing several useful features for visualizing and analyzing data

Documentation available at: <https://abrasiv-gitrepo.readthedocs.io/en/latest/index.html#>

FEATURES

Automate a specific analysis pipeline for large datasets, including but not limited to:

- Visualizing all runs from an experiment and outputting them for further use
- Filtering all sets of data in a parent directory and conducting additional tests on them
- *And more!*

INSTALLATION

TODO: Complete the installation functionality when finished

Install abrasiv by running:

```
pip install abrasiv
```

CHAPTER
THREE

SUPPORT

If you are having issues, please contact us at abrasiv@gmail.com

TBD

4.1 End of README.rst

CONTENTS

5.1 Installation

5.1.1 Dependencies

- Python > 3.8
- **BC2000**
 - BCpy2000

5.1.1.1 Installing BCpy2000

BCpy2000 is a python port for the software **BCI2000** (bci2000.org)

For the most efficient use, it is best to install BCpy2000 as a package as accessible as all other installed packages.

To achieve this:

1. Firstly - follow the step by step tutorial for [Building BCI2000](#)
2. Once you have completed all the steps from #1, locate the directory where you have install BCI2000 to
3. Navigate to `path_to_bci2000//HEAD//tools//python`
4. There should be a `setup.py` file in the directory you are in
5. Open up a terminal in this directory and enter the command

```
python -m pip install -e
```

6. A reference for BCI2000Tools should now be accessible via standard import syntax in python

For example:

```
import BCI2000Tools
```

Through this you can also utilize any of the BCI2000Tools associated sub-packages:

- FileReader
- Numerics
- Parameters
- Plotting
- Remote

- Container
- Chain
- ElectrodeGrids
- ElectrodePositions
- Expressions
- LoadStream2Mat
- TimingAnalysis

5.2 Usage

5.2.1 Setup

To setup ABrASIV, first navigate to the root directory

```
path_to_abrasiv\abrasiv-gitrepo\
```

and setup a virtual environment using:

```
python -m venv <env-name>
```

Once your virtual python environment has been setup, install the required packages using:

```
pip install -r abrasiv-requirements.txt
```

If you have not already set up BCpy2000, some installations will fail. Navigate to [Installation](#) for more info.

5.3 API-Reference

The ABrASIV package contains the sub-packages:

- *abrasiv.dataset*
- *abrasiv.bci2000dataset*
- *abrasiv.containers*
- *abrasiv.audiostream*

5.3.1 abrasiv.dataset

The **dataset** sub-package contains the *Dataset* class and several useful methods for conduct data analysis

5.3.1.1 Classes

5.3.1.2 Methods

Decorators

5.3.2 abrasiv.containers

The containers sub-package contains classes for storing and working with Epochs collected from data with the intention of being used to assist in Evoked Potential analysis

5.3.2.1 Classes

5.3.3 abrasiv.bci2000dataset

the bci2000dataset sub-package contains methods for working with data supplied from recordings collected through BCI2000.

For more information on BCI2000, visit bci2000.org.

5.3.4 abrasiv.audiostream

The audiostream sub-package contains methods for analyzing data specific to the **Audiostream Project** context

See [audiostream-gitrepo](#) for more details
