
Brea

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Brea is a planned catalog server for algorithm storage and evaluation. *Brea* aims to serve as an algorithm catalog for [Rian](#) to allow the client-side automatic usage of **currently best fitting** (CBF) algorithms. Thereby any respectively used CBF algorithm is determined server-sided by its category and a chosen metric. An example for such a metric would be the average prediction accuracy within a fixed set of *gold standard samples* of the respective domain of application (e.g. latin handwriting samples, spoken word samples, TCGA gene expression data, etc.). Nevertheless also the metric by itself can be a CBF algorithm.

Due to this approach *Brea* allows the implementation of *enterprise analytics* projects, that are automatically kept up-to-date by a minimum of maintenance costs. Also *brea* supports scientific applications, by facilitating a local (workgroup, lab, institution) or global publication, application and evaluation of algorithms, e.g. developed within a PhD-position or program.

Brea requires Python 3.7 or later. If you do not already have a Python environment configured on your computer, please see the instructions for installing the full [scientific Python stack](#).

Note: If you are using the Windows platform and want to install optional packages (e.g., *scipy*), then it may be useful to install a Python distribution such as: [Anaconda](#), [Enthought Canopy](#), [Python\(x,y\)](#), [WinPython](#), or [Pyzo](#). If you already use one of these Python distributions, please refer to their online documentation.

Below it is assumed, that you have the default Python environment configured on your computer and you intend to install *Brea* inside of it. If you want to create and work with Python virtual environments, please follow instructions on [venv](#) and [virtual environments](#).

2.1 Install the latest distributed package

You can install the latest distributed package of *Brea* by using `pip`:

```
$ pip install brea
```

2.2 Install the development branch

The installation requires that you have [Git](#) installed on your system. Under this prerequisite the first step is to clone the GitHub repository of *Brea*:

```
$ git clone https://github.com/frootlab/brea.git
```

Thereupon the development branch can locally be installed by using `pip`:

```
$ cd brea
$ pip install -e .
```

The `pip install` command allows you to follow the development branch as it changes by creating links in the right places and installing the command line scripts to the appropriate locations.

2.3 Update the development branch

Once you have cloned the GitHub repository onto a local directory, you can update it anytime by running a `git pull` in this directory:

```
$ git pull
```

2.4 Testing the development branch

Brea uses the Python builtin module **module:‘unittest’** for testing. Since the tests are not included in the distributed package at you are required to install the development branch, as described above. Thereupon you have to switch to the repository directory and run:

```
$ python3 tests
```


3.1 bre package

3.1.1 Module contents

Bre code catalog.

Bre is a planned catalog server for algorithm storage and evaluation. Bre aims to serve as an algorithm catalog for Rian to allow the client-side automatic usage of currently best fitting (CBF) algorithms. Thereby any respectively used CBF algorithm is determined server-sided by its category and a chosen metric. An example for such a metric would be the average prediction accuracy within a fixed set of *gold standard samples* of the respective domain of application (e.g. latin handwriting samples, spoken word samples, TCGA gene expression data, etc.). Nevertheless also the metric by itself can be a CBF algorithm.

CHAPTER 4

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```

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You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see [<https://www.gnu.org/licenses/>](https://www.gnu.org/licenses/).

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brear, 5

B

`brea` (*module*), 5